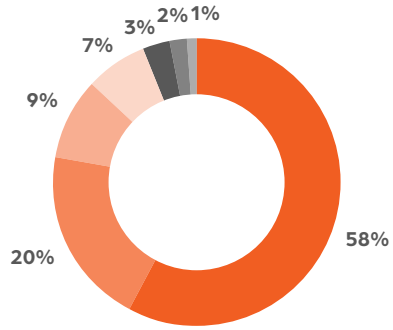
2021 Annual Report

Nurturing the world and humankind by advancing care for animals

zoetis

2021 Financial Highlights

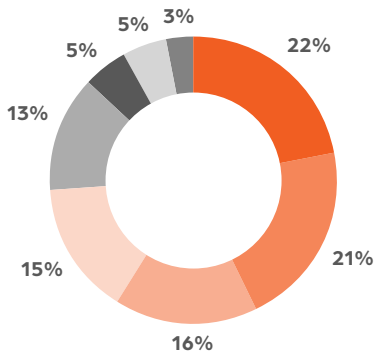
Revenue by Species‡



- Dogs and Cats[1] 58%
- Cattle[2] 20%
- Swine[2] 9%
- Poultry[2] 7%
- Horses[1] 3%
- Fish[2] 2%
- Sheep and Other[2] 1%

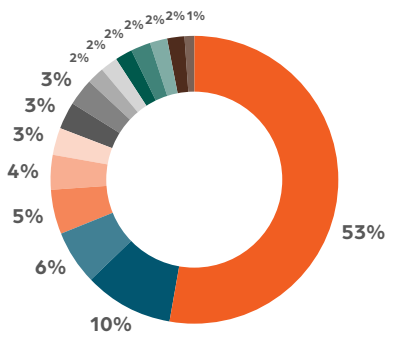
[1] Companion Animal 61%
[2] Livestock 39%

Revenue by Product Category‡



- Vaccines 22%
- Parasiticides 21%
- Anti-Infectives 16%
- Dermatology 15%
- Other Pharmaceuticals 13%
- Medicated Feed Additives 5%
- Animal Health Diagnostics 5%
- Other Non-Pharmaceuticals 3%

Revenue by Top Markets‡

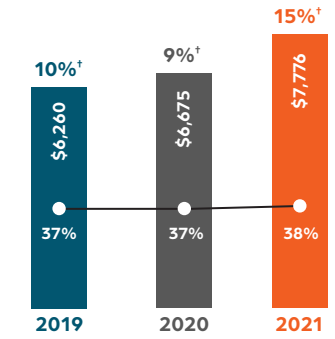


- United States 53%
- China 5%
- Brazil 4%
- Australia 3%
- United Kingdom 3%
- Canada 3%
- Japan 2%
- Germany 2%
- Chile 2%
- Mexico 2%
- France 2%
- Spain 2%
- Italy 1%
- Other Emerging Markets 10%
- Other Developed Markets 6%

Revenue by Product Concentration

- All Other 53%
- Top Ten Product Lines 47% (Top Five make up 33%)

Revenue Growth and Adjusted EBIT Margin



- Adjusted EBIT margin*

* Adjusted EBIT margin (a non-GAAP financial measure) is defined as adjusted net income attributable to Zoetis excluding (i) interest expense and interest income and (ii) income taxes (all as included in adjusted net income), expressed as a percentage of revenue.

** Adjusted net income and its components and adjusted diluted earnings per share (non-GAAP financial measures) are defined as reported net income attributable to Zoetis and reported diluted earnings per share, excluding purchase accounting adjustments, acquisition-related costs and certain significant items.

† Represents operational revenue growth (a non-GAAP financial measure), which is defined as revenue growth excluding the impact of foreign exchange. Reported revenue growth, including the impact of foreign exchange, was 7% for 2019, 7% for 2020 and 16% for 2021.

‡ Revenue charts by species, product category and top market exclude revenues associated with Client Supply Services and Human Health, which represented 1% of total 2021 revenue.

$Millions (except per share data)	2019	2020	2021
Revenue	$ 6,260	$ 6,675	**$ 7,776**
Net Income Attributable to Zoetis	$ 1,500	$ 1,638	**$ 2,037**
Adjusted Net Income Attributable to Zoetis**	$ 1,755	$ 1,844	**$ 2,240**
Diluted Earnings Per Share	$ 3.11	$ 3.42	**$ 4.27**
Adjusted Diluted Earnings Per Share**	$ 3.64	$ 3.85	**$ 4.70**
Net Cash Provided by Operating Activities	$ 1,795	$ 2,126	**$ 2,213**
Research & Development Expense	$ 457	$ 463	**$ 508**

Dear Shareholders,

Kristin Peck
Chief Executive Officer

As we publish this Annual Report, Zoetis like many companies is shocked and saddened by the war in Ukraine. As a global community, we are filled with hope for a healthier world guided by our purpose: to nurture the world and humankind by advancing care for animals. In times of crisis, the continued care of pets and livestock remains essential, and we firmly believe this work is core to our responsibilities as colleagues and a business.

Our purpose and strong culture of Core Beliefs (see sidebar, p. 3) have guided our success from the beginning. Despite the ongoing challenges of a global pandemic in 2021, we closed the year with a record-setting performance. We grew revenue by 15%—our best year ever—and adjusted net income by 19%, operationally. Importantly, our results demonstrate that animal health medicines, vaccines, diagnostics and devices remain essential, even in times of hardship, and continue to be resilient growth drivers.

At the heart of everything we do are dedicated Zoetis colleagues around the world, who are reimagining animal health through innovations that help animals live healthier, more productive lives—and new approaches to support a more sustainable future for communities, animals, and the planet we share.

Our strong financial performance has enabled us to continue making meaningful investments in our business, while returning capital to our shareholders.

These investments are led by five strategic priorities for growth and are grounded in our purpose. I am pleased to share our progress against our priorities during 2021.

1. Driving Innovative Growth

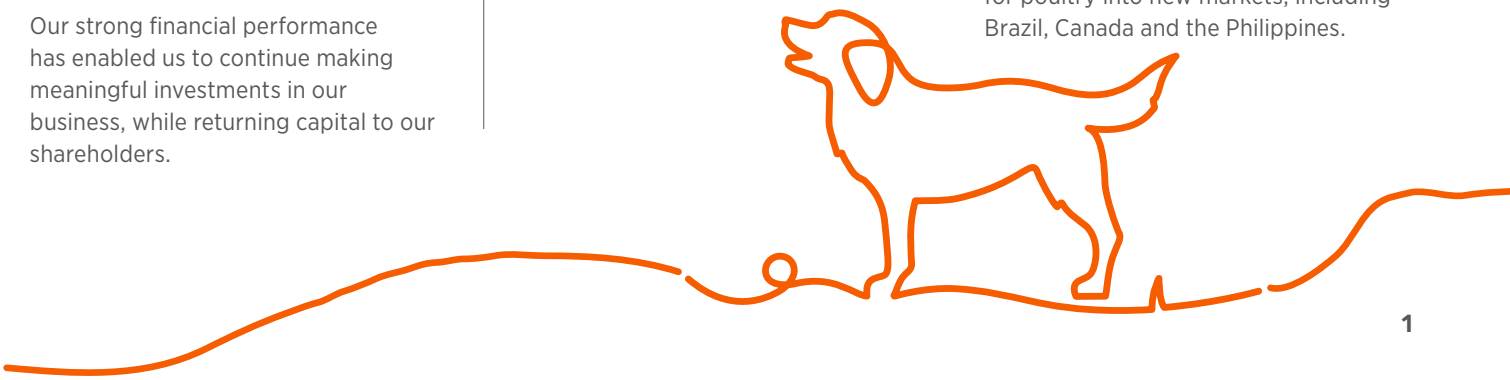
As more people turned to pets for comfort, increased spending on pet wellness and treatment fueled our portfolio and research and development (R&D) pipeline in 2021. During the year, we reported market authorizations for new products and expansions of existing medicines and vaccines in new markets:

Our once-monthly chewable combination parasiticide for dogs, **Simparica Trio**®, has seen tremendous adoption and expanded to new markets in 2021, including Japan and Mexico.

In Canada, the EU and the UK, we introduced **Librela**® and **Solensia**®, the first injectable monoclonal antibody therapies for the alleviation of osteoarthritis pain in dogs and cats. In early 2022, Solensia was also approved in the United States.

In 2021, we also received market authorizations in China for **Cytopoint**® to treat canine itch, and **Revolution PLUS**®, a topical parasiticide for cats. In the EU and the UK, we received market authorization for **Apoquel**® chewable for treating atopic dermatitis in dogs, and authorization in Brazil for our intranasal respiratory vaccine **Vanguard**® **i-III** for dogs.

In livestock, we continue to invest in R&D that aligns with our customers' long-term needs for efficient and sustainable production. We expanded **Poulvac**® **Procerta™ HVT-ND vaccine** for poultry into new markets, including Brazil, Canada and the Philippines.



Advancing ESG

Our long-term sustainability goals outline specific and measurable commitments across communities, animals and the planet—whether it's caring for pets and livestock impacted by disaster relief; cultivating a safe, flexible and inclusive workplace; using our innovation expertise to combat emerging infectious diseases; or stewarding our company resources responsibly.

We recently updated our climate goals to achieve carbon neutrality within our own operations by 2030. Additionally, we've accelerated our commitment to RE100 through sourcing 100% renewable energy.

Zoetis reports detailed progress against our Driven to Care goals in our Sustainability Report, including milestones that support many of the United Nations' Sustainable Development Goals (SDGs).

Along our journey to create a healthier future for animals, people and the planet we share, we are proud to be recognized for our increased transparency and focus on sustainability—including among Investor's Business Daily's 100 Best ESG Companies and Newsweek's list of America's Most Responsible Companies.

We also received vaccine approval in certain EU countries for **Alpha Ject® Micro 2000** for protection against two bacterial infections in sea bass. In addition, we received market authorizations in the US and Canada for **Draxxin® KP**, a combination treatment to control bovine respiratory disease and pyrexia.

2. Enhancing Customer Experience

Being "customer obsessed" is one of our Core Beliefs and why we seek opportunities that enhance our portfolio and enrich customers' experiences with their animals.

In 2021, we announced an agreement to acquire Jurox, which develops, manufactures and markets a wide range of veterinary medicines for treating companion animals and livestock. We expect to close this transaction in 2022.

As busy veterinary professionals manage more paws in their clinics, Zoetis is making access to patient information as easy and seamless as possible for them. We introduced our first online portal for presenting user-friendly diagnostic data while improving the connectivity of our systems with various practice information management software. Diagnostics—one of the fastest growing markets in animal health—has great potential for Zoetis, and we continue to invest in giving pet owners the insights and information that their animals cannot tell them.

Nothing is more important to our customer experience than reliable, high-quality supply. Our flexible and agile teams enabled us to maintain a steady supply of high-quality products throughout the pandemic. We are also investing in numerous expansions across our supply network to further ensure product inventories in the face of global supply challenges (see sidebar on p. 4).

3. Leading in Digital and Data

Expansion of our digital and data capabilities continued to transform the industry by equipping customers with tools and information to help them provide the best care possible for animals, and allowing our teams to better predict inventory needs and to increase efficiency and enhanced collaboration.

Our **Vetscan Imagyst™** diagnostic platform now offers our veterinary customers a network of expert remote pathologists for cytology diagnostics in addition to Artificial Intelligence (AI) technology for fecal testing. We continue to develop additional innovative diagnostic applications to support veterinarians as they care for dogs and cats.

Improving engagement with pet owners, our **Virtual Recall** software is now available in more veterinary clinics and provides tailored communications based on each pet's quality of life. Today, Virtual Recall is boosting clinic-to-client communications in Australia, Canada, Ireland, New Zealand and the UK.

Within Zoetis, we are utilizing data analytics to better predict production and inventory levels and leveraging new AI-driven software to inform customer needs and offer more tailored experiences.

4. Cultivating a High–Performing Culture

Throughout the pandemic, our colleague engagement has remained consistent at 88%, a testament to our heightened focus on well-being, benefit enhancements and embracing a culture of flexibility. Through regular surveys, we continuously listen to feedback to help us strengthen our culture and build a workplace where everyone can thrive. Zoetis is widely recognized as a top employer and a best place to work in several markets.

Diversity, Equity and Inclusion (DE&I) is one area where we have made definitive progress. Since setting our DE&I aspirations in 2020, we have been raising the overall representation of Black colleagues, women, and colleagues of color. Our Colleague Resource Groups are expanding communities of interest and allyship within Zoetis and are an integral part of our culture. Our development programs are providing unique career experiences for our colleagues, and our partnerships and close ties to philanthropy allow us to make a lasting impact on the communities where we live and work. Importantly, we are listening more and learning from each other to make Zoetis a place where *everyone* can bring their whole selves to work.

Our Core Beliefs

- Our colleagues make the difference
- Always do the right thing
- Customer obsessed
- Run it like you own it
- We are one Zoetis

Our Long–Term Value Proposition

Grow revenue in line with or faster than the market

Grow adjusted net income faster than revenue

Drive growth through investments in innovation, R&D and business development

Return excess capital to shareholders

Talent Forward

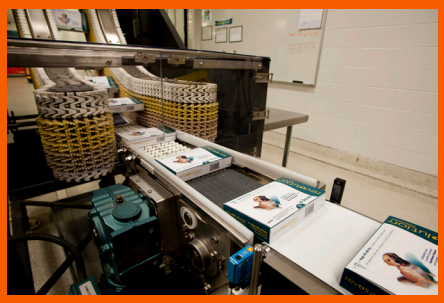
Our colleagues make all the difference in our performance, and investing in them is critical to our growth. During 2021, Zoetis welcomed new colleagues in the fastest growing areas of our business, from R&D and Diagnostics to Tech and Digital. Competing for talent is always top of mind, and we are deliberate about creating a workplace where colleagues feel connected, inspired and valued for their contributions at all levels.

In 2021, we significantly increased our focus on talent recruitment, retention and development. This includes expanding our reach to recruit non-traditional talent, giving a wide array of candidates multiple pathways to join Zoetis. Through development programs for leadership and mentorship, colleagues have more opportunities to grow and thrive as they build their network at Zoetis. We have also enhanced our benefit programs, increased remuneration for hourly workers and bonuses for colleagues deemed essential to developing and delivering animal health products amid the pandemic. To support colleagues' financial health, we introduced a Student Loan Repayment Program for U.S. colleagues who have student debt from their own current or completed education.

To support the well-being of our colleagues and their families, we began offering additional paid time off and introduced a new Global Employee Assistance Program that provides colleagues and their families access to expert guidance and specialists supporting mental health and wellness. Strengthening our colleagues' skills and experiences, we are investing in a development program for our senior-most leaders and cultivating future Zoetis leaders.

These collective investments position us to undertake significant hiring efforts in 2022 as we support the growth opportunities in areas like petcare, diagnostics and our international markets.

Creating a More Resilient Supply Chain



The COVID-19 pandemic has taught us a lot about managing supply and demand during times of uncertainty—and the importance of continuously mitigating risk to ensure our customers have the products they rely on. Through strategic sourcing and planning, we have been able to weather major disruptions of supply for key products. In 2021, we also focused on securing critical components for vaccines that prevent emerging infectious diseases, including our COVID vaccine for animals.

Building for the future, we are investing in our supply network to increase capacity at major manufacturing sites—from Kalamazoo, Michigan, to Tullamore, Ireland. These facilities support some of the fast-growing products our customers depend on around the world.

We are expanding capacity in the U.S. and Europe for monoclonal antibodies used in our companion animal products like Cytopoint®, an anti-itch treatment for dogs, and new therapies like Librela® and Solensia® to treat osteoarthritis pain in dogs and cats. On the livestock side, we're adding capacity to support the growth of our cattle vaccines in Lincoln, Nebraska, and establishing a Veterinary Medical Research & Development registration facility there to accelerate innovations from development to delivery.

5. Championing a Healthier, More Sustainable Future

Building on our purpose, Zoetis launched its **Driven to Care** strategy in 2021, which brings to life specific commitments to Communities, Animals and the Planet.

The company has committed $35 million over five years through the newly established Zoetis Foundation—focusing on opportunities for veterinarians and farmers globally in the areas of education, wellness and improved livelihoods.

Zoetis has played an important role in promoting public health by advancing animal care. In 2021, we were ready when zoos needed to protect their most at-risk animals from COVID. Thankfully, a COVID vaccine has not been needed for cats and dogs. But because of our early scientific work to have an investigational vaccine available, we donated thousands of doses of our COVID vaccine for animals to zoos across 14 countries—and to multiple conservatories, sanctuaries, academic institutions, and government organizations.

See our sidebar on p. 2 to learn more about our progress on key environmental, social and governance (ESG) topics.

The journey ahead

In 2022, we see more runway for growth in petcare, diagnostics and fast-growing international markets like China and Brazil. With increasing medicalization and spending on pet health care, we will build on our incredibly strong foundation across parasiticides, dermatology and vaccines to help pets live longer, healthier lives. We also look forward to advancing our pain portfolio for dogs and cats with the anticipation of additional market approvals this year. Our ability to provide new technologies, data-driven insights and other solutions to advance disease prevention and sustainable production methods will further enable us to improve the livelihood of farmers for future generations.

As I look to the next stage of Zoetis' journey, I am inspired by the essential role Zoetis plays in shaping the focus and future of animal health on many fronts. And I know the efforts and insights of our colleagues will continue bringing the value of Zoetis to our customers every day.

Thank you for your interest and investment in Zoetis.

Kristin Peck

Kristin Peck
Chief Executive Officer

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM 10-K

(Mark One)

☒ **ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**
For the fiscal year ended
December 31, 2021

or

☐ **TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**
For the transition period from _____ to _____

Commission File Number: 001-35797

Zoetis Inc.

(Exact name of registrant as specified in its charter)

Delaware	**46-0696167**
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification No.)
10 Sylvan Way, Parsippany, New Jersey	**07054**
(Address of principal executive offices)	(Zip Code)

(973)-822-7000

(Registrant's telephone number, including area code)

Securities registered pursuant to Section 12(b) of the Act:

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Common Stock, $0.01 par value per share	**ZTS**	**New York Stock Exchange**

Securities registered pursuant to Section 12(g) of the Act: None

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of Securities Act. Yes ☒ No ☐

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act. Yes ☐ No ☒

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes ☒ No ☐

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes ☒ No ☐

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer ☒ **Accelerated filer** ☐ **Non-accelerated filer** ☐ **Smaller reporting company** ☐ **Emerging growth company** ☐

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. ☐

Indicate by check mark whether the registrant has filed a report on and attestation to its management's assessment of the effectiveness of its internal control over financial reporting under Section 404(b) of the Sarbanes-Oxley Act (15 U.S.C. 7262(b)) by the registered public accounting firm that prepared or issued its audit report. ☒

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes ☐ No ☒

The aggregate market value of the voting stock held by nonaffiliates of the registrant as of June 30, 2021, the last business day of the registrant's most recently completed second fiscal quarter, was $88,374 million. The registrant has no non-voting common stock.

The number of shares outstanding of the registrant's common stock as of February 11, 2022 was 471,970,580 shares.

DOCUMENTS INCORPORATED BY REFERENCE:

Portions of the registrant's Proxy Statement for the 2022 Annual Meeting of Shareholders (hereinafter referred to as the "2022 Proxy Statement") are incorporated into Part III of this Form 10-K.

TABLE OF CONTENTS

PART I

Item 1. Business.

Overview

Zoetis Inc. is a global leader in the animal health industry, focused on the discovery, development, manufacture and commercialization of medicines, vaccines, diagnostic products and services, biodevices, genetic tests and precision animal health technology. We have a diversified business, commercializing products across eight core species: dogs, cats and horses (collectively, companion animals) and cattle, swine, poultry, fish and sheep (collectively, livestock); and within seven major product categories: vaccines, parasiticides, anti-infectives, dermatology, other pharmaceutical products, medicated feed additives and animal health diagnostics. For 70 years, we have been innovating ways to predict, prevent, detect, and treat animal illness, and continue to stand by those raising and caring for animals worldwide - from livestock farmers to veterinarians and pet owners.

We were incorporated in Delaware in July 2012 and prior to that the company was a business unit of Pfizer Inc. (Pfizer). The address of our principal executive offices is 10 Sylvan Way, Parsippany, New Jersey 07054. Unless the context requires otherwise, references to "Zoetis," "the company," "we," "us" or "our" in this Annual Report on Form 10-K for the fiscal year ended December 31, 2021 (2021 Annual Report) refer to Zoetis Inc., a Delaware corporation, and its subsidiaries. In addition, unless the context requires otherwise, references to "Pfizer" in this 2021 Annual Report refer to Pfizer Inc., a Delaware corporation, and its subsidiaries.

Operating Segments

The animal health medicines, vaccines and diagnostics market is characterized by meaningful differences in customer needs across different regions. This is due to a variety of factors, including:

- economic differences, such as standards of living in developed markets as compared to emerging markets;
- cultural differences, such as dietary preferences for different animal proteins, pet ownership preferences and pet care standards;
- epidemiological differences, such as the prevalence of certain bacterial and viral strains and disease dynamics;
- treatment differences, such as utilization of different types of medicines and vaccines, as well as the pace of adoption of new technologies;
- environmental differences, such as seasonality, climate and the availability of arable land and fresh water; and
- regulatory differences, such as standards for product approval and manufacturing.

As a result of these differences, among other things, we organize and operate our business in two segments:

- **United States (U.S.)** with revenue of $4,042 million, or 52% of total revenue for the year ended December 31, 2021; and
- **International** with revenue of $3,652 million, or 47% of total revenue for the year ended December 31, 2021.

Within each of these operating segments, we offer a diversified product portfolio for both companion animal and livestock customers so that we can capitalize on local trends and customer needs.

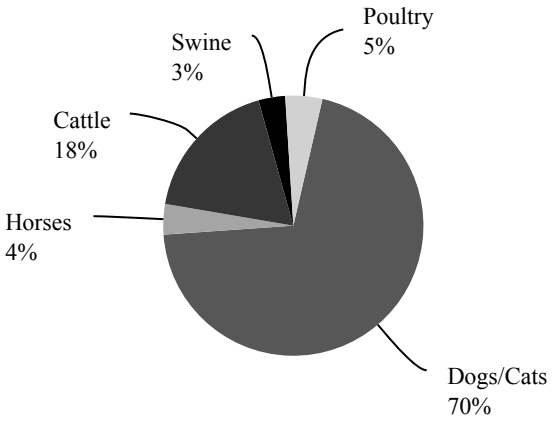
In addition, our Client Supply Services (CSS) organization which provides contract manufacturing services to third parties, and our human health products, together represented approximately 1% of our total revenue for the year ended December 31, 2021.

Our 2021 revenue for the U.S. and key international markets, together with the percentage of revenue attributable to companion animal and livestock products in those markets, is as follows:

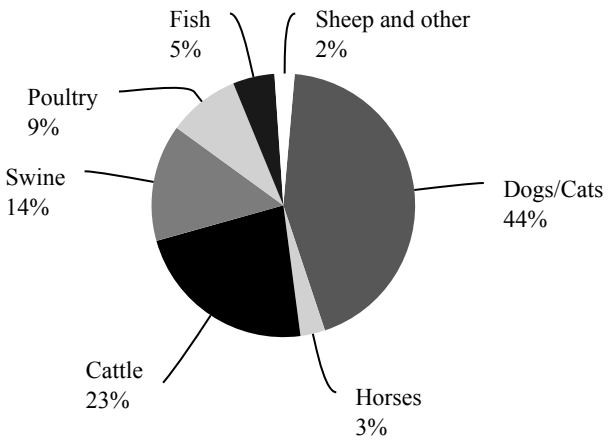
(MILLIONS OF DOLLARS)	Revenue	Companion Animal	Livestock
United States	$4,042	74%	26%
Total International	$3,652	47%	53%
Australia	$259	47%	53%
Brazil	$312	33%	67%
Canada	$232	58%	42%
Chile	$136	21%	79%
China	$357	53%	47%
France	$132	56%	44%
Germany	$183	64%	36%
Italy	$115	66%	34%
Japan	$186	67%	33%
Mexico	$133	29%	71%
Spain	$128	46%	54%
United Kingdom	$234	68%	32%
Other Developed	$467	45%	55%
Other Emerging	$778	34%	66%

For additional information regarding our performance in each of these operating segments and the impact of foreign exchange rates, see *Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations* and *Item 8. Financial Statements and Supplementary Data: Notes to Consolidated Financial Statements—Note 4. Revenue* and *Note 19. Segment Information.* Our 2021 reported revenue for each segment, by species, is as follows:

2021 United States Segment Revenue - By Species



2021 International Segment Revenue - By Species



Products

Over the course of our history, we have focused on developing a diverse portfolio of animal health products that deliver solutions across the continuum of care. We refer to all different brands of a particular product, or its dosage forms for all species, as a product line. We have approximately 300 comprehensive product lines, including products for both companion animals and livestock within each of our major product categories.

Our companion animal products help extend and improve the quality of life for pets; increase convenience and compliance for pet owners; and help veterinarians improve the quality of their care and the efficiency of their businesses. Growth in the companion animal medicines, vaccines and diagnostics sector is driven by economic development, related increases in disposable income and increases in pet ownership and spending on pet care. Companion animals are also living longer, deepening the human-animal bond, receiving increased medical treatment and benefiting from advances in animal health medicines, vaccines and diagnostics. Companion animal products represented approximately 60% of our revenue for the year ended December 31, 2021.

Our livestock products primarily help prevent or treat diseases and conditions to allow veterinarians and producers to care for their animals and to enable the cost-effective and sustainable production of safe, high-quality animal protein. Human population growth, increasing standards of living and a greater focus on sustainable food production are important long-term growth drivers for our livestock products in three major ways. First, population growth and increasing standards of living drive demand for improved nutrition, particularly through increased consumption of animal protein. Second, population growth leads to greater natural resource constraints driving a need for enhanced productivity. Finally, as standards of living improve and the global food chain faces increased scrutiny, there is more focus on food quality, sustainability, safety and reliability of supply. Livestock products represented approximately 39% of our revenue for the year ended December 31, 2021.

In addition, our CSS organization, which provides contract manufacturing services to third parties, and our human health products, together represented approximately 1% of our total revenue for the year ended December 31, 2021.

Our major product categories are:

- **vaccines**: biological preparations that help prevent diseases of the respiratory, gastrointestinal and reproductive tracts or induce a specific immune response;
- **parasiticides**: products that prevent or eliminate external and internal parasites such as fleas, ticks and worms;
- **anti-infectives**: products that prevent, kill or slow the growth of bacteria, fungi or protozoa;
- **dermatology products**: products that relieve itch associated with allergic conditions and atopic dermatitis;
- **other pharmaceutical products**: pain and sedation, antiemetic, reproductive, and oncology products;
- **medicated feed additives**: products added to animal feed that provide medicines to livestock; and
- **animal health diagnostics**: blood and urine analysis testing capabilities, including point-of-care diagnostic products, instruments and reagents, rapid immunoassay tests, reference laboratory kits and services and blood glucose monitors.

Our remaining revenue is derived from other non-pharmaceutical product categories, such as nutritionals and agribusiness, as well as products and services in biodevices, genetic tests and precision animal health.

As part of our growth strategy, we focus on the discovery and development of new chemical, biopharmaceutical and biological entities, as well as product lifecycle innovation, primarily through our research and development (R&D) group. Historically, a substantial portion of our products and revenue has been the result of product lifecycle innovation where we actively work to broaden the value of existing products by developing claims in additional species, more convenient formulations and combinations, and by expanding usage into more countries. For example, the first product in our ceftiofur line was an anti-infective approved for treating bovine respiratory disease (BRD) in cattle that was administered via intramuscular injection. Through follow-on studies and reformulations, we have expanded the product line into additional cattle claims and administration routes, as well as other species and regions. The ceftiofur product line currently includes the brands Excede®, Excenel®, Naxcel® and Spectramast®.

The following are examples of our first-in-class and/or best-in-class products that we have launched in recent years and products that we believe may represent platforms for future product lifecycle innovation (listed alphabetically):

- Apoquel®, the first Janus kinase inhibitor for use in veterinary medicine, was approved for the control of pruritus associated with allergic dermatitis and the control of atopic dermatitis in dogs at least 12 months of age. Since January 2014, we launched Apoquel in key markets including the U.S., Europe, Japan, Brazil, Australia and China. In 2021, a chewable version of Apoquel was approved in the European Union (EU) and the U.K.;
- Core EQ Innovator™, the first and only vaccine for horses to contain all five core equine disease antigens - West Nile, Eastern and Western Equine encephalomyelitis, tetanus and rabies - in one combination, was approved in the U.S. in 2018 and in Canada in 2019;
- Cytopoint®, the first canine monoclonal antibody (mAb) to help reduce the clinical signs of atopic dermatitis (such as itching) in dogs of any age, was licensed in the U.S. in 2016 (and was later granted an expanded indication to treat allergic dermatitis in 2018). The product has been approved in major markets since 2016, including Canada, the EU, New Zealand, Australia, Brazil and Mexico, and was approved in China in 2021. An injection given once every four to eight weeks, Cytopoint neutralizes interleukin-31, a protein that has been demonstrated to trigger itching in dogs;
- Fostera® PCV MH was introduced in November 2013 in the U.S. and approved in the EU in 2015 and Australia in 2017. It was developed to help protect pigs from porcine circovirus-associated disease (PCVAD) and enzootic pneumonia caused by M. hyopneumoniae (M. hyo). The one-bottle formulation of Fostera PCV MH allows the convenience of a one-dose program or the flexibility of a two-dose program. Fostera Gold PCV MH, the only vaccine to contain two PCV2 genotypes and long-lasting M. hyo coverage, was approved in the U.S. and Canada in 2018, Brazil and Mexico in 2019 and Australia, Europe (under the name CircoMax Myco) and Japan in 2020. The Fostera franchise also includes Fostera/Suvaxyn® PRRS, which was approved in the U.S. in 2015 and in Taiwan, Vietnam and EU countries in

2017. This vaccine offers protection against both the respiratory and reproductive forms of disease caused by porcine reproductive and respiratory syndrome (PRRS) virus;

- Librela® (bedinvetmab), the first injectable mAb therapy for monthly alleviation of osteoarthritis (OA) pain in dogs, was approved in the EU and Switzerland in 2020, and Canada, Brazil, and the U.K. in 2021;
- Poulvac® Procerta™ HVT-ND, our first vector vaccine that helps protect against Marek's disease and Newcastle disease, highly contagious viral infections affecting poultry, was approved in the U.S. in 2019. In 2020, we expanded our line of recombinant vector vaccines with the launch of Poulvac Procerta HVT-IBD, which helps protect against Marek's disease and provides early protection against the contemporary infectious bursal disease (IBD) viruses. In 2021, we expanded Poulvac Procerta HVT-ND into new markets, including Brazil, Canada and the Philippines;
- ProHeart® 12 (moxidectin), a once-yearly injection to prevent heartworm disease in dogs 12 months of age and older, was approved in the U.S. in 2019;
- Simparica® (sarolaner) Chewables, a monthly chewable tablet for dogs to control fleas and ticks, was approved in the EU and New Zealand in 2015, the U.S., Canada, Australia, and Brazil (Simparic) in 2016, Japan and additional European, Latin American and Asia Pacific markets in 2017, and China in 2020. Simparica Trio®, a triple combination parasiticide for dogs, was approved in the EU and Canada in 2019, the U.S. and Australia in 2020, and Japan and Mexico in 2021. This product is a key internal lifecycle innovation that combines flea and tick treatment (sarolaner) with the prevention of heartworm disease and treatment of gastrointestinal parasites;
- Solensia™ (frunevetmab), the first injectable mAb therapy for monthly alleviation of OA pain in cats, was approved in Switzerland in 2020, Canada, the EU and the U.K. in 2021 and the U.S. in 2022;
- Stronghold® Plus (selamectin/sarolaner), a topical combination product that treats ticks, fleas, ear mites, lice and gastrointestinal worms and prevents heartworm disease in cats, received European Commission approval in 2017. In 2018, this product was approved in the U.S., Japan and Canada (Revolution® Plus) and in 2021 this product was approved in China (Revolution Plus); and
- Vanguard®/Versican® is a market leading vaccine line for dogs intended to help prevent a range of diseases. Since 2016, Zoetis has added new and innovative enhancements to its Vanguard line in the U.S. with Vanguard crLyme, Vanguard Rapid Resp Intranasal, Vanguard B Oral, and Vanguard CIV H3N2/H3N8. In 2019, the company received approval for Versican Plus Bb Oral, the first oral vaccine for dogs in Europe. It provides long-lasting protection against *Bordetella bronchiseptica*, a primary component of the canine infectious respiratory disease complex (CIRDC). In 2021, Vanguard Intranasal I-III was approved in China.

We pursue the development of new vaccines for emerging infectious diseases, with an operating philosophy of "first to know and fast to market." Examples of the successful execution of this strategy include the first experimental COVID-19 vaccine to help protect the health and well-being of more than 100 mammalian species living in zoos around the world; the first equine vaccine for West Nile virus in the U.S. and EU; the first swine vaccine for pandemic H1N1 influenza virus in the U.S.; the first fully licensed vaccine to help reduce disease caused by the Georgia 08 variant of infectious bronchitis virus (IBV) in poultry; a conditionally licensed vaccine to help fight porcine epidemic diarrhea virus (PEDv) in the U.S.; and the first conditionally licensed vaccine to help prevent the H3N2 type of canine influenza that emerged in the U.S. In 2019, Zoetis established a research facility with Texas A&M University to develop vaccines for transboundary and emerging diseases in animals, including Foot-and-Mouth Disease (FMD), a virus that can cause serious illness in cattle, pigs, and sheep. In 2020, the company opened a research lab at Colorado State University in a partnership to increase our understanding of the potential use of immunomodulators in livestock that would reduce the need for antibiotics, as well as advance our understanding of the biology of key diseases affecting companion animals which could lead to new therapies that can treat chronic health conditions in pets.

Additionally, the Pharmaq business of Zoetis is the global leader in vaccines and innovation for aquatic health products. Pharmaq added to its leading Alpha Ject® vaccine line with approval of Alpha Ject Micro 1 TiLa in Brazil and Colombia, and Alpha Ject Micro 1 Si in Honduras in 2019, as well as Alpha Ject Micro 4-2 in Chile in 2020. Pharmaq also launched Alpha Flux® in Chile in 2019, a parasiticide that helps salmon farmers control sea lice infestations, one of the major challenges in the aquatic health industry. In 2020, Pharmaq received approval in Norway for Alpha ERM Salar, a water-based injectable vaccine that helps protect salmon from red mouth, a common bacterial infection. Pharmaq also established a new diagnostics lab in Norway, the country with the highest density of salmon fish farmers in the world, that will serve as a hub for research and testing. In 2020, Zoetis acquired Fish Vet Group to expand the geographic reach and enhance the diagnostics expertise and testing services of the Pharmaq business for fish farmers in major aquaculture markets.

Zoetis enhanced the portfolio of its diagnostic products with the acquisition in 2018 of Abaxis, Inc. (Abaxis), a leading provider of veterinary point-of-care diagnostic instruments. With this acquisition came the VetScan® portfolio of benchtop and handheld diagnostic instruments and consumables, which serves a large customer base of veterinary practices both in the U.S. and international markets. In 2019, the company acquired Phoenix Central Laboratory for Veterinarians, Inc. (Phoenix Lab) and ZNLabs, LLC (ZNLabs) marking its entry into reference laboratory services and building on a strategy to develop a more comprehensive diagnostics offering with enhanced value for veterinarians. In 2020, the company acquired a third veterinary reference lab business, Ethos Diagnostic Science. The Zoetis diagnostic portfolio also includes the Witness®, Serelisa® and ProFlok® lines of immunodiagnostic kits, which provide disease detection capabilities for various species, including dogs, cats, cattle, pigs and poultry. In 2020, the company launched Vetscan Imagyst™ in the U.S., Australia, Ireland, New Zealand, and the U.K. In 2021 we expanded to Canada, Spain, Germany, Italy, Netherlands, Belgium and Luxembourg. Imagyst uses a combination of image recognition technology, algorithms and cloud-based artificial intelligence (AI) to deliver rapid testing results to veterinary clinics. In 2021, the company added digital cytology testing to the Vetscan Imagyst platform, which offers a network of expert remote pathologists in addition to AI technology for fecal testing. As Zoetis continues to develop additional innovative applications for Vetscan Imagyst, it plans to seamlessly integrate even more new capabilities into the platform, helping veterinarians provide the best possible care for dogs and cats.

Zoetis also entered the field of animal nutritionals with the acquisition of Platinum Performance in 2019. The acquisition brings us premium nutritional product formulas and a unique approach to the field of scientific wellness for horses, dogs and cats.

In 2021, our two top-selling products, Apoquel and Simparica/Simparica Trio, each contributed approximately 10% of our revenue. Combined with our next three top-selling products, Revolution®/Revolution Plus/Stronghold, Cytopoint and the ceftiofur line, these five products contributed approximately 33% of our revenue. In 2021, our ten top-selling product lines contributed 47% of our revenue.

Our product lines and products that represented approximately 1% or more of our revenue in 2021, which comprise 61% of our total revenue, are as follows (listed alphabetically by product category):

Companion animal products

Product line / product	Description	Primary species
Vaccines		
Vanguard® L4 (4-way Lepto)	Compatible with the Vanguard line and helps protect against leptospirosis caused by *Leptospira canicola*, *L. grippotyphosa*, *L. icterohaemorrhagiae* and *L. pomona*	Dogs
Vanguard® line	Aids in preventing canine distemper caused by canine distemper virus; infectious canine hepatitis caused by canine adenovirus type 1; respiratory disease caused by canine adenovirus type 2; canine parainfluenza caused by canine parainfluenza virus; canine parvoviral enteritis caused by canine parvovirus; Lyme disease and subclinical arthritis associated with *Borrelia burgdorferi*, the causative agent of Lyme disease; and Rapid Resp - a group of three vaccines combating infections in dogs caused by *Bordetella bronchiseptica*, canine parainfluenza and canine adenovirus; canine influenza vaccines; and an oral vaccine for *Bordatella bronchiseptica*	Dogs
Anti-infectives		
Clavamox® / Synulox®	A broad-spectrum antibiotic and the first potentiated penicillin approved for use in dogs and cats	Cats, dogs
Convenia®	Anti-infective for the treatment of common bacterial skin infections that provides a course of treatment in a single injection	Cats, dogs
Parasiticides		
ProHeart®	Prevents heartworm infestation; also for treatment of existing larval and adult hookworm infections	Dogs
Revolution® / Revolution® Plus / Stronghold® line	An antiparasitic for protection against fleas, heartworm disease and ear mites in cats and dogs; sarcoptic mites and American dog tick in dogs and roundworms and hookworms for cats	Cats, dogs
Simparica®/ Simparica Trio®	A monthly chewable tablet for dogs to control fleas and ticks; Simparica Trio, also a monthly chewable tablet, is a triple combination parasiticide that delivers all-in-one protection from fleas and ticks, as well as heartworm disease, roundworms and hookworms	Dogs
Other Pharmaceutical Products		
Cerenia®	A medication that prevents and treats acute vomiting in dogs, treats acute vomiting in cats and prevents vomiting due to motion sickness in dogs	Cats, dogs
Rimadyl®	For the relief of pain and inflammation associated with osteoarthritis and for the control of postoperative pain associated with soft tissue and orthopedic surgeries	Dogs
Dermatology		
Apoquel®	A selective inhibitor of the Janus Kinase 1 enzyme that controls pruritus associated with allergic dermatitis and control of atopic dermatitis in dogs at least 12 months of age	Dogs
Cytopoint®	An injectable to help reduce the clinical signs such as itching of atopic dermatitis in dogs of any age	Dogs
Animal Health Diagnostics		
VetScan®	A portfolio of benchtop and handheld diagnostic instruments, rapid tests and associated consumables	Cats, dogs

Livestock products

Product line / product	Description	Primary species
Vaccines		
Improvac / Improvest / Vivax	Reduces boar taint, as an alternative to surgical castration and suppression of estrus in gilts	Swine
Rispoval® / Bovishield® line	Aids in preventing three key viruses involved in cattle pneumonia-BRSV, PI 3 virus and BVD-viruses as well as other respiratory diseases, depending on formulation	Cattle
Suvaxyn® / Fostera®	Aids in preventing or controlling diseases associated with major pig pathogens such as porcine circovirus type 2 (PCV2), porcine reproductive and respiratory syndrome virus (PRRSv) and Mycoplasma hyopneumoniae (*M. hyo*), depending on formulations	Swine
Anti-infectives		
Ceftiofur injectable line	Broad-spectrum cephalosporin antibiotic active against gram-positive and gram-negative bacteria, including ß-lactamase-producing strains, with some formulations producing a single course of therapy in one injection	Cattle, sheep, swine
Draxxin®	Single-dose low-volume antibiotic for the treatment and prevention of bovine and swine respiratory disease, infectious bovine keratoconjunctivitis and bovine foot rot. This franchise also includes Draxxin KP/Draxxin Plus, an injectable for the treatment of bovine respiratory disease that combines the antimicrobial properties of Draxxin with the anti-inflammatory, analgesic and antipyretic properties of the non-steroidal Ketoprofen to rapidly reduce fever in a single dose.	Cattle, sheep, swine
Spectramast®	Treatment of subclinical or clinical mastitis in dry or lactating dairy cattle, delivered via intramammary infusion; same active ingredient as the ceftiofur line	Cattle
Terramycin® line	Antibiotic for the treatment of susceptible infections	Cattle, poultry, sheep, swine
Parasiticides		
Dectomax®	Injectable or pour-on endectocide, characterized by extended duration of activity, for the treatment and control of internal and external parasite infections	Cattle, swine
Medicated Feed Additives		
Lincomycin line	Controls necrotic enteritis; treatment of dysentery (bloody scours), control of ileitis and treatment/reduction in severity of mycoplasmal pneumonia	Swine, poultry

International Operations

We directly market our products in approximately 45 countries across North America, Europe, Africa, Asia, Australia and South America, and our products are sold in more than 100 countries. Operations outside the U.S. accounted for 47% of our total revenue for the year ended December 31, 2021. Through our efforts to establish an early and direct presence in many emerging markets, such as Brazil, Chile, China and Mexico, emerging markets contributed 22% of our total revenue for the year ended December 31, 2021.

Our international businesses are subject, in varying degrees, to a number of risks inherent in carrying on business in other countries. These include, among other things, currency fluctuations, capital and exchange control regulations, expropriation and other restrictive government actions. See *Item 1A. Risk Factors— Risks related to operating in foreign jurisdictions*.

Sales and Marketing

Our sales organization includes sales representatives and technical and veterinary operations specialists. In markets where we do not have a direct commercial presence, we generally contract with distributors that provide logistics and sales and marketing support for our products.

Our sales representatives visit our customers, including veterinarians and livestock producers, to provide information and to promote and sell our products and services. Our technical and veterinary operations specialists, who generally have advanced veterinary medicine degrees, provide scientific consulting focused on disease management and herd management, training and education on diverse topics, including responsible product use. These direct relationships with customers allow us to understand the needs of our customers. Additionally, our sales representatives and technical and veterinary operations specialists partner with customers to provide training and support in areas of disease awareness and treatment protocols, including the use of our products. As a result of these relationships, our sales and consulting visits are typically longer, more meaningful and provide us with better access to customer decision makers as compared to those in human health. In certain markets, including the U.S., pet owners are taking a more active role in product purchasing decisions, and as a result we are increasingly investing in direct-to-consumer marketing efforts. As of December 31, 2021, our sales organization consisted of approximately 3,800 employees.

Our companion animal and livestock products are primarily available by prescription through a veterinarian. On a more limited basis, in certain markets, we sell certain products through retail and e-commerce outlets. We also market our products by advertising to veterinarians, livestock producers and pet owners.

Customers

We primarily sell our companion animal products to veterinarians or to third-party veterinary distributors that typically then sell our products to veterinarians, and in each case veterinarians then typically sell our products to pet owners. We sell our livestock products directly to a diverse set of livestock producers, including beef and dairy farmers as well as pork and poultry operations, and to veterinarians, third-party veterinary distributors and retail outlets that then typically sell the products to livestock producers. Our two largest customers, both distributors, represented approximately 14% and 9%, respectively, of our revenue for the year ended December 31, 2021, and no other customer represented more than 7% of our revenue for the same period.

Research and Development

Our research and development (R&D) operations are comprised of a dedicated veterinary medicine R&D organization, external alliances and other operations focused on the development, registration and regulatory maintenance of our products. In addition, we have R&D operations focused on diagnostics, devices, data, digital and other technological innovation. We incurred R&D expenses of $508 million in 2021, $463 million in 2020 and $457 million in 2019.

Our R&D efforts are comprised of more than 300 programs and reflect our commitment to develop better solutions. We create new insights for predicting, preventing, detecting and treating health conditions that result in the development of new platforms of knowledge which become the basis for continuous innovation. Leveraging internal discoveries, complemented by diverse external research collaborations, results in the delivery of novel vaccine, pharmaceutical, biopharmaceutical, biodevice and diagnostic products and services to help our customers face their toughest challenges. While the development of new chemical, biopharmaceutical and biological entities through new product R&D plays a critical role in our growth strategies, a significant share of our R&D investment (including regulatory functions) is focused on product lifecycle innovation. A commitment to continuous innovation, based on customer need, ensures we actively work to broaden the value of existing products by developing claims in additional species, more convenient formulations, routes of administration and combinations, and by expanding usage into more countries. We also create opportunities by integrating product offerings to optimize solutions based on the totality of customer need.

We prioritize our R&D spending on an annual basis with the goal of aligning our research and business objectives, and do not disaggregate our R&D operations by research stage or by therapeutic area for purposes of managing our business. We make our strategic investments in R&D based on four criteria: strategic fit and importance to our current portfolio; technical feasibility of development and manufacture; return on investment; and the needs of customers and the market. A centralized portfolio management function links development plans with financial systems to build a comprehensive view of the status of project progression and spend. This view facilitates our ability to set targets for project timing and goals for investment efficiency. The allocation of our R&D investment between product lifecycle innovation and new product development, in addition to our ability to leverage the discoveries of our existing R&D and other industries, supports a cost-effective, efficient, sustainable and relatively predictable R&D process.

We regularly enter into agreements with external parties that enable us to collaborate on research programs or gain access to substrates and technologies (such as new devices). Some of our external partnerships involve funding from a non-governmental organization or a government grant. We are generally responsible for providing technical direction and supplemental expertise for, as well as investment in, such external partnerships. Depending on the nature of the agreement, we may act as the commercialization partner for discoveries that originate during the period of collaborative research, or we may own or have exclusive rights to any intellectual property that enables the development of proprietary products or models.

As of December 31, 2021, we employed approximately 1,300 employees in our global R&D operations. Our R&D headquarters is located in Kalamazoo, Michigan. We have R&D operations co-located with manufacturing sites in Louvain-la-Neuve, Belgium; Campinas, Brazil; Suzhou, China; Farum, Denmark; Olot, Spain; Union City, California; Charles City, Iowa; Kalamazoo, Michigan; Durham, North Carolina; and Lincoln, Nebraska, U.S. We co-locate R&D operations with manufacturing sites to facilitate the efficient transfer of production processes from our laboratories to manufacturing. In addition, we maintain R&D operations in Sydney, Australia; Zaventem, Belgium; São Paulo, Brazil; Beijing, China; Thane, India; Oslo, Norway; Hong Ngu, Vietnam; Con Tho, Vietnam; Fort Collins, Colorado and College Station, Texas, U.S. Each site is designed to meet the regulatory requirements for working with chemical or infectious disease agents, as appropriate.

Manufacturing and Supply Chain

Our products are manufactured at both sites operated by us and sites operated by third-party contract manufacturing organizations, which we refer to as CMOs. We have a global manufacturing network of 28 sites.

Our global manufacturing network is comprised of the following sites:

Site	Location	Site	Location
Buellton	California, U.S.	Melbourne	Australia
Campinas	Brazil	Olot	Spain
Catania	Italy	Overhalla	Norway
Charles City	Iowa, U.S.	Rathdrum	Ireland
Chicago Heights	Illinois, U.S.	Salisbury	Maryland, U.S.
Durham	North Carolina, U.S.	San Diego	California, U.S.
Eagle Grove	Iowa, U.S.	Suzhou	China
Farum	Denmark	Tallaght	Ireland
Jilin	China	Tullamore	Ireland
Kalamazoo	Michigan, U.S.	Union City	California, U.S.
Klofta	Norway	Weibern	Austria
Lincoln	Nebraska, U.S.	Wellington	New Zealand
Louvain-la-Neuve	Belgium	White Hall	Illinois, U.S.
Medolla	Italy	Willow Island	West Virginia, U.S.

We own the majority of these sites, with the exception of our facilities in Buellton, California (U.S.), Durham, North Carolina (U.S.), Klofta (Norway), Medolla (Italy), Melbourne (Australia), San Diego, California (U.S.), Tullamore (Ireland), Union City, California (U.S.) and Weibern (Austria), which are leased sites.

We are currently in the process of qualifying a second manufacturing site in Suzhou (China).

Our global manufacturing and supply chain is supported by a network of CMOs. As of December 31, 2021, this network was comprised of 136 CMOs, including those centrally-managed as well as locally-manged CMOs.

We select CMOs based on several factors: (i) their ability to reliably supply products or materials that meet our quality standards at an optimized cost; (ii) their access to niche products and technologies; (iii) capacity; and (iv) financial efficiency analyses. Our regional and global manufacturing teams seek to ensure that all of the CMOs we use adhere to our standards of manufacturing quality.

We purchase certain raw materials necessary for the commercial production of our products from a variety of third-party suppliers. We utilize logistics service providers as a part of our global supply chain, primarily for shipping and logistics support.

We intend to continue our efficiency improvement programs in our manufacturing and supply chain organization, including Six Sigma and Lean capabilities, which are processes intended to improve manufacturing efficiency. We have strong globally managed and coordinated quality control and quality assurance programs in place at our global manufacturing network sites, and we regularly inspect and audit our global manufacturing network and CMO sites.

Competition

Although our business is the largest based on revenue in the animal health industry (which includes medicines, vaccines and diagnostics), we face competition in the regions in which we compete. Principal drivers of competition vary depending on the particular region, species, product category and individual product, and include new product development, quality, price, service and promotion to veterinary professionals, pet owners and livestock producers.

Our primary competitors include animal health medicines, vaccines and diagnostic companies such as Boehringer Ingelheim Animal Health Inc., the animal health division of Boehringer Ingelheim GmbH; Merck Animal Health, the animal health division of Merck & Co., Inc.; Elanco Animal Health; and IDEXX Laboratories. There are also several new start-up companies working in the animal health area. In addition, we compete with hundreds of other producers of animal health products throughout the world.

The level of competition from generic products varies from market to market. Unlike in the human health market, there is no large, well-capitalized company focused on generic animal health products that exists as a global competitor in the industry. Historically, the reasons for this include the relatively smaller average market size of each product opportunity, the importance of direct distribution and education to veterinarians and livestock producers and the primarily self-pay nature of the business. In addition, companion animal health products are often directly prescribed and dispensed by veterinarians. For more information regarding the generic competition we have and expect to encounter as patents on certain of our key products expire, see *Item 1. Business - Intellectual Property*.

The importance of quality and safety concerns to pet owners, veterinarians and livestock producers also contributes to animal health brand loyalty. As a result, we believe that significant brand loyalty to products often continues after the loss of patent-based and regulatory exclusivity.

Intellectual Property

Our technology, brands and other intellectual property are important elements of our business. We rely on patent, trademark, copyright and trade secret laws, as well as regulatory exclusivity periods and non-disclosure agreements to protect our intellectual property rights. Our policy is to vigorously protect, enforce and defend our rights to our intellectual property, as appropriate.

Our product portfolio enjoys the protection of approximately 6,250 granted patents and 1,400 pending patent applications, filed in more than 50 countries, with a focus on our major markets, including Australia, Brazil, Canada, China, Europe, Japan and the U.S., as well as other countries with strong patent systems. Many of the patents and patent applications in our portfolio are the result of our in-house research and development, while other patents and patent applications in our portfolio were wholly or partially developed by third parties and are licensed to Zoetis.

Patents for individual products expire at different times based on the date of the patent filing (or sometimes the date of patent grant) and the legal term of patents in the countries where such patents are obtained. Below is a summary of our recent and upcoming key patent expirations.

- Patents relating to the active ingredient (tulathromycin) and formulation of Draxxin have expired, with the exception of the active ingredient and formulation patents in Japan that expire in 2023 and 2025, respectively. In Brazil, there are patents for the active ingredient and formulation which expire in February 2022 and in 2025, respectively, although their current status is uncertain. Generic or other competing tulathromycin products are now marketed in many markets including the U.S., Europe, Canada, Mexico and Australia, as well as in many smaller markets, and are now marketed for swine in Brazil. Additional marketing authorizations for generic tulathromycin products may be granted in various markets in the future. Sales of Draxxin have been negatively affected by generic competition in the markets where the patents have expired.
- All patents relating to the active ingredient of Excede/Naxcel (ceftiofur crystalline free acid) have expired. The patents covering the commercial formulation of Excede in the U.S., Japan and Brazil extend to 2024, 2026 and 2027, respectively, but the corresponding patents in Europe, Canada and Australia expired in September 2021. The commercial method of administration patent relevant to the product line expires in 2023 in the U.S., Europe and Australia, and in 2028 in Japan. Generic versions of Excede have entered the market in Mexico and Russia. At this time, the market entry of a generic version of Excede in the U.S. is not anticipated before 2024.
- All patents relating to Revolution/Stronghold containing selamectin as the sole active ingredient have expired. Generic versions of selamectin are now sold in markets including the U.S., Europe, Australia and Canada. Selamectin is one of the active ingredients in our combination parasiticide product, Revolution Plus/Stronghold Plus, which is separately patent protected.
- The patent for the active ingredient of Convenia (cefovecin sodium) has expired in all countries, and the patents covering the commercial formulation expire in Europe, Australia, Canada and Japan in November 2022, in the U.S. in October 2023, and in Brazil in 2025.
- The patent for the active ingredient of Cerenia has expired in all countries and the formulation patents relevant to the injectable product line expire between 2025 and 2028. Generic versions of Cerenia injectable have been registered and marketed in Europe, and we are aware that regulatory approval of at least one generic version of Cerenia injectable is currently being pursued in the U.S. There is also a pending registration for generic version of Cerenia injectable in Australia.
- All patents covering ProHeart 6 and ProHeart 12 have expired.

Zoetis typically enforces its patents vigorously as appropriate both within and outside the U.S., including by filing infringement claims against other parties.

Additionally, many of our vaccine products are based on proprietary master seeds and proprietary or patented adjuvant formulations. We actively seek to protect our proprietary information, including our trade secrets and proprietary know-how, by seeking to require our employees, consultants, advisors and partners to enter into confidentiality agreements and other arrangements upon the commencement of their employment or engagement.

Following our separation from Pfizer, Pfizer licensed to us the right to use certain intellectual property rights in the animal health field. We licensed to Pfizer the right to use certain of our trademarks and substantially all of our other intellectual property rights in the human health field and all other fields outside of animal health. In addition, Pfizer granted us a perpetual license to use certain of Pfizer's product name trademarks.

We seek to file and maintain trademarks around the world based on commercial activities in most regions where we have, or desire to have, a business presence for a particular product or service. We currently maintain more than 9,000 trademark applications and registrations in our market countries, identifying products and services dedicated to the care of companion animals and livestock.

Regulatory

The sale of animal health products is governed by the laws and regulations specific to each country in which we market our products. To maintain compliance with these regulatory requirements, we have established processes, systems, and dedicated resources with end-to-end involvement from product concept to launch and maintenance in the market. Our regulatory function actively engages in dialogue with various global agencies regarding their policies that relate to animal health products. In the majority of our markets, the relevant animal health authority is separate from those governing human medicinal products.

United States

United States Food and Drug Administration (FDA). The regulatory body that is responsible for the regulation of animal health pharmaceuticals in the U.S. is the Center for Veterinary Medicine (CVM), housed within the FDA. All manufacturers of animal health pharmaceuticals must show their products to be safe, effective and produced by a consistent method of manufacture as defined under the Federal Food, Drug and Cosmetic Act. The FDA's basis for approving a drug application is documented in a Freedom of Information Summary. Post-approval monitoring of products is required by law, with reports being provided to the CVM's Surveillance and Compliance group. Reports of product quality defects, adverse events or unexpected results are submitted in accordance with the legal and agency requirements.

United States Department of Agriculture (USDA). The regulatory body in the U.S. for veterinary vaccines is the USDA. The USDA's Center for Veterinary Biologics is responsible for the regulation of animal health vaccines, including certain immunotherapeutics. All manufacturers of animal health biologicals must show their products to be pure, safe, effective and produced by a consistent method of manufacture as defined under the Virus Serum Toxin Act. Post-approval monitoring of products is required. Reports of product quality defects, adverse events or unexpected results are submitted in accordance with the agency requirements.

Environmental Protection Agency (EPA). The main regulatory body in the U.S. for veterinary pesticides is the EPA. The EPA's Office of Pesticide Programs is responsible for the regulation of pesticide products applied to animals. All manufacturers of animal health pesticides must show their products, when used according to specifications, will not cause "unreasonable adverse effects to man or the environment" as stated in the Federal Insecticide, Fungicide, and Rodenticide Act. Within the U.S., pesticide products that are approved by the EPA must also be approved by individual state pesticide authorities before distribution in that state. Post-approval monitoring of products is required, with reports provided to the EPA and some state regulatory agencies.

In addition, the U.S. Foreign Corrupt Practices Act (FCPA) prohibits U.S. corporations and their representatives from offering, promising, authorizing or making payments to any foreign government official, government staff member, political party or political candidate in an attempt to obtain or retain business abroad. The scope of the FCPA includes interactions with certain healthcare professionals in many countries. Other countries have enacted similar anti-corruption laws and/or regulations.

We are also subject to foreign trade controls administered by certain U.S. government agencies, including the Bureau of Industry and Security within the Commerce Department, Customs and Border Protection within the Department of Homeland Security and the U.S. Department of the Treasury's Office of Foreign Assets Control (OFAC). As a global animal health company, we conduct business in multiple jurisdictions throughout the world. This includes supplying medicines and medical products for use in Iran and shipment of products to Iran, and conducting related activities, in accordance with a general license issued by OFAC and in line with our corporate policies. As previously disclosed, we acquired Platinum Performance (Platinum) in August 2019. During the integration process, after the closing of the acquisition, we discovered that Platinum had initiated certain transactions involving sales of food, medicine or devices to individuals or entities who may have been resident in or had ties to Iran. These sales were not conducted pursuant to a general license from OFAC and potentially violated the Iranian Transactions and Sanctions Regulations (ITSR) administered by OFAC. We submitted an initial voluntary disclosure to OFAC in February 2020 while our internal investigation was ongoing. After concluding our internal investigation, in December 2020, we submitted a final voluntary disclosure to OFAC and the U.S. Department of Justice regarding these transactions.

As a result of our acquisition of Abaxis, our product portfolio includes human medical devices, which are subject to regulation in the U.S. by the FDA under the Federal Food, Drug, and Cosmetic Act, including the 1976 Medical Device Amendments and the Quality System Regulation, and the Clinical Laboratory Improvement Amendments of 1988, and by the Department of Health and Human Services Office for Civil Rights under the Health Insurance Portability and Accountability Act of 1996. Post-market surveillance is required, with reports provided to the FDA in accordance with agency requirements.

Outside the United States

EU. The European Medicines Agency (EMA) is the centralized regulatory agency of the EU. The agency is responsible for the scientific evaluation of medicines developed by healthcare companies seeking centralized approval for use in the EU. The agency has a veterinary review section distinct from the medical review section. The Committee for Medicinal Products for Veterinary Use (CVMP) is responsible for scientific and technical review of the submissions for innovative pharmaceuticals, biopharmaceuticals and vaccines. After the CVMP issues a positive opinion on the approvability of a product, the EU commission reviews the opinion and, if they agree with the CVMP, they grant the product market authorization. Once granted by the European Commission, a centralized marketing authorization is valid in all EU and European Economic Area-European Free Trade Association states. Products can also be registered in the EU via a decentralized and mutual recognition routes under the supervision of the Co-ordination Group for Mutual Recognition and Decentralized Procedures - Veterinary (CMDv). This co-ordination group is composed of one representative per member state from each national regulatory agency, including Norway, Iceland and Liechtenstein. The mutual recognition and decentralized procedures allow submissions of pharmaceuticals and vaccines. A series of Regulations, Directives, Guidelines and EU Pharmacopeia Monographs provide the requirements for product approval in the EU. In general, these requirements are similar to those in the U.S., requiring demonstrated evidence of, safety, efficacy, and quality/consistency of manufacturing processes. We are also subject to the EU General Data Protection Regulation (GDPR) that requires us to meet enhanced requirements regarding the handling of personal data, including its use, protection and the rights of data subjects to request correction or deletion of their personal data.

China. The Ministry of Agriculture and Rural Affairs (MARA), a ministerial-level component of the State Council, drafts and implements policies related to agriculture, rural areas and rural residents, and regulates crop farming, animal husbandry, fisheries, agriculture mechanization and the quality of agriculture products. MARA is also the regulatory body responsible for the regulation and control of pharmaceuticals, biologicals and medicated feed additives for animal use. Regulatory requirements in China have become increasingly stringent, with MARA recently issuing new regulations and changes to the regulatory review process.

Brazil. The Ministry of Agriculture, Livestock and Food Supply (MAPA) is the regulatory body in Brazil that is responsible for the regulation and control of pharmaceuticals, biologicals and medicated feed additives for animal use. MAPA's regulatory activities are conducted through the Secretary of Agricultural Defense and its Livestock Products Inspection Department. In addition, regulatory activities are conducted at a local level through the Federal Agriculture Superintendence. These activities include the inspection and licensing of both manufacturing and commercial establishments for veterinary products, as well as the submission, review and approval of pharmaceuticals, biologicals, and medicated feed additives. MAPA is one of the most active regulatory agencies in Latin America, having permanent seats at several international animal health forums, such as Codex Alimentarius, World Organization for Animal Health and Committee of Veterinary Medicines for the Americas. MAPA was also invited to be a Latin American representative at meetings of the International Cooperation on Harmonisation of Technical Requirements for Registration of Veterinary Medicinal Products (VICH). Several normative instructions issued by MAPA have set regulatory trends in Latin America.

Australia. The Australian Pesticides and Veterinary Medicines Authority (APVMA) is an Australian government statutory authority established in 1993 to centralize the registration of all agricultural and veterinary products for the Australian marketplace. Previously each State and Territory government had its own system of registration. The APVMA assesses applications from companies and individuals seeking registration or a permit so they can supply their product to the marketplace. Applications undergo rigorous assessment using the expertise of the APVMA's scientific staff and drawing on the technical knowledge of other relevant scientific organizations, Commonwealth government departments and state agriculture departments. If the product works as intended and the scientific data confirms that when used as directed on the product label it will have no harmful or unintended effects on people, animals, the environment or international trade, the APVMA will register the product. As well as registering new

agricultural and veterinary products, the APVMA receives and reviews adverse event information which may be submitted by registrants or members of the public. The APVMA also reviews registered products when particular concerns are raised about their safety and effectiveness. The review of a product may result in confirmation of its registration, or it may see registration continue with some changes to the way the product can be used. In some cases the review may result in the registration of a product being canceled and the product taken off the market.

Rest of world. Country-specific regulatory laws have provisions that include requirements for certain labeling, safety, efficacy, and manufacturers' quality control procedures (to assure the consistency of the products), as well as company records and reports. With the exception of the EU, most other countries' regulatory agencies will generally refer to the FDA, USDA, EU and other international animal health entities, including the World Organization for Animal Health and Codex Alimentarius, in establishing standards and regulations for veterinary pharmaceuticals and vaccines.

Global policy and guidance

Joint FAO/WHO Expert Committee on Food Additives. The Joint FAO/WHO Expert Committee on Food Additives is an international expert scientific committee that is administered jointly by the Food and Agriculture Organization of the United Nations (FAO) and the World Health Organization (WHO). They provide a risk assessment/safety evaluation of residues of veterinary drugs in animal products, exposure and residue definition and maximum residue limit proposals for veterinary drugs. We work with them to establish acceptable safe levels of residual product in food-producing animals after treatment. This in turn enables the calculation of appropriate withdrawal times for our products prior to an animal entering the food chain.

Advertising and promotion review. Promotion of regulated animal health products is controlled by regulations in many countries. These rules generally restrict advertising and promotion to those claims and uses that have been reviewed and endorsed by the applicable agency. We conduct a review of promotion materials for compliance with the local and regional requirements in the markets where we sell animal health products.

Food Safety Inspection Service/generally recognized as safe. The FDA is authorized to determine the safety of substances (including "generally recognized as safe" substances, food additives and color additives), as well as prescribing safe conditions of use. However, although the FDA has the responsibility for determining the safety of substances, the Food Safety and Inspection Service, the public health agency in the USDA, still retains, under the tenets of the Federal Meat Inspection Act and the Poultry Products Inspection Act and their implementing regulations, the authority to determine whether new substances and new uses of previously approved substances are suitable for use in meat and poultry products.

International Cooperation on Harmonisation of Technical Requirements for Registration of Veterinary Medicinal Products (VICH). VICH is a trilateral (EU-Japan-USA) program aimed at harmonizing technical requirements for veterinary product registration. The objectives of the VICH are as follows:

- Establish and implement harmonized technical requirements for the registration of veterinary medicinal products in the VICH regions, which meet high quality, safety and efficacy standards and minimize the use of test animals and costs of product development.
- Provide a basis for wider international harmonization of registration requirements through the VICH Outreach Forum (VOF).
- Monitor and maintain existing VICH guidelines, taking particular note of the VICH work program and, where necessary, update these VICH guidelines.
- Ensure efficient processes for maintaining and monitoring consistent interpretation of data requirements following the implementation of VICH guidelines.
- By means of a constructive dialogue between regulatory authorities and industry, provide technical guidance enabling response to significant emerging global issues and science that impact on regulatory requirements within the VICH regions.

Human Capital Management

As of December 31, 2021, we had approximately 12,100 employees worldwide, which included approximately 5,900 employees in the U.S. and approximately 6,200 in other jurisdictions. We view the strength of our leadership team and our talented colleagues around the world as a critical component of our past and future success. We are committed to continuing to be a company our colleagues can be proud of and to attracting, retaining and developing the best talent in the industry through our focus on workplace culture and engagement, diversity, equity and inclusion (DE&I), talent recruitment, development and retention, benefits and compensation, and employee health and safety. The Human Resources Committee of our Board of Directors is responsible for overseeing talent development, DE&I, and employee engagement programs and policies, and the Quality and Innovation Committee regularly reviews employee health and safety metrics.

Certain of our employees are members of unions, works councils, trade associations or are otherwise subject to collective bargaining agreements in particular jurisdictions, including a small number of employees in the U.S.

Workplace Culture and Employee Engagement

We have established Core Beliefs that are the foundation of the commitments we make to each other, our customers and our stakeholders every day:

- Our Colleagues Make the Difference
- Always Do the Right Thing
- Customer Obsessed
- Run It Like You Own It
- We are One Zoetis

We value responsibility and integrity. Our Code of Conduct contains general guidelines for conducting business with the highest standards of ethics. We are committed to an environment where open, honest communications are the expectation, not the exception. We have an Open Door Policy where colleagues are encouraged to present ideas, concerns, questions, problems or suggestions directly to any level of leadership within Zoetis, without fear of retaliation.

We assess colleague engagement and key drivers enabling organizational performance by regularly conducting employee engagement surveys. Our engagement rate in 2021 was 88%. Insights from the Company's engagement survey are used to develop both company-wide and business function level organizational and talent development plans.

Diversity, Equity and Inclusion (DE&I)

We strive to create an environment where colleagues feel valued and cared for and understand the important role we play in embracing diversity to improve the quality of our innovation, collaboration and relationships. Our Chief Talent, Diversity, Equity & Inclusion Officer, reporting to our Chief Human Resources Officer, oversees a team dedicated to executing on our diversity, equity and inclusion strategy, which is reviewed with our executive leadership team and Board of Directors throughout each year.

Our DE&I focus and commitment begins with our leadership team of diverse backgrounds, experiences and ethnicities (for example, 45% of the executive team, including our Chief Executive Officer, are women), and it is demonstrated in our support of our colleagues and industry. We are committed to accelerating inclusion, equity and more diverse representation across the company. In May 2021, we released our first Sustainability Report, which included aspirations for change to make Zoetis and our industry more inclusive, including specific aspirations focused on increasing the representation of people of color and women within our company by the end of 2025 (as compared to 2020).

- Increase representation of women at the director level and above globally from 32% to 40%;
- Increase overall representation among people of color in the U.S. from 21% to 25%;
- Increase representation of Black colleagues in the U.S. from 4% to 5%; and
- Increase representation of Latinx colleagues in the U.S. from 5% to 6%.

We offer eight Colleague Resource Groups, which are an important catalyst to foster a diverse, inclusive environment, while positively impacting our business and community. In 2021, we offered DE&I training to all our employees.

Talent Recruitment, Development and Retention

We employ a variety of career development, employee benefits, policies and compensation programs designed to attract, develop and retain our colleagues. Employee benefits and policies are designed for diverse needs including generous parental leave policies and expanded adoption, fertility and surrogacy benefits for all colleagues equitably. We have internal programs designed to develop and retain talent, including a talent portal, mentoring programs, career planning resources, leadership development programs, performance management and training programs. In particular, our R&D team recruits scientists and research and development personnel from universities and scientific associations and forums and leverages a variety of R&D-specific talent tools. In 2021, our voluntary attrition rate was 11%.

Compensation and Benefits

We strive to support our colleagues' well-being and enable them to achieve their best at work and at home. Our compensation and benefits programs are designed to support colleague well-being including physical and mental health, financial wellness, and family and lifestyle resources. We recognize the diverse needs of our colleagues around the world and have developed comprehensive programs that vary by country and region to best address them. In the U.S., these benefits include flexible work arrangements, educational assistance, mental health support, and inclusive family-friendly benefits like fully paid parental leave, including for adoptions, fathers and same sex partners, as well as fertility and surrogacy benefits. During the COVID-19 pandemic, we enhanced our childcare benefits and our flexible work arrangements to support our colleagues in managing their work and family responsibilities.

We are proud of our continuing record of being recognized as a top employer by esteemed publications and organizations around the world.

Employee Health and Safety

We are committed to ensuring a safe working environment for our colleagues, and our Global Environmental Health and Safety (EHS) Policy standards define EHS performance requirements for each site, procedures and recommended practices. Our sites have injury prevention programs, and we strive to build a best-in-class safety culture. Our procedures emphasize the need for the cause of injuries to be investigated and for action plans to be implemented to mitigate potential recurrence.

We track health and safety performance metrics including total injury rate (TIR), lost time injury rate (LTIR), restricted work injuries and medical treatment injuries on a monthly basis for all manufacturing and research and development sites, as well as for U.S. offices, field force, fleet and logistics. Since 2018, we have tracked TIR and LTIR for all our operations worldwide. Our safety programs have resulted in strong safety performance, with TIR and LTIR rates being lower than the industry averages.

In response to the COVID-19 pandemic, we have implemented and continue to implement additional safety measures in all our facilities.

Information about our Executive Officers

Kristin C. Peck

Age 50

Chief Executive Officer and Director

Ms. Peck has served as our Chief Executive Officer since January 2020 and as a director since October 2019. Prior to becoming CEO, Ms. Peck was Executive Vice President and Group President, U.S. Operations, Business Development and Strategy at Zoetis from March 2018 to December 2019. Ms. Peck previously served as our Executive Vice President and President, U.S. Operations from May 2015 to February 2018 and Executive Vice President and Group President from October 2012 through April 2015. In these roles, Ms. Peck helped usher Zoetis through its Initial Public Offering in 2013 and has been a driving force of change in areas including Global Manufacturing and Supply, Global Poultry, Global Diagnostics, Corporate Development, and New Product Marketing and Global Market Research. Ms. Peck joined Pfizer in 2004 and held various positions, including Executive Vice President, Worldwide Business Development and Innovation and as a member of Pfizer's Executive Leadership Team.

Wetteny Joseph

Age 49

Executive Vice President and Chief Financial Officer

Mr. Joseph has served as our Executive Vice President and Chief Financial Officer since June 2021. Mr. Joseph joined Zoetis from Catalent, where he served for 13 years, most recently as Senior Vice President and Chief Financial Officer of Catalent from February 2018 to May 2021. Mr. Joseph joined Catalent in 2008 as Vice President and Corporate Controller and held senior finance positions until October 2015, when he was named President, Clinical Supply Services, one of the company's principal business units. Before joining Catalent, Mr. Joseph held a variety of senior financial positions at the industrial distribution company HD Supply, including as CFO of its plumbing and HVAC business unit. He also served as Corporate Controller for Hughes Supply, a Fortune 500, NYSE-listed company that was acquired by Home Depot and became part of HD Supply. In his early career, Mr. Joseph spent six years at PricewaterhouseCoopers as an auditor and strategic financial advisor across a variety of industries.

Timothy J. Bettington

Age 48

Executive Vice President and President, U.S. Operations and Global Customer Experience

Mr. Bettington has served as our Executive Vice President and President, U.S. Operations since January 2020. Mr. Bettington joined Zoetis from Boehringer Ingelheim (BI) where he served for 12 years, most recently as North American Region Head of Commercial Operations for BI's animal health business from January 2017 to December 2019. Mr. Bettington was also BI's Global Head of Customer Experience from August 2015 to December 2016, and Vice President of Sales and Marketing for the United States from April 2012 to July 2015. Prior to BI, Mr. Bettington served as Senior Manager Food Animal Marketing at Novartis Animal Health from February 2006 to March 2008.

Heidi C. Chen

Age 55

Executive Vice President, General Counsel and Corporate Secretary; Lead of Human Health Diagnostics

Ms. Chen has served as our Executive Vice President and General Counsel since October 2012, and as our Corporate Secretary since July 2012. Since January 2020, Ms. Chen has had oversight responsibility for our Human Health Diagnostics business. Ms. Chen joined Pfizer in 1998 and held various legal and compliance positions of increasing responsibility, including Vice President and Chief Counsel of Pfizer Animal Health, our predecessor company, and lead counsel for Pfizer's Established Products (generics) business.

Glenn David

Age 50

Executive Vice President and Group President, International Operations, Aquaculture, BioDevices and Pet Insurance

Mr. David has served as our Executive Vice President and Group President, International Operations, Aquaculture, BioDevices and Pet Insurance since June 2021. He served as our Executive Vice President and Chief Financial Officer from 2016 to 2021. He served as our Senior Vice President of Finance Operations from 2013 to 2016 and as acting Chief Financial Officer from April 2014 through August 2014. Mr. David joined Pfizer in 1999 and held various financial positions, including Vice President of Global Finance for Pfizer Animal Health, our predecessor company, and Vice President of Finance for the U.S. Primary Care franchise.

Jeannette Ferran Astorga

Age 47

Executive Vice President, Corporate Affairs, Communications and Chief Sustainability Officer

Ms. Ferran Astorga has served as our Executive Vice President, Corporate Affairs, Communications and Chief Sustainability Officer since January 2022 and also serves as President of the Zoetis Foundation. She joined Zoetis in September 2020 as Vice President, Head of Sustainability. Prior to joining Zoetis, Ms. Ferran Astorga was Vice President of Corporate Responsibility at the ascena Retail Group, a Fortune 500 company where she served since 2015 leading the global team responsible for supply chain compliance and sustainability, diversity and inclusion, and corporate philanthropy. Ms. Ferran Astorga held a variety of management roles with increasing responsibility at ANN INC., a NYSE-listed women's fashion retail company that was acquired by ascena Retail Group.

Roxanne Lagano

Age 57

Executive Vice President, Chief Human Resources Officer and Global Operations

Ms. Lagano has served as our Executive Vice President and Chief Human Resources Officer since November 2012 and was given responsibility for the Global Operations and Security functions in January 2020. She previously had oversight of the company's Corporate Communications function from 2015 to 2019. Ms. Lagano joined Pfizer in 1997 and held various positions, including Senior Vice President, Global Compensation, Benefits and Wellness and Senior Director, Business Transactions, Pfizer Worldwide Human Resources.

Wafaa Mamilli

Age 54

Executive Vice President and Chief Information and Digital Officer

Ms. Mamilli has served as our Executive Vice President and Chief Information and Digital Officer since January 2020. Ms. Mamilli joined Zoetis from Eli Lilly and Company where she most recently served as Global Chief Information Officer for business units from January 2019 to January 2020. Prior to that, she was Eli Lilly's Chief Information Security Officer from March 2016 to March 2019 and Information Officer for the Diabetes Business Unit & Real World Evidence from May 2014 to March 2016.

Abhay Nayak

Age 34

Executive Vice President, Head of Strategy, Accelerated Growth Businesses and Commercial Development

Mr. Nayak has served as our Head of Strategy and Accelerated Growth Businesses since November 2020, and became an Executive Vice President in February 2021. Previously, he served as our Head of Global Strategy, Commercial Development and Customer Experience from January 2020 to November 2020 and as our Head of Corporate Strategy from July 2018 to December 2019. Prior to Zoetis, Mr. Nayak was a consultant at McKinsey & Company from July 2015 to June 2018, and previously served as an Assistant Vice President at Barclays Bank Plc in their Investment Banking Division in London.

Robert J. Polzer

Age 53

Executive Vice President and President, Research and Development

Dr. Polzer has served as our Executive Vice President and President, Research and Development since January 2022. Dr. Polzer joined Zoetis in 2015 as the Head of Global Therapeutics. Prior to Zoetis, Dr. Polzer spent over 20 years with Pfizer in drug metabolism research with roles of increasing organizational impact including global leadership of Pharmcokinetics, Dynamics, and Metabolism.

Roman Trawicki

Age 58

Executive Vice President and President, Global Manufacturing and Supply

Mr. Trawicki has served as our Executive Vice President and President, Global Manufacturing and Supply since May 2015. He joined Zoetis in January 2015 as President, Global Manufacturing and Supply. From 2009 to 2014, he was GE Healthcare’s General Manager of Global Supply Chain for Medical Diagnostics.

Environmental, Health and Safety

We are subject to various federal, state, local and foreign environmental, health and safety laws and regulations. These laws and regulations govern matters such as the emission and discharge of hazardous materials into the ground, air or water; the generation, use, storage, handling, treatment, packaging, transportation, exposure to, and disposal of hazardous and biological materials, including recordkeeping, reporting and registration requirements; and the health and safety of our employees. Due to our operations, these laws and regulations also require us to obtain, and comply with, permits, registrations or other authorizations issued by governmental authorities. These authorities can modify or revoke our permits, registrations or other authorizations and can enforce compliance through fines and injunctions.

Certain environmental laws, such as the U.S. Comprehensive Environmental Response, Compensation and Liability Act of 1980, as amended (CERCLA), impose joint and several liability, without regard to fault, for cleanup costs on persons who disposed of or released hazardous substances into the environment, including at third-party sites or offsite disposal locations, or those who currently own or operate (or formerly owned or operated) sites where such a release occurred. In addition to clean-up actions brought by federal, state, local and foreign governmental entities, private parties could raise personal injury or other claims against us due to the presence of, or exposure to, hazardous materials on, from or otherwise relating to such a property.

We have made, and intend to continue to make, necessary expenditures for compliance with applicable environmental, health and safety laws and regulations. We are also a party to proceedings in which the primary relief sought is the cost of past and/or future remediation, or remedial measures to mitigate or remediate pollution. In connection with such proceedings, and otherwise, we are investigating and cleaning up environmental contamination from past industrial activity at certain sites, or financing other parties' completion of such activities. As a result, we incurred capital and operational expenditures in 2021 for environmental compliance purposes and for the clean-up of certain past industrial activities as follows:

- environmental-related capital expenditures - approximately $11 million; and
- other environmental-related expenditures - approximately $16 million.

However, we may not have identified all of the potential environmental liabilities relating to our current and former properties, or those liabilities associated with off-site disposal locations. Such liability could have a material adverse effect on our operating results and financial condition. Furthermore, regulatory agencies are showing increasing concern over the impact of animal health products and livestock operations on the environment. This increased regulatory scrutiny may necessitate that additional time and resources be spent to address these concerns in both new and existing products.

In connection with past acquisitions and divestitures, we have undertaken certain indemnification obligations that require us, or may require us in the future, to conduct or finance environmental cleanups at sites that we no longer own or operate. We have also entered into indemnification agreements in which we are being indemnified for various environmental cleanups; however, such indemnities are limited in both time and scope and may be further limited in the presence of new information, or may not be available at all.

While we cannot predict with certainty our future capital expenditures or operating costs for environmental compliance or remediation of contaminated sites, we currently have no reason to believe that they will have a material adverse effect on our operating results or financial condition.

Available Information

The company's Internet website address is www.zoetis.com. On our website, the company makes available, free of charge, its annual, quarterly and current reports, including amendments to such reports, as soon as reasonably practicable after the company electronically files such material with, or furnishes such material to, the Securities and Exchange Commission (SEC). The SEC maintains an Internet website that contains reports, proxy and information statements and other information regarding issuers that file electronically with the SEC at www.sec.gov.

Also available on our website is information relating to corporate governance at Zoetis and our Board of Directors, including as follows: our Corporate Governance Principles; Director Qualification Standards; Zoetis Code of Conduct (for all of our employees, including our Chief Executive Officer, Chief Financial Officer and Principal Accounting Officer, and Controller); Code of Business Conduct and Ethics for our Directors; Board Committees and Committee Charters; and ways to communicate by email with our Directors. We will provide any of the foregoing information without charge upon written request to our Corporate Secretary, Zoetis Inc., 10 Sylvan Way, Parsippany, New Jersey 07054. Information relating to shareholder services is also available on our website. We will disclose any future amendments to, or waivers from, provisions of these ethics policies and standards affecting our Chief Executive Officer, Chief Financial Officer and Principal Accounting Officer, and Controller on our website as promptly as practicable, as may be required under applicable SEC and NYSE rules.

We use our website (www.zoetis.com) as a means of disclosing material non-public information and for complying with our disclosure obligations under Regulation Fair Disclosure promulgated by the SEC. These disclosures are included in the "Investors" and "News & Media" sections of our website. Accordingly, investors should monitor these portions of our website, in addition to following our press releases, SEC filings and public conference calls and webcasts.

The information contained on our website does not constitute, and shall not be deemed to constitute, a part of this 2021 Annual Report, or any other report we file with, or furnish to, the SEC. Our references to the URLs for websites are intended to be inactive textual references only.

Item 1A. Risk Factors.

In addition to the other information set forth in this 2021 Annual Report, any of the factors described below could materially adversely affect our operating results, financial condition and liquidity, which could cause the trading price of our securities to decline.

This report contains "forward-looking" statements within the meaning of the Private Securities Litigation Reform Act of 1995. Forward-looking statements reflect our current views with respect to, among other things, future events and performance. We generally identify forward-looking statements by words such as "anticipate," "estimate," "could," "expect," "intend," "project," "plan," "predict," "believe," "seek," "continue," "outlook," "objective," "target," "may," "might," "will," "should," "can have," "likely" or the negative version of these words or comparable words or by using future dates in connection with any discussion of future performance, actions or events. Forward-looking statements are based on beliefs and assumptions made by management using currently available information. These statements are not guarantees of future performance, actions or events.

In particular, forward-looking statements include statements relating to the impact of the coronavirus (COVID-19) pandemic and any recovery therefrom on our business, our 2022 financial guidance, future actions, business plans or prospects, prospective products, product approvals or products under development, product supply disruptions, R&D costs, timing and likelihood of success, future operating or financial performance, future results of current and anticipated products and services, strategies, sales efforts, expenses, production efficiencies, production margins, anticipated timing of generic market entries, integration of acquired businesses, interest rates, tax rates and tax regimes and any changes thereto, foreign exchange rates, growth in emerging markets, the outcome of contingencies, such as legal proceedings, plans related to share repurchases and dividends, government regulation and financial results. Forward-looking statements are subject to risks and uncertainties, many of which are beyond our control, and potentially inaccurate assumptions. However, there may also be other risks that we are unable to predict at this time. If one or more of these risks or uncertainties materialize, or if management's underlying beliefs and assumptions prove to be incorrect, actual results may differ materially from those contemplated by a forward-looking statement. You should not put undue reliance on forward-looking statements. Forward-looking statements speak only as of the date on which they are made.

We undertake no obligation to publicly update forward-looking statements, whether as a result of new information, future events or otherwise, except as required by law or by the rules and regulations of the SEC. You are advised, however, to consult any further disclosures we make on related subjects in our Form 10-Q and 8-K reports and our other filings with the SEC. We note these factors for investors as permitted by the Private Securities Litigation Reform Act of 1995. You should understand that it is not possible to predict or identify all such factors. Consequently, you should not consider the following to be a complete discussion of all potential risks or uncertainties.

Summary of Risk Factors

Our business is subject to a number of risks of which you should be aware before making a decision to invest in our common stock. These risks are more fully described in this "Risk Factors" section, including the following:

Risks related to our business and industry

- The COVID-19 pandemic has negatively affected the global economy; has disrupted our and our customers', suppliers', and vendors' operations; has negatively affected certain elements of our business and operations; and may materially adversely affect our business, financial condition, results of operations and/or cash flows.
- Our products are subject to unanticipated safety, quality or efficacy concerns.
- Our results of operations are dependent on the success of our top-selling products.
- Generic and other products may be viewed as more cost-effective than our products.
- The animal health industry is highly competitive.
- Disruptive innovations and advances in medical practices and technologies could negatively affect the market for our products.
- Consolidation of our customers and distributors could negatively affect the pricing of our products.
- Changes in distribution channels for companion animal products could negatively impact our market share, margins and distribution of our products.
- Restrictions and bans on the use of and consumer preferences regarding antibacterials in food-producing animals may become more prevalent.
- Perceived adverse effects linked to the consumption of food derived from animals that utilize our products or animals generally could cause a decline in the sales of such products.
- Increased regulation or decreased governmental financial support relating to the raising, processing or consumption of food-producing animals could reduce demand for our livestock products.
- An outbreak of infectious disease carried by animals could negatively affect the sale and production of our products.
- Our business may be negatively affected by weather conditions, natural disasters and the availability of natural resources.
- Climate change could have a material adverse impact on our and our customer's businesses.
- Our business may be harmed if we are unable to retain and hire executive officers or other key personnel.

Risks related to research and development

- Our R&D, acquisition and licensing efforts may fail to generate new products and product lifecycle innovations.
- We may experience difficulties or delays in the development, manufacturing and commercialization of new products.

- Our R&D relies on evaluations in animals, which may become subject to bans or additional restrictive regulations.

Risks related to manufacturing

- Manufacturing problems and capacity imbalances may cause product launch delays, inventory shortages, recalls or unanticipated costs.
- We rely on third parties to provide us with materials and services, and are subject to increased labor and material costs and potential disruptions in supply.
- There may be delays and additional costs due to changes to our existing manufacturing facilities and the construction of new manufacturing plants.

Risks related to legal matters and regulation

- Our business is subject to substantial regulation.
- The misuse or off-label use of our products may harm our reputation or result in financial or other damages.
- Laws and regulations governing global trade compliance could adversely impact our business.
- Our operations and reputation may be impacted if we do not comply with continually changing laws and regulations regarding data privacy.

Risks related to operating in foreign jurisdictions

- A significant portion of our operations are conducted in foreign jurisdictions, including jurisdictions presenting a high risk of bribery and corruption, and are subject to the economic, political, legal and business environments of the countries in which we do business.
- We may not be able to realize the expected benefits of our investments in emerging markets and are subject to certain risks due to our presence in emerging markets, including political or economic instability and failure to adequately comply with legal and regulatory requirements.

Risks related to intellectual property

- The alleged intellectual property rights of third parties may negatively affect our business.
- If our intellectual property rights are challenged or circumvented, competitors may be able to take advantage of our research and development efforts.

Risks related to information technology

- We may be unable to adequately protect our information technology systems from cyber-attacks, breaches of security or misappropriation of data, which could result in the disclosure of confidential information, damage our reputation, and subject us to significant financial and legal exposure.

Risks related to our relationship with Pfizer

- Certain of our directors may have actual or potential conflicts of interest because of their positions with Pfizer.
- Pfizer's rights as licensor under the patent and know-how license could limit our ability to develop and commercialize certain products.
- We are dependent on Pfizer to prosecute, maintain and enforce certain intellectual property.
- If there is a later determination that the Exchange Offer or certain related transactions are taxable for U.S. federal income tax purposes because the facts, assumptions, representations or undertakings underlying the IRS private letter ruling and/or any tax opinion are incorrect or for any other reason, we could incur significant liabilities.

Risks related to our business and industry

The COVID-19 pandemic has negatively affected the global economy; has disrupted our and our customers', suppliers', and vendors' operations; has negatively affected certain elements of our business and operations; and may materially adversely affect our business, financial condition, results of operations and/or cash flows.

Our global operations expose us to risks associated with public health crises, including epidemics and pandemics such as the novel coronavirus (COVID-19). The global spread of COVID-19 has had, and may continue to have, an adverse impact on our operations, sales and delivery and supply chains. The spread of COVID-19 has resulted in authorities in various jurisdictions in which we operate implementing numerous measures since late 2019 to try to contain the virus, such as travel bans and restrictions, quarantines, shelter in place orders and shutdowns of non-essential businesses. There is no certainty that measures taken by governmental authorities will be sufficient to mitigate the risks posed by the virus, and our ability to continue to perform critical functions could be harmed.

The COVID-19 pandemic has and may continue to impact our supply chain as we experience disruptions or delays in shipments of certain materials or components of our products. Any prolonged component shortages or supply chain disruption may result in manufacturing or R&D delays and could limit our ability to meet customer demand or otherwise adversely impact our revenue, and may have a material adverse effect on our business, financial condition, results of operations and/or cash flows.

The COVID-19 pandemic also has and may continue to reduce demand for some of our products as a result of the negative impact it has had and may continue to have on our customers. In particular, our livestock customers have been and may continue to be challenged by voluntary or mandatory facility closures, reduced packing plant capacity, travel bans and quarantines inhibiting consumption of protein and transportation of live animals, and labor shortages negatively impacting their operations. For example, a number of significant meat processing plants were

closed temporarily in 2020 after employees tested positive for COVID-19, and plants continue to experience periodic disruptions. The resulting reduction in demand for some of our products has negatively impacted our business, financial condition, results of operations and cash flows and may have a material adverse effect on our business, financial condition, results of operations and/or cash flows, if such demand reduction accelerates or is prolonged.

Additionally, many of our workforce continue to work remotely as a result of the pandemic. Remote working arrangements could result in additional complexity or inefficiency or increase operational risks, including, but not limited to, risks associated with information technology and systems which could have a material adverse effect on our business.

Additionally, on September 9, 2021, U.S. President Biden issued an Executive Order requiring federal employees and covered contractors to be vaccinated against COVID-19. On November 4, 2021, the U.S. Department of Labor's Occupational Safety and Health Administration (OSHA) issued a COVID-19 Vaccination and Testing Emergency Temporary Standard requiring all employers with 100 or more employees to ensure that their employees are fully vaccinated or tested for COVID-19 on at least a weekly basis, the U.S. Supreme Court recently stayed implementation of this OSHA Standard and we cannot predict the eventual outcome or impact on us, our suppliers or our customers. Additional vaccine and testing mandates may be announced in other jurisdictions in which we operate our business. While it is not currently possible to predict with any certainty the exact impact the new regulations would have on us, our suppliers and our customers, the implementation of such government mandated vaccination or testing mandates may impact our ability to retain current employees and attract new employees and result in labor disruptions. Further, implementation could also have similar consequences for our subcontractors, which may impact their ability to deliver the goods and services we need from them, and for our customers, which may impact their business processes and as a result their demand for our products.

We cannot at this time predict the full impact of the COVID-19 pandemic, but we anticipate that the COVID-19 pandemic is likely to continue to impact our business, financial condition, results of operations and/or cash flows in 2022. Weak global economic conditions also may exacerbate the ongoing impact of the pandemic. The impact of the COVID-19 pandemic may also exacerbate the other risks discussed in this Risk Factors section, any of which could have a material effect on us. This situation continues to change rapidly, especially as new variants of the virus are identified and additional impacts may arise that we are not aware of currently.

Our products are subject to unanticipated safety, quality or efficacy concerns.

Unanticipated safety, quality or efficacy concerns can arise with respect to our products, whether or not scientifically or clinically supported, which can lead to product recalls, withdrawals or suspended or declining sales, as well as product liability and other claims.

Regulatory actions based on these types of safety, quality or efficacy concerns could impact all or a significant portion of a product's sales and could, depending on the circumstances, materially adversely affect our operating results.

In addition, since we depend on positive perceptions of the safety, quality and efficacy of our products, and animal health products generally, by our customers, veterinarians and end-users, any concerns as to the safety, quality or efficacy of our products, whether actual or perceived, may harm our reputation or materially adversely affect our operating results and financial condition, regardless of whether such concerns are accurate.

Our results of operations are dependent upon the success of our top-selling products.

If any of our top-selling products experience issues, such as loss of patent protection, material product liability litigation, new or unexpected side effects, manufacturing disruptions, regulatory proceedings, labeling changes, negative publicity, changes to veterinarian or customer preferences, and/or disruptive innovations or the introduction of more effective products, our revenues could be negatively impacted, perhaps significantly. Our five top-selling products, Apoquel, Simparica/Simparica Trio, Revolution/Revolution Plus/Stronghold, Cytopoint and the ceftiofur product line, contributed approximately 33% of our revenue in 2021. Any issues with these top-selling products would have a more significant impact to our results of operations.

Generic and other products may be viewed as more cost-effective than our products.

We face competition from products produced by other companies, including generic alternatives to our products. We depend on patents and regulatory data exclusivity periods to provide us with exclusive marketing rights for some of our products. Patents for individual products expire at different times based on the date of the patent filing (or sometimes the date of patent grant) and the legal term of patents in the countries where such patents are obtained. The extent of protection afforded by our patents varies from country to country and is limited by the scope of the claimed subject matter of our patents, the term of the patent and the availability and enforcement of legal remedies in the applicable country. As a result, we face competition from lower-priced generic alternatives to many of our products that no longer have patent protection. In certain circumstances, we have been forced to lower our prices and provide discounts or rebates in order to compete with generic products. Generic competitors are becoming more aggressive in terms of launching at risk before patent rights expire and, because of their pricing, are an increasing percentage of overall animal health sales in certain regions. For example, several companies have launched generic versions of our Rimadyl chewable product. In the years since the start of generic and other competition, sales of our Rimadyl chewable product have declined by approximately 19% in the U.S., its largest market. In 2021, the first year of generic competition, sales of Draxxin declined by 12% in the U.S., its largest market, and additional declines are expected in subsequent years.

Although the impact of generic competition in the animal health industry to date has not typically mirrored that seen in human health, in certain markets, the impact of generic competition in the future may more closely mirror human health as a result of changes in industry dynamics, such as channel expansion, customer consolidation, an increase in the availability and use of pet insurance and the potential for generic competition by established animal health businesses. If animal health customers increase their use of new or existing generic products, our operating results and financial condition could be materially adversely affected.

Some of our products' patents have expired, and over the next few years, additional products' patents will expire as described below.

- **Draxxin:** Patents relating to the active ingredient (tulathromycin) and formulation of Draxxin have expired, with the exception of the active ingredient and formulation patents in Japan that expire in 2023 and 2025, respectively. In Brazil, there are patents for the active ingredient and formulation which expire in February 2022 and in 2025, respectively, although their current status is uncertain. Generic or other competing tulathromycin products are now marketed in many markets including the U.S., Europe, Canada, Mexico and Australia, as well as in many smaller markets, and are now marketed for swine in Brazil. Additional marketing authorizations for generic tulathromycin products may be granted in various markets in the future. Sales of Draxxin have been negatively affected by generic competition in the markets where the patents have expired.
- **Ceftiofur:** All patents relating to the active ingredient of Excede/Naxcel (ceftiofur crystalline free acid) have expired. The patents covering the commercial formulation of Excede in the U.S., Japan and Brazil extend to 2024, 2026, and 2027, respectively, but the corresponding patents in Europe, Canada and Australia expired in September 2021. The commercial method of administration patent relevant to the product line expires in 2023 in the U.S., Europe and Australia, and in 2028 in Japan. Generic versions of Excede have entered the market in Mexico and Russia. At this time, the market entry of a generic version of Excede in the U.S. is not anticipated before 2024.
- **Revolution/Stronghold:** All patents relating to Revolution/Stronghold containing selamectin as the sole active ingredient have expired. Generic versions of selamectin are now sold in markets including the U.S., Europe, Australia and Canada. Selamectin is one of the active ingredients in our combination parasiticide product, Revolution Plus/Stronghold Plus, which is separately patent protected.
- **Convenia:** The patent for the active ingredient of Convenia (cefovecin sodium) has expired in all countries, and the patents covering the commercial formulation expire in Europe, Australia, Canada and Japan in November 2022, in the U.S. in October 2023, and in Brazil in 2025.
- **Cerenia:** The patent for the active ingredient of Cerenia has expired in all countries and the formulation patents relevant to the injectable product line expire between 2025 and 2028. Generic versions of Cerenia injectable have been registered and marketed in Europe, and we are aware that regulatory approval of at least one generic version of Cerenia injectable is currently being pursued in the U.S. There is also a pending registration for generic version of Cerenia injectable in Australia.
- **ProHeart:** All patents covering ProHeart 6 and ProHeart 12 have expired.

Zoetis typically enforces its patents vigorously as appropriate both within and outside the U.S., including by filing infringement claims against other parties.

The animal health industry is highly competitive.

The animal health industry is highly competitive. We believe many of our competitors are conducting R&D activities in areas served by our products and in areas in which we are developing products. Our competitors include standalone animal health businesses and the animal health businesses of large pharmaceutical companies. There are also many start-up companies working in the animal health area. We also compete with companies that produce generic products, but the level of competition from generic products varies from market to market. These competitors may have access to greater financial, marketing, technical and other resources or have significant market share in particular areas. As a result, they may be able to devote more resources to developing, manufacturing, marketing and selling their products, initiating or withstanding substantial price competition or more readily taking advantage of acquisitions or other opportunities. In recent years, there has been an increase in consolidation in the animal health industry, which could result in existing competitors realizing additional efficiencies or improving portfolio bundling opportunities, thereby potentially increasing their market share and pricing power, which could lead to a decrease in our revenue and profitability and an increase in competition. In addition to competition from established market participants, new entrants to the animal health medicines, vaccines and diagnostics industry, including start-up companies, could substantially reduce our market share or render our products obsolete.

To the extent that any of our competitors are more successful with respect to any key competitive factor or we are forced to reduce, or are unable to raise, the price of any of our products in order to remain competitive, our operating results and financial condition could be materially adversely affected.

Disruptive innovations and advances in medical practices and technologies could negatively affect the market for our products.

The market for our products could be impacted negatively by the introduction and/or broad market acceptance of newly-developed or alternative products that address the diseases and conditions for which we sell products, including “green” or “holistic” health products or specially bred disease-resistant animals. In addition, technological breakthroughs by others may obviate our technology and reduce or eliminate the market for our products. Introduction or acceptance of such products or technologies could materially adversely affect our operating results and financial condition.

Consolidation of our customers and distributors could negatively affect the pricing of our products.

Veterinarians and livestock producers are our primary customers. In recent years, there has been a trend towards the concentration of veterinarians in large clinics and hospitals. In addition, livestock producers, particularly swine and poultry producers, and our distributors, have seen consolidation in their industries. Furthermore, we have seen the expansion of larger cross-border corporate customers and an increase in the consolidation of buying groups (cooperatives of veterinary practices that leverage volume to pursue discounts from manufacturers). The pace of consolidation and structure of markets varies greatly across geographies. If these trends towards consolidation continue, these customers and distributors could attempt to improve their profitability by leveraging their buying power to obtain favorable pricing. The resulting decrease in our prices could have a material adverse effect on our operating results and financial condition.

Changes in distribution channels for companion animal products could negatively impact our market share, margins and distribution of our products.

In most markets, companion animal owners typically purchase their animal health products directly from veterinarians. Companion animal owners increasingly have the option to purchase animal health products from sources other than veterinarians, such as Internet-based retailers, "big-box" retail stores or other over-the-counter distribution channels. This trend has been demonstrated by the significant shift away from the veterinarian distribution channel in the sale of flea and tick products in recent years and has been accelerated by the increase in e-commerce during the COVID-19 pandemic. Companion animal owners also could decrease their reliance on, and visits to, veterinarians as they rely more on Internet-based animal health information. Because we primarily market our companion animal products through the veterinarian distribution channel, any decrease in visits to veterinarians by companion animal owners could reduce our market share for such products and materially adversely affect our operating results and financial condition. In addition, companion animal owners may substitute human health products for animal health products if human health products are deemed to be lower-cost alternatives.

Legislation has also been proposed in the U.S. in the past, and may be proposed in the U.S. or abroad in the future, that could impact the distribution channels for our companion animal products. For example, such legislation may require veterinarians to provide pet owners with written prescriptions and disclosure that the pet owner may fill prescriptions through a third party, which may further reduce the number of pet owners who purchase their animal health products directly from veterinarians. Such requirements may lead to increased use of generic alternatives to our products or the increased substitution of our products with other animal health products or human health products if such other products are deemed to be lower-cost alternatives. Many states already have regulations requiring veterinarians to provide prescriptions to pet owners upon request and the American Veterinary Medical Association has long-standing policies in place to encourage this practice.

In the U.S. and certain other markets, these and other competitive conditions have increased, and may continue to increase, our reliance on Internet-based retailers, "big-box" retail stores or other over-the-counter distribution channels to sell our companion animal products. Over time we may be unable to sustain our current margins due to the increased purchasing power of such retailers as compared to traditional veterinary practices.

Any of these events could materially adversely affect our operating results and financial condition.

We may not successfully acquire and integrate other businesses, license rights to technologies or products, form and manage alliances or divest businesses.

We pursue acquisitions, technology licensing arrangements, strategic alliances or divestitures of some of our businesses as part of our business strategy. We may not complete these transactions in a timely manner, on a cost-effective basis or at all. In addition, we may be subject to regulatory constraints or limitations or other unforeseen factors that prevent us from realizing the expected benefits. Even if we are successful in making an acquisition, the products and technologies that are acquired may not be successful or may require significantly greater resources and investments than originally anticipated. We may be unable to integrate acquisitions successfully into our existing business, and we may be unable to achieve expected gross margin improvements or efficiencies. We also could incur or assume significant debt and unknown or contingent liabilities. Divesting businesses entails numerous operational and financial risks, including difficulties separating businesses or product groups, diversion of management's attention away from other business concerns, adverse customer reactions, and potential loss of key employees or customers. Our reported results of operations could be negatively affected by acquisition or disposition-related charges, amortization of expenses related to intangibles and charges for impairment of long-term assets. We may be subject to litigation in connection with, or as a result of, acquisitions, dispositions, licenses or other alliances, including claims from terminated employees, customers or third parties, and we may be liable for future or existing litigation and claims related to the acquired business, disposition, license or other alliance because either we are not indemnified for such claims or the indemnification is insufficient.

While our evaluation of any potential transaction includes business, legal and financial due diligence with the goal of identifying and evaluating the material risks involved, our due diligence reviews may not identify all of the issues necessary to accurately estimate the cost and potential loss contingencies of a particular transaction, including potential exposure to regulatory sanctions or fines resulting from an acquisition target's previous activities, inadequate controls, or costs associated with any quality issues with an acquisition target's legacy products.

Any of these events could cause us to incur significant expenses and could materially adversely affect our operating results and financial condition.

Acquiring or implementing new business lines or offering new products and services may subject us to additional risks.

From time to time, we may acquire or implement new business lines or offer new products and services within existing lines of business. For example, we have recently expanded our diagnostics business with additional point-of-care offerings and reference labs. We are also investing in genetics and precision animal health, digital technology and data analytics and insurance agency services. There may be substantial risks and uncertainties associated with these efforts. We may invest significant time and resources in developing, marketing, or acquiring new lines of business and/or offering new products and services. Initial timetables for the introduction and development or acquisition of new lines of business and/or the offering of new products or services may not be achieved, and price and profitability targets may prove to be unachievable. Our lack of experience or knowledge, as well as external factors, such as compliance with regulations, competitive alternatives and shifting market preferences, may also impact the success of an acquisition or the implementation of a new line of business or a new product or service. New business lines or new products and services within existing lines of business could affect the sales and profitability of existing lines of business or products and services. Other risks include: (i) potential diversion of management's attention, available cash, and other resources from our existing businesses; (ii) unanticipated liabilities or contingencies; (iii) the need for additional capital and other resources to expand into or acquire the new line of business; (iv) potential damage to existing customer relationships, lack of customer acceptance or inability to attract new customers; and (v) the inability to compete effectively. Failure to successfully manage these risks in the implementation or

acquisition of new lines of business or the offering of new products or services could have a material adverse effect on our reputation, business, results of operations, and financial condition.

Restrictions and bans on the use of and consumer preferences regarding antibacterials in food-producing animals may become more prevalent.

The issue of the potential transfer of increased antibacterial resistance in bacteria from food-producing animals to human pathogens, and the causality of that transfer, continue to be the subject of global scientific and regulatory discussion. Antibacterials refer to small molecules that can be used to treat or prevent bacterial infections and are a sub-categorization of the products that make up our anti-infectives and medicated feed additives portfolios. In some countries, this issue has led to government restrictions and bans on the use of specific antibacterials in some food-producing animals, regardless of the route of administration (in feed or injectable). These restrictions are more prevalent in countries where animal protein is plentiful and governments are willing to take action even when there is scientific uncertainty. Our total revenue attributable to antibacterials for livestock was approximately $1.1 billion for the year ended December 31, 2021.

For example, regulations regarding antibiotic usage in animals have been introduced in certain markets, including the U.S., the EU, China, France, Germany, and Vietnam. In addition, certain jurisdictions like Italy have implemented the use of electronic prescriptions, which has caused more disciplined use of antibiotics and decreased the demand for our products.

In certain markets, there has been an increase in consumer preference towards proteins produced without the use of antibiotics.

We cannot predict whether antibacterial resistance concerns will result in additional restrictions or bans, expanded regulations, public pressure to discontinue or reduce use of antibacterials in food-producing animals or increased consumer preference for antibiotic-free protein, any of which could materially adversely affect our operating results and financial condition.

Perceived adverse effects linked to the consumption of food derived from animals that utilize our products or animals generally could cause a decline in the sales of such products.

Our livestock business depends heavily on a healthy and growing livestock industry. If the public perceives a risk to human health from the consumption of the food derived from animals that utilize our products, there may be a decline in the production of such food products and, in turn, demand for our products. For example, livestock producers may experience decreased demand for their products or reputational harm as a result of evolving consumer views of animal rights, nutrition, health-related, environmental or other concerns. Furthermore, changing consumer preferences and increasing consumer interest in alternatives to animal-based protein and dairy products has driven the growth of plant-based substitutes. Any reputational harm to the livestock industry may also extend to companies in related industries, including our company. Adverse consumer views related to the use of one or more of our products in livestock also may result in a decrease in the use of such products and could have a material adverse effect on our operating results and financial condition.

Our business is subject to risk based on global economic conditions.

Macroeconomic, business and financial disruptions, including inflation, could have a material adverse effect on our operating results, financial condition and liquidity. Certain of our customers and suppliers could be affected directly by an economic downturn and could face credit issues or cash flow problems that could give rise to payment delays, increased credit risk, bankruptcies and other financial hardships that could decrease the demand for our products or hinder our ability to collect amounts due from customers. If one or more of our large customers, including distributors, discontinue their relationship with us as a result of economic conditions or otherwise, our operating results and financial condition may be materially adversely affected. In addition, economic concerns may cause some pet owners to forgo or defer visits to veterinary practices or could reduce their willingness to treat pet health conditions or even to continue to own a pet. Moreover, customers may seek lower price alternatives to our products if they are negatively impacted by poor economic conditions. Infectious disease outbreaks, pandemics and widespread fear of spreading disease through human contact can cause disruptions to or negatively impact our, our customers' and our distributors' business operations, which could materially adversely affect our operating results. Furthermore, our exposure to credit and collectability risk is higher in certain international markets and our ability to mitigate such risks may be limited. While we have procedures to monitor and limit exposure to credit and collectability risk, there can be no assurances that such procedures will effectively limit such risk and avoid losses.

Increased regulation or decreased governmental financial support relating to the raising, processing or consumption of food-producing animals could reduce demand for our livestock products.

Companies in the livestock industries are subject to extensive and increasingly stringent regulations. If livestock producers are adversely affected by new regulations or changes to existing regulations, they may reduce herd sizes or become less profitable and, as a result, they may reduce their use of our products, which may materially adversely affect our operating results and financial condition. Also, many food-producing companies, including livestock producers, benefit from governmental subsidies, and if such subsidies were to be reduced or eliminated, these companies may become less profitable and, as a result, may reduce their use of our products. Furthermore, new or more stringent regulations could, directly or indirectly, impact the use of one or more of our products. More stringent regulation of the livestock industry or our products could have a material adverse effect on our operating results and financial condition.

An outbreak of infectious disease carried by animals could negatively affect the sale and production of our products.

Sales of our livestock products could be materially adversely affected by the outbreak of disease carried by animals, which could lead to the widespread death or precautionary destruction of animals as well as the reduced consumption and demand for animal protein. In addition, outbreaks of disease carried by animals may reduce regional or global sales of particular animal-derived food products or result in reduced exports of such products, either due to heightened export restrictions or import prohibitions, which may reduce demand for our products due to reduced herd or flock sizes. In recent years, outbreaks of various diseases, including African Swine Fever, avian influenza, foot-and-mouth disease, bovine spongiform encephalopathy (otherwise known as BSE or mad cow disease) and porcine epidemic diarrhea virus (otherwise

known as PEDv), have impacted the animal health business. The discovery of additional cases of any of these, or new diseases may result in additional restrictions on animal proteins, reduced herd sizes, or reduced demand for animal protein, which may have a material adverse effect on our operating results and financial condition. Also, the outbreak of any highly contagious disease near our main production sites could require us to immediately halt production of our products at such sites or force us to incur substantial expenses in procuring raw materials or products elsewhere.

Our business may be negatively affected by weather conditions, natural disasters and the availability of natural resources.

Weather conditions, including excessive cold or heat, natural disasters and other events, could negatively impact our livestock customers by impairing the health or growth of their animals or the production or availability of feed. Such events can also interfere with our livestock customers' operations due to power outages, fuel shortages, damage to their farms or facilities or disruption of transportation channels, among other things. For example, severe droughts can lead to a decrease in harvested corn and higher corn prices, which may impact the profitability of livestock producers of cattle, pork and poultry. Higher corn prices may contribute to reductions in herd or flock sizes that may result in reduced spending on animal health products. In addition, droughts can lead to reduced availability of grazing pastures, forcing cattle producers to cull their herds. Fewer heads of cattle could result in reduced demand for our products. Heat waves may cause stress in animals and lead to increased vulnerability to disease, reduced fertility rates and reduced milk production. Adverse weather conditions and natural disasters may also have a material impact on the aquaculture business.

Furthermore, livestock producers depend on the availability of natural resources, including large supplies of fresh water. Their animals' health and their ability to operate could be adversely affected if they experience a shortage of fresh water due to human population growth, or floods, droughts or other weather conditions. In the event of a natural disaster, adverse weather conditions, or a shortage of fresh water, veterinarians or livestock producers may purchase less of our products and our operating results and financial condition could be materially adversely affected.

In addition, veterinary hospitals and practitioners depend on visits from and access to animals under their care. Veterinarians' patient volume and ability to operate could be adversely affected if they experience natural disasters or adverse weather conditions, including floods, fires, earthquakes and hurricanes or other storms, or prolonged snow or ice, particularly in regions not accustomed to sustained inclement weather.

Adverse weather events and natural disasters may also interfere with and negatively impact operations at our manufacturing sites, research and development facilities and office buildings, which could have a material adverse effect on our operating results and financial condition, especially if such interruptions to regular operations are frequent or prolonged.

The animal health industry and demand for many of our animal health products in particular regions are also affected by weather conditions, as usage of our products follows varying weather patterns and weather-related pressures from pests, such as ticks. As a result, we may experience regional and seasonal fluctuations in our results of operations.

Climate change could have a material adverse impact on our and our customers' businesses.

We operate in many regions, countries and communities around the world where our businesses, and our activities and the activities of our customers and suppliers, could be disrupted by climate change. Potential physical risks from climate change may include altered distribution and intensity of rainfall, prolonged droughts or flooding, increased frequency of wildfires and other natural disasters, rising sea levels, and a rising heat index, any of which could cause negative impacts to our and our customers' and suppliers' businesses. Increased temperatures and rising water levels may negatively impact our livestock customers by increasing the prevalence of parasites and diseases that affect food animals. In addition, changes in water temperatures could affect the timing of reproduction and growth of various fish species, and trigger the outbreak of certain water borne diseases. The physical changes caused by climate change may also prompt changes in regulations or consumer preferences which in turn could have negative consequences for our and our customers' businesses. Climate change may negatively impact our customers' operations, particularly those in the livestock industry, through climate-related impacts such as increased air and water temperatures, rising water levels and increased incidence of disease in livestock. In addition, concerns regarding greenhouse gas emissions and other potential environmental impacts of livestock production have led to some consumers opting to limit or avoid consuming animal products. If such events affect our customers' businesses, they may purchase fewer Zoetis products, and our revenues may be negatively impacted. Climate driven changes could have a material adverse impact on the financial performance of our business, and on our customers.

The impacts from climate change may also impact Zoetis' and our suppliers' manufacturing processes. For example, ample amounts of clean water are needed to produce our products, and the effects from climate change could result in water supply interruptions and low water quality. In addition, increased frequency of natural disasters and adverse weather conditions may disrupt our manufacturing processes or our supply chain. These disruptions may have a material adverse effect on our business, financial condition, results of operations and/or cash flows.

Moreover, there has been a broad range of proposed and promulgated state, national and international regulation aimed at reducing the effects of climate change. Such regulations apply or could apply in countries where we have interests or could have interests in the future. In the U.S., there is a significant possibility that some form of regulation will be enacted at the federal level to address the effects of climate change. Such regulation could take several forms that could result in additional costs in the form of investments of capital to maintain compliance with laws and regulations and taxes. Climate change regulation continues to evolve, and it is not possible to accurately estimate either a timetable for implementation or our future compliance costs relating to implementation.

Modification of foreign trade policy by the U.S. or foreign countries or the imposition of tariffs on U.S. or foreign goods may harm our business.

Changes in U.S. laws, agreements and policies governing foreign trade in the territories and countries where our customers do business could negatively impact such customers' businesses and adversely affect our operating results. A number of our customers, particularly U.S.-based livestock producers, benefit from free trade agreements. The U.S., Canada and Mexico reached an agreement to replace the North American Free Trade Agreement (NAFTA) with the United States-Mexico-Canada Agreement (USMCA), which became effective on July 1, 2020, but it

remains to be seen what the ultimate impact of the new USMCA will be on our customers. The new provisions of the USMCA, as well as any other changes to international trade agreements or policies, could harm our customers, and as a result, negatively impact our financial condition and results of operations.

Additionally, in response to U.S. tariffs affecting foreign exports, some foreign governments, including China, have instituted and may in the future institute tariffs on certain U.S. goods. While the scope and duration of these and any future tariffs remains uncertain, tariffs imposed by the U.S. or foreign governments on our products or the active pharmaceutical ingredients or other components thereof could negatively impact our financial condition and results of operations.

Our business is subject to risk based on customer exposure to rising costs and reduced customer income.

Feed, fuel and transportation and other key costs for livestock producers may increase or animal protein prices or sales may decrease. Either of these trends could cause deterioration in the financial condition of our livestock product customers, potentially inhibiting their ability to purchase our products or pay us for products delivered. Our livestock product customers may offset rising costs by reducing spending on our products, including by switching to lower-cost alternatives to our products. In addition, concerns about the financial resources of pet owners also could cause veterinarians to alter their treatment recommendations in favor of lower-cost alternatives to our products. These shifts could result in a decrease in sales of our companion animal products, especially in developed countries where there is a higher rate of pet ownership.

Our business could be adversely affected by labor disputes, strikes or work stoppages.

Some of our employees are members of unions, works councils, trade associations or are otherwise subject to collective bargaining agreements in certain jurisdictions, including the U.S. As a result, we are subject to the risk of labor disputes, strikes, work stoppages and other labor-relations matters. We may be unable to negotiate new collective bargaining agreements on similar or more favorable terms and may experience work stoppages or other labor problems in the future at our sites. We could experience a disruption of our operations or higher ongoing labor costs, which could have a material adverse effect on our operating results and financial condition, potentially resulting in canceled orders by customers, unanticipated inventory accumulation or shortages and reduced revenue and net income. We may also experience difficulty or delays in implementing changes to our workforce in certain markets. In addition, labor problems at our suppliers, CMOs or other service providers could have a material adverse effect on our operating results and financial condition.

Our business may be harmed if we are unable to retain and hire executive officers or other key personnel.

We depend on the efforts of our executive officers and certain key personnel, including research, technical, sales, marketing, manufacturing and administrative personnel. Our ability to recruit and retain such talent will depend on a number of factors, including compensation and benefits, work location and work environment. From time to time there may be shortages of skilled labor, which may make it more difficult for us to attract and retain qualified employees or lead to increased labor costs. In addition, we generally do not enter into employment agreements with our executive officers and other key personnel. If we cannot effectively recruit and retain qualified executives and employees, we may not be able to maintain or expand our operations, or our business could be otherwise adversely affected and could, at least temporarily, have a material adverse effect on our operating results and financial condition.

We may be required to write down goodwill or identifiable intangible assets.

Under accounting principles generally accepted in the United States of America (U.S. GAAP), if we determine goodwill or identifiable intangible assets are impaired, we will be required to write down these assets and record a non-cash impairment charge. As of December 31, 2021, we had goodwill of $2.7 billion and identifiable intangible assets, less accumulated amortization, of $1.5 billion. Identifiable intangible assets consist primarily of developed technology rights, brands, trademarks, license agreements, patents, acquired customer relationships and in-process R&D.

Determining whether an impairment exists and the amount of the potential impairment involves quantitative data and qualitative criteria that are based on estimates and assumptions requiring significant management judgment. Future events or new information may change management's valuation of an intangible asset in a short amount of time. The timing and amount of impairment charges recorded in our Consolidated Statements of Income and write-downs recorded in our Consolidated Balance Sheets could vary if management's conclusions change. Any impairment of goodwill or identifiable intangible assets could have a material adverse effect on our operating results and financial position.

Risks related to research and development

Our R&D, acquisition and licensing efforts may fail to generate new products and product lifecycle innovations.

Our future success depends on both our existing product portfolio and our pipeline of new products, including new products that we may develop through joint ventures and products that we are able to obtain through license or acquisition. We commit substantial effort, funds and other resources to R&D, both through our own dedicated resources and through collaborations with third parties.

We may be unable to determine with accuracy when or whether any of our products now under development will be approved or launched, or we may be unable to develop, license or otherwise acquire product candidates or products. In addition, we cannot predict whether any products, once launched, will be commercially successful or will achieve sales and revenue that are consistent with our expectations. The animal health industry is subject to regional and local trends and regulations and, as a result, products that are successful in some of our markets may not achieve similar success when introduced into new markets. Furthermore, the timing and cost of our R&D may increase, and our R&D may become less predictable. For example, changes in regulations applicable to our industry may make it more time-consuming and/or costly to research, develop and register products. If we are unable to generate new products or expand the use of our existing products, our business, financial condition and results of operations will be materially adversely affected.

New product R&D leverages discoveries of agribusiness, pharmaceutical and biotechnology R&D. We have and expect to continue to enter into collaboration or licensing arrangements with third parties to provide us with access to molecules, compounds and other technology for purposes of our business. Such agreements are typically complex and require time to negotiate and implement. If we enter into these arrangements, we may not be able to maintain these relationships or establish new ones in the future on acceptable terms or at all. In addition, any collaboration that we enter into may not be successful, and the success may depend on the efforts and actions of our collaborators, which we may not be able to control. If we are unable to access these technologies to conduct R&D on cost-effective terms, our ability to develop some types of new products could be limited.

We may experience difficulties or delays in the development and commercialization of new products.

New products may appear promising in development but fail to reach the market within the expected or optimal timeframe, or at all. In addition, product extensions or additional indications may not be approved. Developing and commercializing new products subjects us to inherent risks and uncertainties, including (i) delayed or denied regulatory approvals, (ii) delays or challenges with producing products in accordance with regulatory requirements, on a commercial scale and at a reasonable cost; (iii) failure to accurately predict the market for new products; and (iv) efficacy and safety concerns. In addition, a failure to continue to identify and develop products, both internally and through external sources, could impact our future success. Once necessary regulatory approvals are obtained, the commercial success of any new product depends upon, among other things, its acceptance by veterinarians and end customers, and on our ability to successfully manufacture, market, and distribute products in sufficient quantities to meet actual demand. The inability to successfully bring a product to market could negatively impact our revenues and earnings.

Our R&D relies on evaluations in animals, which may become subject to bans or additional restrictive regulations.

The evaluation of our existing and new medicines and vaccines for animals is required in order to develop and commercialize them. Animal testing in certain industries has been the subject of controversy and adverse publicity. Some organizations and individuals have attempted to ban animal testing or encourage the adoption of additional regulations applicable to animal testing. To the extent that the activities of such organizations and individuals are successful, our R&D, and by extension our operating results and financial condition, could be materially adversely affected. In addition, negative publicity about us or our industry could harm our reputation.

Risks related to manufacturing

Manufacturing problems and capacity imbalances may cause product launch delays, inventory shortages, recalls or unanticipated costs.

In order to sell our products, we must be able to produce and ship our products in sufficient quantities. On December 31, 2021, we had a global manufacturing network consisting of 28 manufacturing sites located in 12 countries. We also employ a network of 136 third-party CMOs. Many of our products involve complex manufacturing processes and are sole-sourced from certain manufacturing sites.

Minor deviations in our manufacturing or logistical processes, such as temperature excursions or improper package sealing, could result in delays, inventory shortages, unanticipated costs, product recalls, product liability and/or regulatory action. In addition, a number of factors could cause production interruptions, including:

- the failure of us or any of our vendors or suppliers, including logistical service providers, to comply with applicable regulations and quality assurance guidelines, including any changes to Good Manufacturing Practices (GMP);
- mislabeling;
- construction delays;
- equipment malfunctions;
- shortages of materials;
- labor problems, including any COVID-related impacts;
- delays in receiving any required governmental authorizations or regulatory approvals, including as a result of any prolonged shutdown of the U.S. government;
- natural disasters and adverse weather conditions;
- power outages;
- criminal and terrorist activities;
- changes in manufacturing production sites and limits to manufacturing capacity due to regulatory requirements, changes in types of products produced, shipping distributions or physical limitations; and
- the outbreak of any highly contagious diseases at or near our production sites.

These interruptions could result in launch delays, inventory shortages, recalls, unanticipated costs or issues with our agreements under which we supply third parties, which may adversely affect our operating results and financial condition. For example, we experienced challenges in manufacturing Apoquel when it was initially launched in 2015 that impacted our ability to meet customer demand. As a result, we had to place limits on the amounts of this product veterinarians could purchase and delayed the launch of the product in certain markets. In addition, the regulatory agency in Russia no longer accepts GMP certificates issued by outside authorities and instead requires country-specific GMP certification based on local GMP rules. As a result, we have ongoing programs at the relevant manufacturing sites to satisfy the Russia-specific GMP requirements. Our failure to achieve these necessary certifications on a timely basis or at all could impact our ability to sell our products in Russia.

Our manufacturing network may be unable to meet the demand for our products or we may have excess capacity if demand for our products changes. The unpredictability of a product's regulatory or commercial success or failure, the lead time necessary to construct highly technical and complex manufacturing sites, and shifting customer demand (including as a result of market conditions or entry of branded or generic competition) increase the potential for capacity imbalances. In addition, construction of sites is expensive, and our ability to recover costs will depend on the market acceptance and success of the products produced at the new sites, which is uncertain.

We rely on third parties to provide us with materials and services, and are subject to increased labor and material costs and potential disruptions in supply.

The materials used to manufacture our products may be subject to availability constraints and price volatility caused by changes in demand, weather conditions, supply conditions, government regulations, economic climate and other factors, including any impacts caused by the COVID-19 pandemic. In addition, labor costs may be subject to volatility caused by the supply of labor, governmental regulations, economic climate and other factors. Increases in the demand for, availability or the price of, materials used to manufacture our products and increases in labor costs could increase the costs to manufacture our products, result in product delivery delays or shortages, and impact our ability to launch new products on a timely basis or at all. We may not be able to pass all or a material portion of any higher material or labor costs on to our customers, which could materially adversely affect our operating results and financial condition.

Certain third-party suppliers are the sole or exclusive source of certain materials and services necessary for production of our products. We may be unable to meet demand for certain of our products if any of our third-party suppliers cease or interrupt operations, fail to renew contracts with us or otherwise fail to meet their obligations to us.

There may be delays and additional costs due to changes to our existing manufacturing facilities and the construction of new manufacturing plants.

As part of our supply network strategy, we have invested and will continue to invest in improvements to our existing manufacturing facilities and in new manufacturing plants. We are currently invested in a new plant in Suzhou, China for the research and production of vaccines in China. In addition, certain of our existing manufacturing facilities are in the process of being upgraded. These types of projects are subject to risks of delay or cost overruns inherent in any large construction project, and require licensure by various regulatory authorities. Significant cost overruns or delays in completing these projects could have an adverse effect on the Company’s return on investment.

Risks related to legal matters and regulation

Our business is subject to substantial regulation.

As a global company, we are subject to various state, federal and international laws and regulations, including regulations relating to the development, quality assurance, manufacturing, importation, distribution, marketing and sale of our products. In addition, our manufacturing facilities are subject to periodic inspections by regulatory agencies. An inspection may report conditions or practices that indicate possible violations of regulatory requirements. Our failure, or the failure of third parties we rely on, including CMOs, to comply with these regulatory requirements, allegations of such non-compliance or the discovery of previously unknown problems with a product or manufacturer could result in, among other things, inspection observation notices, warning letters or similar regulatory correspondence, fines, a partial or total shutdown of production in one or more of our facilities while an alleged violation is remediated, withdrawals or suspensions of current products from the market, and civil or criminal prosecution, as well as decreased sales as a result of negative publicity and product liability claims. Any one of these consequences could materially adversely affect our operating results and financial condition.

In addition, we will not be able to market new products unless and until we have obtained all required regulatory approvals in each jurisdiction where we propose to market those products. Even after a product reaches market, it may be subject to re-review and may lose its approvals. We have changed, and may in the future change, the locations of where certain of our products are manufactured and, because of these changes, we may be required to obtain new regulatory approvals. Our failure to obtain approvals, delays in the approval process, including any delays resulting from COVID-19 or any prolonged shutdown of the U.S. government, or our failure to maintain approvals in any jurisdiction, may prevent us from selling products in that jurisdiction until approval or reapproval is obtained, if ever.

Furthermore, we cannot predict the nature of future laws, regulations, or changes in tax laws and tariffs, nor can we determine the effect that additional laws or regulations or changes in existing laws or regulations could have on our business when and if promulgated, or the impact of changes in the interpretation of these laws and regulations, or of disparate federal, state, local and foreign regulatory schemes.

Changes in applicable federal, state, local and foreign laws and regulations could have a material adverse effect on our operating results and financial condition.

We may incur substantial costs and receive adverse outcomes in litigation and other legal matters.

Our operating results, financial condition and liquidity could be materially adversely affected by unfavorable results in pending or future litigation matters. These matters include, among other things, allegations of violation of U.S. and foreign competition laws, labor laws, consumer protection laws, and environmental laws and regulations, as well as claims or litigations relating to product liability, intellectual property, securities, breach of contract and tort. In addition, changes in the interpretations of laws and regulations to which we are subject, or in legal standards in one or more of the jurisdictions in which we operate, could increase our exposure to liability. For example, in the U.S., attempts have been made to allow damages for emotional distress and pain and suffering in connection with the loss of, or injury to, a companion animal. If such attempts were successful, our exposure with respect to product liability claims could increase materially. We also sell certain nutritional and diagnostic products used in human health that could increase the scope of our liability.

Litigation matters, regardless of their merits or their ultimate outcomes, are costly, divert management's attention and may materially adversely affect our reputation and demand for our products. We cannot predict with certainty the eventual outcome of pending or future litigation

matters. An adverse outcome of litigation or legal matters could result in our being responsible for significant damages. Any of these negative effects resulting from litigation matters could materially adversely affect our operating results and financial condition.

The misuse or off-label use of our products may harm our reputation or result in financial or other damages.

Our products have been approved for use under specific circumstances for the treatment of certain diseases and conditions in specific species. There may be increased risk of product liability claims and other liability if veterinarians, livestock producers, pet owners or others attempt to use our products off-label, including the use of our products in species (including humans) for which they have not been approved. In addition, certain of our products could be misused or abused by humans, which could expose us to liability. For example, Ketamine, the active pharmaceutical ingredient in our Ketaset product (a nonnarcotic agent for anesthetic use in cats), is abused by humans as a hallucinogen. Furthermore, the use of our products for indications other than those indications for which our products have been approved may not be effective, which could harm our reputation and lead to an increased risk of litigation. If we are deemed by a governmental or regulatory agency to have engaged in the promotion of any of our products for off-label use, such agency could request that we modify our training or promotional materials and practices and we could be subject to significant fines and penalties, and the imposition of these sanctions could also affect our reputation and position within the industry. Any of these events could materially adversely affect our operating results and financial condition.

The illegal distribution and sale by third parties of counterfeit or illegally compounded versions of our products or of stolen, diverted or relabeled products could have a negative impact on our reputation and business.

Third parties may illegally distribute and sell counterfeit or illegally compounded versions of our products that do not meet the exacting standards of our development, manufacturing and distribution processes. Counterfeit or illegally compounded medicines pose a significant risk to animal health and safety because of the conditions under which they are manufactured and the lack of regulation of their contents. Counterfeit or illegally compounded products are frequently unsafe or ineffective and can be potentially life-threatening to animals. Our reputation and business could suffer harm as a result of counterfeit or illegally compounded products which are alleged to be equivalent and/or which are sold under our brand name. We are aware of at least one pharmacy in Brazil that may be engaged in the practice of illegally compounding oclacitinib, the active pharmaceutical ingredient in our Apoquel product. We are also aware of some counterfeit versions of our Simparica product in Brazil and a field investigation is being performed. In addition, products stolen or unlawfully diverted from inventory, warehouses, plants or while in transit, which are not properly stored or which have an expired shelf life and which have been repackaged or relabeled and which are sold through unauthorized channels, could adversely impact animal health and safety, our reputation and our business. Public loss of confidence in the integrity of vaccines and/or pharmaceutical products as a result of counterfeiting, illegally compounding or theft could have a material adverse effect on our product sales, business and results of operations.

Laws and regulations governing global trade compliance could adversely impact our business.

The OFAC and the Bureau of Industry and Security at the U.S. Department of Commerce (BIS), administer certain laws and regulations that restrict U.S. persons and, in some instances, non-U.S. persons, in conducting activities, transacting business with or making investments in certain countries, governments, entities and individuals subject to U.S. economic sanctions. In addition, engaging in sales activities to foreign governments introduces additional compliance risks, including risks specific to anti-bribery regulations, including the FCPA, the U.K. Bribery Act 2010 and other similar statutory requirements prohibiting bribery and corruption in the jurisdictions in which we operate. Our international operations subject us to these laws and regulations, which are complex, restrict our business dealings with certain countries, governments, entities, and individuals, and are constantly changing. Further restrictions may be enacted, amended, enforced or interpreted in a manner that materially impacts our operations.

From time to time, we have limited business dealings in countries subject to comprehensive sanctions and sell products in such countries. These business dealings represent an insignificant amount of our consolidated revenues and income, but expose us to a heightened risk of violating applicable sanctions regulations. Violations of these regulations are punishable by civil penalties, including fines, denial of export privileges, injunctions, asset seizures, debarment from government contracts and revocations or restrictions of licenses, as well as criminal fines and imprisonment. We have established policies and procedures designed to assist with our compliance with such laws and regulations. However, there can be no assurance that our policies and procedures will prevent us from violating these regulations in every transaction in which we may engage, or that any businesses that we may acquire have complied with such regulations, and such a violation could adversely affect our reputation, business, financial condition, results of operations and cash flows. For example, in December 2020, we submitted a final voluntary disclosure to OFAC and the U.S. Department of Justice regarding certain transactions involving sales of food, medicine or devices to individuals or entities who may have been resident in or had ties to Iran potentially in violation of the ITSR administered by OFAC. The sales were made by our Platinum Performance business, which we acquired in August 2019.

We are subject to complex environmental, health and safety laws and regulations.

We are subject to various federal, state, local and foreign environmental, health and safety laws and regulations. These laws and regulations govern matters such as the emission and discharge of hazardous materials into the ground, air or water; the generation, use, storage, handling, treatment, packaging, transportation, exposure to, and disposal of hazardous and biological materials, including recordkeeping, reporting and registration requirements; and the health and safety of our employees. Due to our operations, these laws and regulations also require us to obtain, and comply with, permits, registrations or other authorizations issued by governmental authorities. These authorities can modify or revoke our permits, registrations or other authorizations and can enforce compliance through fines and injunctions.

Given the nature of our business, we have incurred, are currently incurring and may in the future incur, liabilities under CERCLA or under other federal, state, local and foreign environmental cleanup laws, with respect to our current or former sites, adjacent or nearby third-party sites, or offsite disposal locations. See *Item 1. Business—Environmental, Health and Safety*. The costs associated with future cleanup activities that we may be required to conduct or finance could be material. Additionally, we may become liable to third parties for damages, including personal injury and property damage, resulting from the disposal or release of hazardous materials into the environment. Such liability could

materially adversely affect our operating results and financial condition. Furthermore, regulatory agencies are showing increasing concern over the impact of animal health products and livestock operations on the environment. This increased regulatory scrutiny may necessitate that additional time and resources be spent to address these concerns in both new and existing products.

A failure to comply with the environmental, health and safety laws and regulations to which we are subject, including any permits issued thereunder, may result in environmental remediation costs, loss of permits, fines, penalties or other adverse governmental or private actions, including regulatory or judicial orders enjoining or curtailing operations or requiring corrective measures, installation of pollution control equipment or remedial measures. We could also be held liable for any and all consequences arising out of human exposure to hazardous materials or environmental damage. Environmental laws and regulations are complex, change frequently, have tended to become more stringent and stringently enforced over time and may be subject to new interpretation. We cannot assure you that our costs of complying with current and future environmental, health and safety laws, and our liabilities arising from past or future releases of, or exposure to, hazardous materials will not materially adversely affect our business, results of operations or financial condition.

Our operations and reputation may be impacted if we do not comply with continually changing laws and regulations regarding data privacy.

We collect and use personal data of our customers, employees and suppliers in a variety of ways. In addition, we have been investing in data and digital capabilities and have expanded our diagnostics portfolio. As a result, we possess and process an increasing amount of personal data. Our customers, employees and suppliers expect that we will adequately protect their data.

Our collection, use, retention, storage, and sharing of personal data is subject to a variety of data privacy laws and regulations in the United States and other regions where we operate. As a global company, we are faced with the challenge of how to manage a diverse patchwork of laws, rules, regulations and industry standards, including the California Consumer Privacy Act, the EU's General Data Protection Regulation, the U.K.'s General Data Protection Regulation, the Brazilian General Data Protection Law, and China’s Personal Information Protection Law. These laws and regulations vary across countries, are complex and can be subject to significant change. For example, there are a number of legislative proposals in the EU, the U.S. (both at the federal and state levels) and other jurisdictions that could impose new obligations in areas affecting our business. Any actual or perceived failure to comply with these current and future laws could result in significant consequences for Zoetis. This includes substantial fines and penalties, regulatory investigations, and civil lawsuits with damages, all of which could have a material adverse effect on our reputation and our business. In addition, the costs associated with compliance with these legal and regulatory requirements are significant and likely to increase in the future.

Risks related to operating in foreign jurisdictions

A significant portion of our operations are conducted in foreign jurisdictions, including jurisdictions presenting a high risk of bribery and corruption, and are subject to the economic, political, legal and business environments of the countries in which we do business.

Our international operations could be limited or disrupted by any of the following:

- volatility in the international financial markets;
- compliance with governmental controls;
- difficulties enforcing contractual and intellectual property rights;
- theft or compromise of technology, data and intellectual property;
- parallel trade in our products (importation of our products from EU countries where our products are sold at lower prices into EU countries where the products are sold at higher prices);
- compliance with a wide variety of laws and regulations, such as the FCPA and similar non-U.S. laws and regulations, including labor laws;
- burdens to comply with multiple and potentially conflicting foreign laws and regulations, including those relating to environmental, health and safety requirements;
- changes in laws, regulations, government controls or enforcement practices with respect to our business and the businesses of our customers, including the imposition of limits on our profitability;
- political and social instability, including crime, civil disturbance, terrorist activities and armed conflicts;
- trade restrictions and restrictions on direct investments by foreign entities, including restrictions administered by OFAC and the EU, in relation to our products or the products of farmers and other customers (e.g., restrictions on the importation of agricultural products from the EU to Russia);
- government limitations on foreign ownership;
- government takeover or nationalization of business;
- changes in tax laws and tariffs;
- imposition of anti-dumping and countervailing duties or other trade-related sanctions;
- costs and difficulties and compliance risks in staffing, managing and monitoring international operations, including the use of overseas third-party goods and service providers;
- corruption risk inherent in business arrangements and regulatory contacts with foreign government entities;
- longer payment cycles and increased exposure to counterparty risk; and

- additional limitations on transferring personal information between countries or other restrictions on the processing of personal information.

In addition, international transactions may involve increased financial and legal risks due to differing legal systems and customs. Compliance with these requirements may prohibit the import or export of certain products and technologies or may require us to obtain a license before importing or exporting certain products or technology. A failure to comply with any of these laws, regulations or requirements could result in civil or criminal legal proceedings, monetary or non-monetary penalties, or both, disruptions to our business, limitations on our ability to import and export products and services, and damage to our reputation. In addition, variations in the pricing of our products between jurisdictions may result in the unauthorized importation or unauthorized re-importation of our products between jurisdictions and may also result in the imposition of anti-dumping and countervailing duties or other trade-related sanctions. While the impact of these factors is difficult to predict, any of them could materially adversely affect our operating results and financial condition. Changes in any of these laws, regulations or requirements, or the political environment in a particular country, may affect our ability to engage in business transactions in certain markets, including investment, procurement and repatriation of earnings.

Brexit-related impacts on our business could include disruption of the free movement of goods, services, and people between the U.K. and the EU, increased legal and regulatory complexities, higher costs of conducting business in Europe, potential inventory shortages in the U.K., increased regulatory burdens and costs to comply with U.K.-specific regulations and higher transportation costs for our products coming into and out of the U.K. Any further changes in international trade, tariff and import/export regulations as a result of Brexit or otherwise may impose unexpected duty costs or other non-tariff barriers on us. It is also possible that Brexit may negatively affect our ability to attract and retain employees, particularly those from the EU. The U.K.'s vote to exit the EU could also result in similar referendums or votes in other EU member countries in which we do business. Any of these effects, among others, could materially and adversely affect our business, results of operations, and financial condition.

Foreign exchange rate fluctuations and potential currency controls affect our results of operations, as reported in our financial statements.

We conduct operations in many areas of the world, involving transactions denominated in a variety of currencies. In 2021, we generated approximately 44% of our revenue in currencies other than the U.S. dollar, principally the euro, Chinese renminbi, Brazilian real, Australian dollar, British pound and Canadian dollar. We are subject to currency exchange rate risk to the extent that our costs are denominated in currencies other than those in which we earn revenue. In addition, because our financial statements are reported in U.S. dollars, changes in currency exchange rates between the U.S. dollar and other currencies have had, and will continue to have, an impact on our results of operations.

We also face risks arising from currency devaluations and the imposition of cash repatriation restrictions and exchange controls. Currency devaluations result in a diminished value of funds denominated in the currency of the country instituting the devaluation. Cash repatriation restrictions and exchange controls may limit our ability to convert foreign currencies into U.S. dollars or to remit dividends and other payments by our foreign subsidiaries or businesses located in or conducted within a country imposing restrictions or controls. We currently have substantial operations in countries that have cash repatriation restrictions or exchange controls in place, including China, and, if we were to need to repatriate or convert such cash, these controls and restrictions may have a material adverse effect on our operating results and financial condition.

We may not be able to realize the expected benefits of our investments in emerging markets and are subject to certain risks due to our presence in emerging markets, including political or economic instability and failure to adequately comply with legal and regulatory requirements.

We have been taking steps to increase our presence in emerging markets. Failure to continue to maintain and expand our business in emerging markets could materially adversely affect our operating results and financial condition.

Some countries within emerging markets may be especially vulnerable to periods of local, regional or global economic, political or social instability or crisis. For example, our sales in certain emerging markets have suffered from extended periods of disruption due to natural disasters and adverse weather conditions. Furthermore, we have also experienced lower than expected sales in certain emerging markets due to local, regional and global restrictions on banking and commercial activities in those countries. In addition, certain emerging markets have currencies that fluctuate substantially, which may impact our financial performance. For example, in the past, our revenue in certain emerging markets in Latin America has been adversely impacted by currency fluctuations and devaluations.

In addition, certain emerging markets have legal systems that are less developed or familiar to us. Other jurisdictions in which we conduct business may have legal and regulatory regimes that differ materially from U.S. laws and regulations, are continuously evolving or do not include sufficient judicial or administrative guidance to interpret such laws and regulations. Compliance with diverse legal requirements is costly and time-consuming and requires significant resources. In the event we believe or have reason to believe our employees have or may have violated applicable laws or regulations, we may be subject to investigation costs, potential penalties and other related costs which in turn could negatively affect our reputation and our results of operations.

For all these and other reasons, doing business within emerging markets carries significant risks.

Risks related to tax matters

The Company could be subject to changes in its tax rates, the adoption of new U.S. or foreign tax legislation or exposure to additional tax liabilities.

The multinational nature of our business subjects us to taxation in the U.S. and numerous foreign jurisdictions. Due to economic and political conditions, tax rates in various jurisdictions may be subject to significant change. The company’s future effective tax rates could be affected by changes in the mix of earnings in countries with differing statutory tax rates, changes in the valuation of deferred tax assets and liabilities, or

changes in tax laws or their interpretation.

For example, in October 2021, the Organisation for Economic Co-operation and Development (OECD) announced that its members have agreed on a two-pillar approach to address the tax challenges of the digital economy. Pillar One amends profit allocation and nexus rules to grant more taxing rights to countries where consumers are located regardless of the physical presence of the business. Pillar Two introduces common global minimum tax rules across the countries participating in the OECD Inclusive Framework. Such rules, when implemented, would operate through top-up taxes and other measures if a multinational group's income is not subject to a sufficient level of tax in a particular jurisdiction. The OECD released the Pillar Two 15% minimum effective tax rate Model Rules on December 20, 2021. The OECD/G20 Inclusive Framework will continue to develop the remaining model rules and multilateral instruments, which would then need to be enacted on a country-by-country basis, in order to ensure global adoption by 2023. These two pillars combined may represent a significant change in the international tax regime, and there is risk of an adverse impact to our effective tax rate, but the amount of such impact remains uncertain at this time.

Furthermore, President Biden's administration has put forth comprehensive corporate tax reform proposals which may have an adverse impact to our effective tax rate. At this time, we are properly reflecting the provision for taxes on income using all current enacted global tax laws in every jurisdiction in which we operate.

In addition, our effective tax rate is subject to potential risks that various taxing authorities may challenge the pricing of our cross-border arrangements and subject us to additional tax, adversely impacting our effective tax rate and our tax liability. The company is also subject to the examination of its tax returns and other tax matters by the Internal Revenue Service and other tax authorities and governmental bodies. The company regularly assesses the likelihood of an adverse outcome resulting from these examinations to determine the adequacy of its provision for taxes. There can be no assurance as to the outcome of these examinations. If the company's effective tax rates were to increase, particularly in the U.S. or other material foreign jurisdictions, or if the ultimate determination of the company's taxes owed is for an amount in excess of amounts previously accrued, the company's operating results, cash flows and financial condition could be adversely affected.

Risks related to intellectual property

The alleged intellectual property rights of third parties may negatively affect our business.

A third party may sue us, our distributors or licensors, or otherwise make a claim, alleging infringement or other violation of the third-party's patents, trademarks, trade dress, copyrights, trade secrets, domain names or other intellectual property rights. If we do not prevail in this type of dispute, we may be required to:

- pay monetary damages;
- obtain a license in order to continue manufacturing or marketing the affected products, which may not be available on commercially reasonable terms, or at all; or
- stop activities, including any commercial activities, relating to the affected products, which could include a recall of the affected products and/or a cessation of sales in the future.

The costs of defending an intellectual property action are often substantial and could materially adversely affect our operating results and financial condition, even if we successfully defend such action. Moreover, even if we believe that we do not infringe a validly existing third-party patent, we may choose to license such patent, which would result in associated costs and obligations. We may also incur costs in connection with an obligation to compensate a distributor, licensor or other third party. The intellectual property positions of animal health medicines and vaccines businesses frequently involve complex legal and factual questions, and an issued patent does not provide the right to practice the patented technology or to develop, manufacture or commercialize the patented product. We cannot guarantee that a competitor or other third party does not have or will not obtain rights to intellectual property that, in the absence of a license, may prevent us from manufacturing, developing or marketing certain of our products, regardless of whether we believe such intellectual property rights are valid and enforceable, which may harm our operating results and financial condition.

If our intellectual property rights are challenged or circumvented, competitors may be able to take advantage of our research and development efforts.

Our long-term success largely depends on our ability to market technologically competitive products. We rely and expect to continue to rely on a combination of intellectual property, including patent, trademark, trade dress, copyright, trade secret, data protection, and domain name protection laws, as well as confidentiality and license agreements with our employees and others, to protect our intellectual property and proprietary rights. If we fail to obtain and maintain adequate intellectual property protection, we may not be able to prevent third parties from using our proprietary technologies or from marketing products that are very similar or identical to ours. Our currently pending or future patent applications may not result in issued patents, or be approved on a timely basis, or at all. Similarly, any term extensions that we seek may not be approved on a timely basis, if at all. Our currently pending and granted patents may be challenged in post grant review, inter partes review or opposition or revocation proceedings. In addition, our issued patents may not contain claims sufficiently broad to protect us against third parties with similar technologies or products or provide us with any competitive advantage, including exclusivity in a particular product area. The valid scope of our patent claims also may vary between countries, as individual countries have their own patent laws. For example, some countries only permit the issuance of patents covering a novel chemical compound itself, and its first use, and thus further methods of use for the same compound, may not be patentable. We may be subject to challenges by third parties regarding our intellectual property, including claims regarding validity, enforceability, scope and effective term. The validity, enforceability, scope and effective term of patents can be highly uncertain and often involve complex legal and factual questions and proceedings that differ between jurisdictions. Our ability to enforce our patents also depends on the laws of individual countries and each country's practice with respect to enforcement of intellectual property rights. In addition, if we are unable to maintain our existing license agreements or other agreements pursuant to which third parties grant us

rights to intellectual property, including because such agreements expire or are terminated, our operating results and financial condition could be materially adversely affected.

Changes in patent law and practice in the U.S. and other countries may also weaken our ability to enforce our patent rights or make such enforcement financially unattractive. For instance, U.S. court decisions continue to influence changes to U.S. Patent and Trademark Office Guidelines regarding inventions in the field of products isolated from nature, biopharma and diagnostic methods which may influence future patenting strategy in these areas. Patent law reforms and new case law could result in increased costs to protect our intellectual property and/or limit our ability to adequately patent our products.

Additionally, certain foreign governments have indicated that compulsory licenses to patents may be granted in the case of national emergencies, which could diminish or eliminate sales and profits from those regions and materially adversely affect our operating results and financial condition.

Likewise, in the U.S. and other countries, we currently hold issued trademark registrations and have trademark applications pending, any of which may be the subject of a governmental or third-party objection, which could prevent the maintenance or issuance of the same and thus create the potential need to rebrand or re-label a product. As our products mature, our reliance on our trademarks to differentiate us from our competitors increases and as a result, if we are unable to prevent third parties from adopting, registering or using trademarks and trade dress that infringe, dilute or otherwise violate our trademark rights, our business could be materially adversely affected.

Many of our vaccine products and other products are based on or incorporate proprietary information, including proprietary master seeds and proprietary or patented adjuvant formulations. We actively seek to protect our proprietary information, including our trade secrets and proprietary know-how, by requiring our employees, consultants, other advisors and other third parties to execute proprietary information and confidentiality agreements upon the commencement of their employment, engagement or other relationship. Despite these efforts and precautions, we may be unable to prevent a third party from copying or otherwise obtaining and using our trade secrets or our other intellectual property without authorization and legal remedies may not adequately compensate us for the damages caused by such unauthorized use. Further, others may independently and lawfully develop substantially similar or identical products that circumvent our intellectual property by means of alternative designs or processes or otherwise.

The misappropriation and infringement of our intellectual property, particularly in foreign countries where the laws may not protect our proprietary rights as fully as in the U.S., may occur even when we take steps to prevent it. We are currently, and expect to be in the future, party to patent lawsuits and other intellectual property rights claims that are expensive and time consuming, and if resolved adversely, could have a significant impact on our business and financial condition. In the future, we may not be able to enforce intellectual property that relates to our products for various reasons, including licensor restrictions and other restrictions imposed by third parties, or the cost of enforcing our intellectual property may outweigh the value of doing so; either of which could have a material adverse impact on our business and financial condition.

Risks related to information technology

We may be unable to adequately protect our information technology systems from cyber-attacks, breaches of security or misappropriation of data, which could result in the disclosure of confidential information, damage our reputation, and subject us to significant financial and legal exposure.

Our reputation as a global leader in animal health and our reliance on complex information systems and digital solutions make us inherently vulnerable to malicious cyber intrusion and attack. In addition, we have been investing in data and digital capabilities and have expanded our diagnostics portfolio, and as a result, there could be an increased likelihood of a cyber-attack or breach of security that could negatively impact us or our customers. Cyber-attacks are increasing in their frequency, sophistication and intensity, and have become increasingly difficult to detect. Cyber-attacks could include wrongful conduct by hostile foreign governments, industrial espionage, the deployment of harmful malware, ransomware, denial-of-service attacks, and other means to threaten data confidentiality, integrity and availability. In addition, despite our efforts to protect sensitive, confidential or personal data or information, we (or our third party partners) may be vulnerable to material security breaches, theft, misplaced or lost data, programming errors, employee errors and/or malfeasance that could potentially lead to the compromise of sensitive, confidential or personal data or information, improper use of our systems or networks, unauthorized access, use, disclosure, modification or destruction of information (including confidential business information, trade secrets, intellectual property and corporate strategic plans), defective products, production downtimes and operational disruptions.

Like other global companies, we have experienced threats to our data and information technology systems. To date, those threats have not had a material impact on our business operations or financial condition. However, although we devote resources to protect our information technology systems, we expect cyber-attacks to continue, and there can be no assurance that our efforts will prevent information security breaches that would result in business, legal or reputational harm to us, or would have a material adverse effect on our operating results and financial condition.

If hackers or cyberthieves gain improper access to our technology systems, networks, or infrastructure, they may be able to access, steal, publish, delete, misappropriate, modify or otherwise disrupt access to confidential data. Moreover, additional harm to customers could be perpetrated by third parties who are given access to the confidential data. A network disruption (including one resulting from a cyberattack) could cause an interruption or degradation of service as well as permit access, theft, publishing, deletion, misappropriation, or modification to or of confidential data. Due to the evolving techniques used in cyberattacks to disrupt or gain unauthorized access to technology networks, we may not be able to anticipate or prevent such disruption or unauthorized access.

The costs imposed on us as a result of a cyberattack or network disruption could be significant. Among others, such costs could include increased expenditures on cyber security measures, litigation, regulatory investigations, fines, and sanctions, lost revenues from business

interruption, damage to the public's perception regarding our ability to keep our information secure and significant remediation costs. As a result, a cyberattack or network disruption could have a material adverse effect on our business, financial condition, and operating results.

We depend on sophisticated information technology and infrastructure.

We rely on the efficient and uninterrupted operation of complex information technology systems to manage our operations, to process, transmit and store electronic and financial information, and to comply with regulatory, legal and tax requirements. We also depend on our information technology infrastructure for digital marketing activities and for electronic communications among our personnel, customers and suppliers around the world. System failures or outages could compromise our ability to perform these functions in a timely manner, which could harm our ability to conduct business, hurt our relationships with our customers, or delay our financial reporting. Such failures could materially adversely affect our operating results and financial condition.

In addition, we depend on third parties and applications on virtualized (cloud) infrastructure to operate and support our information systems. These third parties include large established vendors, as well as many small, privately owned companies. Failure by these providers to adequately support our operations or a change in control or insolvency of these providers could have an adverse effect on our business, which in turn may materially adversely affect our operating results and financial condition.

All information systems, despite implementation of security measures, are vulnerable to disability, failures or unauthorized access. If our information systems were to fail or be breached, such failure or breach could materially adversely affect our ability to perform critical business functions and sensitive and confidential data could be compromised.

We may be unable to successfully manage our online ordering sites.

In many markets around the world, such as the U.S. and Brazil, we provide online ordering sites to customers, often relying on third parties to host and support the application. The operation of our online business depends on our ability to maintain the efficient and uninterrupted operation of our online order-taking and fulfillment operations. Risks associated with our online business include: disruptions in telephone or internet service or power outages; failures of the information systems that support our website, including inadequate system capacity, computer viruses, human error, changes in programming, security breaches, system upgrades or migration of these services to new systems; reliance on third parties for computer hardware and software as well as delivery of merchandise to our customers; rapid technology changes; credit card fraud; natural disasters or adverse weather conditions; power and network outages; changes in applicable federal and state regulations; liability for online content; and consumer privacy concerns. Problems in any one or more of these areas could have a material adverse effect on our operating results and financial condition and could damage our reputation.

Risks related to our indebtedness

We have substantial indebtedness.

We have a significant amount of indebtedness, which could materially adversely affect our operating results, financial condition and liquidity. As of December 31, 2021, we had approximately $6.65 billion of total unsecured indebtedness outstanding. In addition, we currently have agreements for a multi-year revolving credit facility and a commercial paper program, each with a capacity of up to $1.0 billion. While we currently do not have any amounts drawn under the credit facility nor any commercial paper issued under the commercial paper program, we may incur indebtedness under these arrangements in the future.

We may incur substantial additional debt from time to time to finance working capital, capital expenditures, investments or acquisitions, or for other purposes. If we do so, the risks related to our high level of debt could intensify. Specifically, our high level of debt could have important consequences, including:

- making it more difficult for us to satisfy our obligations with respect to our debt;
- limiting our ability to obtain additional financing to fund future working capital, capital expenditures, business development or other general corporate requirements, including dividends;
- increasing our vulnerability to general adverse economic and industry conditions;
- exposing us to the risk of increased interest rates as certain of our borrowings may in the future be at variable rates of interest;
- limiting our flexibility in planning for and reacting to changes in the animal health industry;
- placing us at a competitive disadvantage to other, less leveraged competitors;
- impacting our effective tax rate; and
- increasing our cost of borrowing.

In addition, the instruments governing our indebtedness contain restrictive covenants that will limit our ability to engage in activities that may be in our long-term best interest. For example, our credit facility contains a financial covenant requiring us to not exceed a maximum total leverage ratio and covenants that, among other things, limit or restrict our and our subsidiaries' ability, subject to certain exceptions, to incur liens, merge, consolidate or sell, transfer or lease assets, transact with affiliates and incur priority indebtedness. Our failure to comply with such covenants could result in an event of default, which could result in the acceleration of all our debt.

We also hold certain interest rate swap agreements that have the economic effect of modifying the fixed interest obligations associated with our senior notes due 2028 so that a portion of the interest payable on these notes is effectively variable based on the London Interbank Offered Rate (LIBOR). In November 2020, the Board of Governors of the Federal Reserve System, the Office of the Comptroller of the Currency, and the Federal Deposit Insurance Corporation (collectively, the agencies) issued a statement to encourage banks to transition away from U.S. dollar LIBOR as soon as practicable and in any event by December 31, 2021. In March 2021, the The U.K. Financial Conduct Authority and

ICE Benchmark Administration (the administrator of LIBOR) announced that British pound, euro, Swiss franc and Japanese yen LIBOR panels, as well as panels for 1-week and 2-month U.S. dollar LIBOR, will cease after December 31, 2021, with the remaining U.S. dollar LIBOR panels ceasing after June 30, 2023. The Alternative Reference Rates Committee in the United States has proposed that the Secured Overnight Financing Rate (SOFR) is the rate that represents best practice as the alternative to U.S dollar LIBOR for use in derivatives and other financial contracts that are currently indexed to LIBOR, however, it is unknown whether this or any other alternative reference rate will attain market acceptance as a replacement for LIBOR. SOFR is a measure of the cost of borrowing cash overnight, collateralized by U.S. Treasury securities, and is based on directly observable U.S. Treasury-backed repurchase transactions. The discontinuance or modification of LIBOR, the introduction of alternative reference rates or other reforms to LIBOR could cause the interest rate calculated on our interest rate swap agreements associated with our senior notes due 2028 to be materially different than expected.

We may not be able to generate sufficient cash to service all of our indebtedness and may be forced to take other actions to satisfy our obligations under our indebtedness, which may not be successful.

Our ability to make scheduled payments on or refinance our debt obligations depends on our financial condition and operating performance, which are subject to prevailing economic and competitive conditions and to certain financial, business, legislative, regulatory and other factors beyond our control. We may be unable to maintain a level of cash flows from operating activities sufficient to permit us to pay the principal and interest on our indebtedness.

If our cash flows and capital resources are insufficient to fund our debt service obligations, we could face substantial liquidity problems and could be forced to reduce or delay investments and capital expenditures, or to dispose of material assets or operations, alter our dividend policy, seek additional debt or equity capital or restructure or refinance our indebtedness. We may not be able to effect any such alternative measures on commercially reasonable terms or at all and, even if successful, those alternative actions may not allow us to meet our scheduled debt service obligations. The instruments that will govern our indebtedness may restrict our ability to dispose of assets and may restrict the use of proceeds from those dispositions and may also restrict our ability to raise debt or equity capital to be used to repay other indebtedness when it becomes due. We may not be able to consummate those dispositions or to obtain proceeds in an amount sufficient to meet any debt service obligations when due.

In addition, we conduct our operations through our subsidiaries. Accordingly, repayment of our indebtedness will depend on the generation of cash flow by our subsidiaries, including certain international subsidiaries, and their ability to make such cash available to us, by dividend, debt repayment or otherwise. Our subsidiaries may not have any obligation to pay amounts due on our indebtedness or to make funds available for that purpose. Our subsidiaries may not be able to, or may not be permitted to, make distributions to enable us to make payments in respect of our indebtedness. Each subsidiary is a distinct legal entity, and under certain circumstances, legal, tax and contractual restrictions may limit our ability to obtain cash from our subsidiaries. In the event that we do not receive distributions from our subsidiaries, we may be unable to make required principal and interest payments on our indebtedness.

Our inability to generate sufficient cash flows to satisfy our debt obligations, or to refinance our indebtedness on commercially reasonable terms or at all, may materially adversely affect our operating results, financial condition and liquidity and our ability to satisfy our obligations under our indebtedness or pay dividends on our common stock.

We may not have the funds necessary to finance the change of control offer required by the indenture governing our senior notes.

Upon the occurrence of a change of control of Zoetis and a downgrade below investment grade by Moody's Investor Services, Inc. and S&P Global Ratings, a division of S&P Global Inc., we will be required to offer to repurchase all of our outstanding senior notes. However, we may not have sufficient funds available at the time of the change of control to finance the required change of control offer or restrictions in our then-existing debt instruments will not allow such repurchases. Our failure to purchase the senior notes as required under the indenture would result in a default under the indenture, which could have material adverse consequences for us and the holders of the senior notes.

Our credit ratings may not reflect all risks of an investment in our senior notes.

The credit ratings assigned to our senior notes are limited in scope, and do not address all material risks relating to an investment in our senior notes, but rather reflect only the view of each rating agency at the time the rating is issued. There can be no assurance that such credit ratings will remain in effect for any given period of time or that a rating will not be lowered, suspended or withdrawn entirely by the applicable rating agencies, if, in such rating agency's judgment, circumstances so warrant. Credit ratings are not a recommendation to buy, sell or hold any security. Each agency's rating should be evaluated independently of any other agency's rating. Actual or anticipated changes or downgrades in our credit ratings, including any announcement that our ratings are under further review for a downgrade, could affect the market prices of our securities and increase our borrowing costs.

Risks related to our relationship with Pfizer

Certain of our directors may have actual or potential conflicts of interest because of their positions with Pfizer.

Certain of our directors are employed or have been employed by Pfizer or may own Pfizer common stock, options to purchase Pfizer common stock or other Pfizer equity awards. Certain of these holdings may be individually significant to these directors as compared with such director's total assets. These directors' positions at Pfizer and the ownership of any Pfizer equity or equity awards may create, or may create the appearance of, conflicts of interest when these directors are faced with decisions that could have different implications for Pfizer than for us.

Pfizer's rights as licensor under the patent and know-how license could limit our ability to develop and commercialize certain products.

Under the Patent and Know-How License Agreement (Pfizer as licensor) (the Patent and Know-How License Agreement), Pfizer licenses to us certain of its intellectual property. If we fail to comply with our obligations under this license agreement and Pfizer exercises its right to terminate it, our ability to continue to research, develop and commercialize products incorporating that intellectual property will be limited. In

addition, in circumstances where Pfizer has an interest in the licensed intellectual property in connection with its human health development programs, our rights to use the licensed intellectual property are restricted and/or, in limited instances, subject to Pfizer's right to terminate such license at will. These limitations and termination rights may make it more difficult, time-consuming or expensive for us to develop and commercialize certain new products, or may result in our products being later to market than those of our competitors.

We are dependent on Pfizer to prosecute, maintain and enforce certain intellectual property.

Under the Patent and Know-How License Agreement, Pfizer is responsible for filing, prosecuting and maintaining patents that Pfizer licenses to us. In the animal health field, Pfizer has the first right, and in some cases the sole right, to enforce such licensed patents, and in the human health field, subject to certain exceptions, Pfizer has the sole right to enforce the licensed patents. If Pfizer fails to fulfill its obligations or chooses to not enforce the licensed patents under this agreement, we may not be able to prevent competitors from making, using and selling competitive products, which could have an adverse effect on our business.

To preserve the tax-free treatment to Pfizer and/or its stockholders of the Exchange Offer and certain related transactions, we may not be able to engage in certain transactions.

On May 22, 2013, Pfizer announced an exchange offer (the Exchange Offer) whereby Pfizer shareholders could exchange a portion of Pfizer common stock for Zoetis common stock. The Exchange Offer was completed on June 24, 2013, resulting in the full separation of Zoetis and the disposal of Pfizer's entire ownership and voting interest in Zoetis. To preserve the tax-free treatment to Pfizer and/or its stockholders of the Exchange Offer and certain related transactions, under the tax matters agreement, we are restricted from taking any action that prevents such transactions from being tax-free for U.S. federal, state, local and foreign income tax purposes. These restrictions may limit our ability to engage in certain transactions, including taking certain actions with respect to our 3.250% Senior Notes due 2023.

If there is a later determination that the Exchange Offer or certain related transactions are taxable for U.S. federal income tax purposes because the facts, assumptions, representations or undertakings underlying the IRS private letter ruling and/or any tax opinion are incorrect or for any other reason, we could incur significant liabilities.

Pfizer has received a private letter ruling from the IRS substantially to the effect that, among other things, the Exchange Offer will qualify as a transaction that is tax-free for U.S. federal income tax purposes under Sections 355 and 368(a)(1)(D) of the U.S. Internal Revenue Code of 1986 (the Code). Completion by Pfizer of the Exchange Offer was conditioned on, among other things, the continuing application of Pfizer's private letter ruling from the IRS and the receipt of an opinion of tax counsel, to the effect that, among other things, the Exchange Offer will qualify as a transaction that is tax-free for U.S. federal income tax purposes under Sections 355 and 368(a)(1)(D) of the Code. The ruling and the opinion rely on certain facts, assumptions, representations and undertakings from Pfizer and us regarding the past and future conduct of the companies' respective businesses and other matters. If any of these facts, assumptions, representations or undertakings are incorrect or not otherwise satisfied, Pfizer and its stockholders may not be able to rely on the ruling or the opinion of tax counsel and could be subject to significant tax liabilities. Notwithstanding the private letter ruling and opinion of tax counsel, the IRS could determine on audit that the Exchange Offer or certain related transactions are taxable if it determines that any of these facts, assumptions, representations or undertakings are not correct or have been violated or if it disagrees with the conclusions in the opinion that are not covered by the private letter ruling, or for other reasons, including as a result of certain significant changes in the stock ownership of Pfizer or us after the Exchange Offer. If the Exchange Offer or certain related transactions are determined to be taxable for U.S. federal income tax purposes, we could incur significant liabilities under applicable law or under the tax matters agreement.

Risks related to our common stock

The price of our common stock may fluctuate substantially, and you could lose all or part of your investment in Zoetis common stock as a result.

There may be wide fluctuations in the market value of our common stock as a result of many factors. From our IPO through December 31, 2021, the sales price of our common stock as reported by the NYSE has ranged from a low sales price of $28.14 on April 15, 2014 to a high sales price of $249.27 on December 30, 2021. Some factors that may cause the market price of our common stock to fluctuate, in addition to the other risks mentioned in this section and in our 2021 Annual Report, are:

- our operating performance and the performance of our competitors;
- our or our competitors' press releases, other public announcements and filings with the SEC regarding new products or services, enhancements, significant contracts, acquisitions or strategic investments;
- changes in earnings estimates or recommendations by securities analysts, if any, who cover our common stock;
- changes in our investor base;
- failures to meet external expectations or management guidance;
- fluctuations in our financial results or the financial results of companies perceived to be similar to us;
- changes in our capital structure or dividend policy, future issuances or repurchases of securities, sales of large blocks of common stock by our stockholders or the incurrence of additional debt;
- reputational issues;
- changes in general economic and market conditions in any of the regions in which we conduct our business;
- the impact of the COVID-19 pandemic and related global macroeconomic conditions;
- the arrival or departure of key personnel;
- the actions of speculators and financial arbitrageurs (such as hedge funds);

- changes in applicable laws, rules or regulations and other dynamics; and
- other developments or changes affecting us, our industry or our competitors.

In addition, if the market for stocks in our industry or industries related to our industry, or the stock market in general, experiences a loss of investor confidence, the trading price of our common stock could decline for reasons unrelated to our business, financial condition and results of operations. If any of the foregoing occurs, it could cause our stock price to fall and may expose us to lawsuits that, even if unsuccessful, could be costly to defend and a distraction to management.

While we currently pay a quarterly cash dividend to our common stockholders, we may change our dividend policy at any time.

On December 7, 2021, our Board of Directors declared the 2022 first quarter dividend of $0.325 per share to be paid on March 1, 2022, to holders of record on January 20, 2022; and on February 8, 2022, our Board of Directors declared the 2022 second quarter dividend of $0.325 per share to be paid on June 1, 2022, to holders of record on April 21, 2022. Although we currently pay a quarterly cash dividend to our common stockholders, we have no obligation to do so, and our dividend policy may change at any time without notice to our stockholders. Returns on stockholders' investments will primarily depend on the appreciation, if any, in the price of our common stock. We anticipate that we will retain most of our future earnings, if any, for use in the development and expansion of our business, repayment of indebtedness and for general corporate purposes. The declaration and payment of dividends is at the discretion of our Board of Directors in accordance with applicable law after taking into account various factors, including our financial condition, operating results, current and anticipated cash needs, cash flows available in the U.S., impact on our effective tax rate, indebtedness, legal requirements and other factors that our Board of Directors deems relevant.

Provisions in our restated certificate of incorporation, amended and restated by-laws, and Delaware law may prevent or delay an acquisition of us, which could decrease the trading price of our common stock.

Our amended and restated certificate of incorporation, which we refer to as "our certificate of incorporation," and our amended and restated by-laws, which we refer to as "our by-laws," contain provisions that are intended to deter coercive takeover practices and inadequate takeover bids and to encourage prospective acquirers to negotiate with our Board of Directors rather than to attempt a hostile takeover. These provisions include:

- a Board of Directors that is divided into three classes with staggered terms;
- rules regarding how our stockholders may present proposals or nominate directors for election at stockholder meetings;
- the right of our Board of Directors to issue preferred stock without stockholder approval;
- limitations on the right of stockholders to remove directors;
- limitations on the right of stockholders to act by written consent; and
- limitations on the right of stockholders to call for special meetings.

In addition, Delaware law also imposes some restrictions on mergers and other business combinations between us and any holder of 15% or more of our outstanding common stock. These provisions apply even if the offer may be considered beneficial by some stockholders and could delay or prevent an acquisition that our Board of Directors determines is not in our and our stockholders' best interests.

Item 1B. Unresolved Staff Comments.

None.

Item 2. Properties.

We have 174 owned and leased properties, amounting to approximately 11.9 million square feet, around the world for sales and marketing, customer service, regulatory compliance, R&D, manufacturing and distribution, and administrative support functions. In many locations, operations are co-located to achieve synergies and operational efficiencies. Our largest R&D facility is our owned U.S. research and development site located in Kalamazoo, Michigan, which represents approximately 1.6 million square feet. None of our other non-manufacturing sites are more than 0.2 million square feet. The largest manufacturing site in our global manufacturing network is our manufacturing site located in Kalamazoo, Michigan, which represents approximately 0.6 million square feet. No other site in our global manufacturing network is more than 0.6 million square feet. In addition, our global manufacturing network continues to be supplemented by 136 CMOs.

Our corporate headquarters are located at 10 Sylvan Way, Parsippany, New Jersey 07054. Our operations extend internationally to 58 countries.

We believe that our existing properties, as supplemented by sites operated by CMOs, are adequate for our current requirements and for our operations in the foreseeable future.

Item 3. Legal Proceedings.

We are from time to time subject to claims and litigation arising in the ordinary course of business. These claims and litigation may include, among other things, allegations of violation of U.S. and foreign competition law, labor laws, consumer protection laws, and environmental laws and regulations, as well as claims or litigation relating to product liability, intellectual property, securities, breach of contract and tort. We operate in multiple jurisdictions and, as a result, a claim in one jurisdiction may lead to claims or regulatory penalties in other jurisdictions. We intend to defend vigorously against any pending or future claims and litigation.

At this time, in the opinion of management, the likelihood is remote that the impact of such proceedings, either individually or in the aggregate, would have a material adverse effect on our consolidated results of operations, financial condition or cash flows. However, one or more unfavorable outcomes in any claim or litigation against us could have a material adverse effect for the period in which they are resolved. In addition, regardless of their merits or their ultimate outcomes, such matters are costly, divert management's attention and may materially adversely affect our reputation, even if resolved in our favor.

Certain legal proceedings in which we are involved are discussed in Notes to Consolidated Financial Statements— *Note 18. Commitments and Contingencies*, and are incorporated by reference from such discussion.

Item 4. Mine Safety Disclosures.

Not applicable.

PART II

Item 5. Market for Registrant's Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities.

Our shares of common stock have been listed on the NYSE (symbol ZTS) since February 1, 2013. Prior to that time, there was no public market for our stock.

As of February 11, 2022, there were 471,970,580 shares of our common stock outstanding, held by 1,667 shareholders of record.

Additional information relating to our common stock is included in this Annual Report on Form 10-K in Notes to Consolidated Financial Statements — *Note 16. Stockholders' Equity*.

Purchases of Equity Securities by the Issuer

On December 12, 2018, our Board of Directors authorized a multi-year share repurchase program of up to $2.0 billion of our outstanding common stock. As of December 31, 2021, there was approximately $681 million remaining under this authorization. On December 7, 2021, our Board of Directors authorized a multi-year share repurchase program of up to $3.5 billion of our outstanding common stock.

The programs do not have a stated expiration date. Purchases of Zoetis shares may be made at the discretion of management, depending on market conditions and business needs. We repurchase shares pursuant to Rules 10b5-1 and 10b-18 under the Securities Exchange Act of 1934, as amended (Exchange Act), through repurchase agreements established with several brokers.

Issuer purchases of equity securities for the three months ended December 31, 2021 were as follows:

	Issuer Purchases of Equity Securities			
	Total Number of Shares Purchased[(a)]	Average Price Paid Per Share	Total Number of Shares Purchased as Part of Publicly Announced Programs	Approximate Dollar Value of Shares that May Yet Be Purchased Under Plans or Programs
October 1 - October 31, 2021	296,909	$201.33	296,406	$819,762,190
November 1 - November 30, 2021	324,175	$218.52	323,780	$749,007,056
December 1 - December 31, 2021	296,682	$230.42	294,831	$680,739,112
Total	917,766	$216.81	915,017	$680,739,112

(a) The company repurchased 2,749 shares during the three-month period ended December 31, 2021, that were not part of the publicly announced share repurchase authorization. These shares were purchased from employees to satisfy tax withholding requirements on the vesting of restricted shares from equity-based awards.

Dividend Policy, Declaration and Payment

The declaration and payment of dividends to holders of our common stock will be at the discretion of our Board of Directors in accordance with applicable law after taking into account various factors, including our financial condition, operating results, current and anticipated cash needs, cash flows available in the U.S., impact on our effective tax rate, indebtedness, legal requirements and other factors that our Board of Directors deems relevant. In addition, the instruments governing our indebtedness may limit our ability to pay dividends. Therefore, no assurance is given that we will pay any dividends to our common stockholders or as to the amount of any such dividends if our Board of Directors determines to do so.

Because we are a holding company, our ability to pay cash dividends on our common stock will depend on the receipt of dividends or other distributions from certain of our subsidiaries.

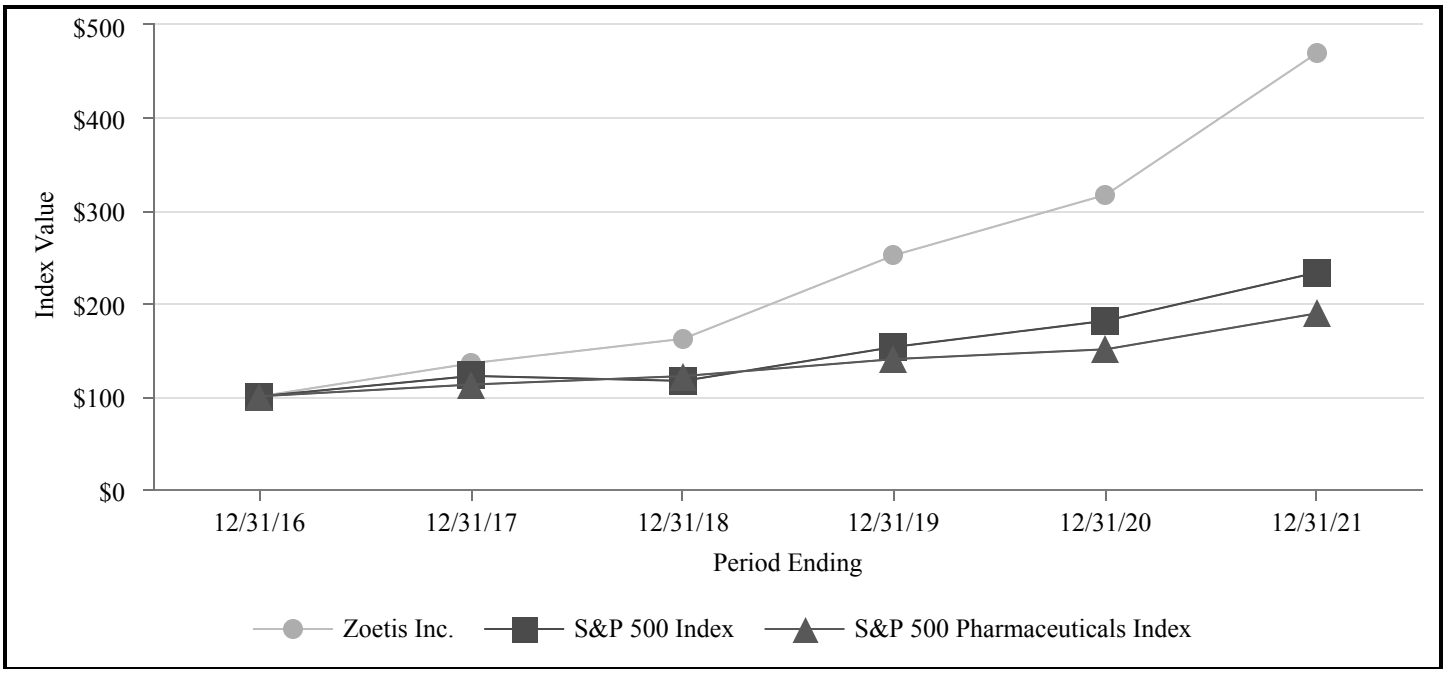
Stock Performance Graph[(a)]

The graph below compares the cumulative total shareholder return on an investment in our common stock, the S&P 500 Index and the S&P 500 Pharmaceuticals Index for the five fiscal years beginning with the close of trading on December 31, 2016 and ending December 31, 2021. The shareholder return shown on the graph is not necessarily indicative of future performance, and we do not make or endorse any predictions as to future shareholder returns.

The graph assumes an investment of $100 on December 31, 2016, in our common stock, the S&P 500 Index and the S&P 500 Pharmaceuticals Index and assumes dividends, if any, were reinvested.

COMPARISON OF CUMULATIVE TOTAL RETURN

Among Zoetis Inc., the S&P 500 Index and the S&P 500 Pharmaceuticals Index



	December 31, 2016	December 31, 2017	December 31, 2018	December 31, 2019	December 31, 2020	December 31, 2021
Zoetis Inc.	$100	$135.55	$161.91	$252.11	$317.06	$470.08
S&P 500 Index	$100	$121.83	$116.49	$153.17	$181.35	$233.41
S&P 500 Pharmaceuticals Index	$100	$112.57	$121.68	$140.04	$150.58	$189.36

(a) This section is not "soliciting material," is not deemed "filed" with the SEC and is not to be incorporated by reference in any filing of Zoetis under the Securities Act of 1933, as amended, or the Exchange Act whether made before or after the date hereof and irrespective of any general incorporation language contained in any such filing.

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations.

Introduction

Our management's discussion and analysis of financial condition and results of operations (MD&A) is provided to assist readers in understanding our performance, as reflected in the results of our operations, our financial condition and our cash flows. This MD&A should be read in conjunction with our consolidated financial statements and notes to consolidated financial statements included in *Item 8. Financial Statements and Supplementary Data*. The discussion in this MD&A contains forward-looking statements that involve substantial risks and uncertainties. Our objective is to also provide discussion of material events and uncertainties known to management that are reasonably likely to cause reported financial information not to be indicative of future results, which could differ materially from historical performance and from those anticipated in the forward-looking statements as a result of various factors such as those discussed in *Item 1A. Risk Factors* and *Forward-looking statements and factors that may affect future results* sections of this MD&A.

A discussion regarding our financial condition and results of operations for fiscal 2021 compared to fiscal 2020 is presented below. A discussion regarding our financial condition and results of operations for fiscal 2020 compared to fiscal 2019 can be found under Item 7 of Part II of our Annual Report on Form 10-K for the fiscal year ended December 31, 2020, filed with the SEC on February 16, 2021 (our "2020 Annual Report"), which is available free of charge on the SEC's website at www.sec.gov.

Overview of our business

We are a global leader in the animal health industry, focused on the discovery, development, manufacture and commercialization of medicines, vaccines, diagnostic products and services, biodevices, genetic tests and precision animal health technology. For 70 years, we have been innovating ways to predict, prevent, detect, and treat animal illness, and continue to stand by those raising and caring for animals worldwide - from livestock farmers to veterinarians and pet owners.

We manage our operations through two geographic operating segments: the United States (U.S.) and International. Within each of these operating segments, we offer a diversified product portfolio for both companion animals and livestock customers in order to capitalize on local and regional trends and customer needs. See Notes to Consolidated Financial Statements—*Note 19. Segment Information*.

We directly market our products to veterinarians and livestock producers located in approximately 45 countries across North America, Europe, Africa, Asia, Australia and South America, and are a market leader in nearly all of the major regions in which we operate. Through our efforts to establish an early and direct presence in many emerging markets, such as Brazil, Chile, China and Mexico, we believe we are one of the largest animal health medicines and vaccines businesses as measured by revenue across emerging markets as a whole. In markets where we do not have a direct commercial presence, we generally contract with distributors that provide logistics and sales and marketing support for our products.

We believe our investments in one of the industry's largest sales organizations, including our extensive network of technical and veterinary operations specialists, our high-quality manufacturing and reliability of supply, and our long track record of developing products that meet customer needs, has led to enduring and valued relationships with our customers. Our research and development (R&D) efforts enable us to deliver innovative products to address unmet needs and evolve our product lines so they remain relevant for our customers.

We have approximately 300 product lines that we sell in over 100 countries for the prediction, prevention, detection and treatment of diseases and conditions that affect various companion animal and livestock species. The diversity of our product portfolio and our global operations provides stability to our overall business. For instance, in livestock, impacts on our revenue that may result from disease outbreaks or weather conditions in a particular market or region are often offset by increased sales in other regions from exports and other species as consumers shift to other proteins.

A summary of our 2021 performance compared with the comparable 2020 and 2019 periods follows:

	Year Ended December 31,			% Change	
(MILLIONS OF DOLLARS)	**2021**	2020	2019	**21/20**	20/19
Revenue	**$ 7,776**	$ 6,675	$ 6,260	**16**	7
Net income attributable to Zoetis	**2,037**	1,638	1,500	**24**	9
Adjusted net income[(a)]	**2,240**	1,844	1,755	**21**	5

(a) Adjusted net income is a non-GAAP financial measure. See the *Non-GAAP financial measures* and *Adjusted net income* sections of this MD&A for more information.

Our operating environment

Industry

The animal health industry, which focuses on both companion animals and livestock, is a growing industry that impacts billions of people worldwide. The primary companion animal species are dogs, cats and horses. Factors influencing growth in demand for companion animal medicines, vaccines and diagnostics include:

- economic development and related increases in disposable income, particularly in many emerging markets;
- increasing pet ownership and pet owners' commitment to the health and well-being of their pets;
- companion animals living longer;
- increasing medical treatment of companion animals; and
- advances in companion animal medicines, vaccines and diagnostics.

The primary livestock species for the production of animal protein are cattle (both beef and dairy), swine, poultry, fish and sheep. Livestock health and production are essential to meeting the growing demand for animal protein of a global population. Factors influencing growth in demand for livestock medicines and vaccines include:

- human population growth and increasing standards of living, particularly in many emerging markets;
- increasing demand for improved nutrition, particularly animal protein;
- natural resource constraints, such as scarcity of arable land, fresh water and increased competition for cultivated land, resulting in fewer resources that will be available to meet an increasing demand for animal protein;
- increasing urbanization; and
- increased focus on food safety and food security.

Product development initiatives

Our future success depends on both our existing product portfolio and our pipeline of new products, including new products that we may develop through joint ventures and products that we are able to obtain through license or acquisition. We believe we are an industry leader in animal health R&D, with a track record of generating new products and product lifecycle innovation. The majority of our R&D programs focus on product lifecycle innovation, which is defined as R&D programs that leverage existing animal health products by adding new species or claims, achieving approvals in new markets or creating new combinations and reformulations. In addition to traditional medicines and vaccines, we develop products across additional categories to address the needs of veterinarians and producers to predict, prevent, detect and treat conditions in both companion animals and livestock, including products and services in diagnostics, genetics, precision animal health and digital and data analytics.

Perceptions of product quality, safety and reliability

We believe that animal health customers value high-quality manufacturing and reliability of supply. The importance of quality and safety concerns to pet owners, veterinarians and livestock producers also contributes to animal health brand loyalty, which often continues after the loss of patent-based and regulatory exclusivity. We depend on positive perceptions of the safety and quality of our products by our customers, veterinarians and end-users.

In addition, negative beliefs about animal health products generally could impact demand for our products. For example, the issue of the potential transfer of increased antibacterial resistance in bacteria from food-producing animals to human pathogens, and the causality of that transfer, continue to be the subject of global scientific and regulatory discussion. Antibacterials refer to small molecules that can be used to treat or prevent bacterial infections and are a sub-categorization of the products that make up our anti-infectives and medicated feed additives portfolios. In some countries, this issue has led to government restrictions and bans on the use of specific antibacterials in some food-producing animals, regardless of the route of administration (in feed or injectable). These restrictions are more prevalent in countries where animal protein is plentiful and governments are willing to take action even when there is scientific uncertainty. In addition, consumer preferences in some markets have impacted the use of antibacterials in food producing animals. Such restrictions and consumer preferences in some cases may negatively impact sales of our antibacterial products, but in other instances may increase sales of our products that can be used as antibacterial alternatives. Our total revenue attributable to antibacterials for livestock was approximately $1.1 billion for the year ended December 31, 2021.

Similarly, concerns regarding greenhouse gas emissions and other potential environmental impacts of livestock production have led to some consumers opting to limit or avoid consuming animal products. However, we believe the impact of this trend is limited as the livestock industry is still expected to continue to grow in order to feed a growing global population.

Changing distribution channels for companion animal products

In most markets, companion animal owners typically purchase their animal health products directly from veterinarians. However, in the U.S. and certain other markets, companion animal owners increasingly have the option to purchase animal health products from sources other than veterinarians, such as Internet-based retailers, “big-box” retail stores or other over-the-counter distribution channels. This trend has been demonstrated by the shift away from the veterinarian distribution channel in the sale of flea and tick products in recent years and has been accelerated by the increase in e-commerce during the COVID-19 pandemic. We believe the ability of pet owners to purchase our products online and from retail stores may increase pet owner compliance and result in increased sales, particularly in the near term. However, over time, we may be unable to sustain our current margins due to the increased purchasing power of such retailers as compared to traditional veterinary practices.

In addition, this trend could negatively impact the sales of products we primarily sell through the veterinarian distribution channel, as any decrease in visits to veterinarians by companion animal owners could reduce our market share and sales of such products. A reduction in the number of pet owners who purchase our products directly from their veterinarian could also lead to increased use of generic alternatives to our products or the increased substitution of our products with other animal health products or human health products if such other products are deemed to be lower-cost alternatives.

The overall economic environment

In addition to industry-specific factors, we, like other businesses, face challenges related to global economic conditions. Growth in both the livestock and companion animal sectors is driven by overall economic development and related growth, particularly in many emerging markets. In the past, certain of our customers and suppliers have been affected directly by economic downturns, which decreased the demand for our products and, in some cases, hindered our ability to collect amounts due from customers.

The cost of medicines and vaccines to our livestock producer customers is small relative to other production costs, including feed, and the use of these products is intended to improve livestock producers’ economic outcomes. As a result, demand for our products has historically been more stable than demand for other production inputs. Similarly, industry sources have reported that pet owners indicated a preference for reducing spending on other aspects of their lifestyle, including entertainment, clothing and household goods, before reducing spending on pet care. Each of these factors, plus our broad and innovative portfolio, contributes to our ability to incorporate inflationary challenges into our product pricing and mitigate the impact on our results. While these factors have mitigated the impact of prior downturns in the global economy, future economic

challenges, including inflation, could increase cost sensitivity among our customers, which may result in reduced demand for our products, which could have a material adverse effect on our operating results and financial condition.

Competition

The animal health industry is highly competitive. Although our business is the largest based on revenue in the animal health industry (which includes medicines, vaccines and diagnostics), we face competition in the regions in which we operate. Principal methods of competition vary depending on the particular region, species, product category or individual product. Some of these methods include new product development, quality, price, service and promotion to veterinary professionals, pet owners and livestock producers. Our competitors include standalone animal health businesses and the animal health businesses of large pharmaceutical companies. In recent years, there has been an increase in consolidation in the animal health industry. There are also many start-up companies working in the animal health area. In addition to competition from established market participants, there could be new entrants to the animal health medicines, vaccines and diagnostics industry in the future. We also compete with companies that produce generic products, following our products' loss of exclusivity in a given market. For example, Draxxin currently competes with generic products in key markets including the U.S., Europe, Canada, Mexico and Australia. For more information regarding the generic competition we currently have and expect to encounter as patents on certain of our key products expire, see *Item 1. Business – Intellectual Property*.

Weather conditions, climate change and the availability of natural resources

The animal health industry and demand for many of our animal health products in a particular region are affected by weather conditions, as usage of our products follows varying weather patterns and weather-related pressures from pests, such as ticks. As a result, we may experience regional and seasonal fluctuations in our results of operations.

In addition, veterinary hospitals and practitioners depend on visits from and access to the animals under their care. Veterinarians' patient volume and ability to operate could be adversely affected if they experience prolonged snow, ice or other severe weather conditions, particularly in regions not accustomed to sustained inclement weather. Furthermore, weather conditions, including excessive cold or heat, natural disasters and other events, could negatively impact our livestock customers by impairing the health or growth of their animals or the production or availability of feed, as well as disrupting their normal operations. For example, livestock producers depend on the availability of natural resources, including large supplies of fresh water. Their animals' health and their ability to operate could be adversely affected if they experience a shortage of fresh water due to human population growth, climate change or floods, droughts or other weather conditions. In the event of adverse weather conditions, climate-change related impacts or a shortage of fresh water, veterinarians and livestock producers may purchase less of our products.

For example, drought conditions could negatively impact, among other things, the supply of corn and the availability of grazing pastures. A decrease in harvested corn results in higher corn prices, which could negatively impact the profitability of livestock producers of cattle, pork and poultry. Higher corn prices and reduced availability of grazing pastures contribute to reductions in herd or flock sizes that in turn result in less spending on animal health products. As such, a prolonged drought could have a material adverse impact on our operating results and financial condition.

Adverse weather conditions, natural disasters and climate change may also impact the aquaculture business. Changes in water temperatures could affect the timing of reproduction and growth of various fish species, as well as trigger the outbreak of certain waterborne diseases.

Uncertainty Relating to COVID-19

We continue to closely monitor the impact of the coronavirus (COVID-19) pandemic and the resulting global recession on all aspects of our business across geographies, including how it has and may continue to impact our customers, workforce, suppliers and vendors. Although we are unable to fully predict the impact that the COVID-19 pandemic will ultimately have on our future financial position and operating results, we continue to monitor the potential effects, including impacts on our supply chain, the effect on customer demand, and changes to our operations. We cannot predict the impact that the COVID-19 pandemic will have on our customers, vendors and suppliers; however, any material effect on these parties could adversely impact us.

The situation surrounding COVID-19 remains fluid, and we will continue to actively monitor the situation and may take actions that alter our business operations that we determine are in the best interests of our workforce, customers, vendors, suppliers, and other stakeholders, or as required by federal, state, or local authorities.

For further information regarding the impact of COVID-19 on the Company, see *Item 1A, Risk Factors* in this Annual Report on Form 10-K.

Disease Outbreaks

Sales of our livestock products have in the past, and may in the future be, adversely affected by the outbreak of disease carried by animals. Outbreaks of disease may reduce regional or global sales of particular animal-derived food products or result in reduced exports of such products, either due to heightened export restrictions or import prohibitions, which may reduce demand for our products. Also, the outbreak of any highly contagious disease near our main production sites could require us to immediately halt production of our products at such sites or force us to incur substantial expenses in procuring raw materials or products elsewhere. Alternatively, sales of products that treat specific disease outbreaks may increase.

Manufacturing and supply

In order to sell our products, we must be able to produce and ship our products in sufficient quantities. Many of our products involve complex manufacturing processes and are sole-sourced from certain manufacturing sites. Minor deviations in our manufacturing or logistical processes, such as temperature excursions or improper package sealing, could result in delays, inventory shortages, unanticipated costs, product recalls, product liability and/or regulatory action. In addition, a number of factors could cause production interruptions that could result in launch delays, inventory shortages, recalls, unanticipated costs or issues with our agreements under which we supply third parties.

In 2021, we experienced isolated supply challenges for Librela, Solensia and some of our other products, resulting from strong demand as well as competition for manufacturing inputs with human health vaccine development during the pandemic. Some of these challenges are expected to continue in 2022, but are being managed by our global manufacturing network through certain supply chain optimizations, controlled launches for new products in additional markets and customer coordination.

Our manufacturing network may be unable to meet the demand for our products or we may have excess capacity if demand for our products changes. The unpredictability of a product's regulatory or commercial success or failure, the lead time necessary to construct highly technical and complex manufacturing sites, and shifting customer demand increase the potential for capacity imbalances.

Foreign exchange rates

Significant portions of our revenue and costs are exposed to changes in foreign exchange rates. Our products are sold in more than 100 countries and, as a result, our revenue is influenced by changes in foreign exchange rates. For the year ended December 31, 2021, approximately 44% of our revenue was denominated in foreign currencies. We seek to manage our foreign exchange risk, in part, through operational means, including managing same-currency revenue in relation to same-currency costs and same-currency assets in relation to same-currency liabilities. As we operate in multiple foreign currencies, including the Australian dollar, Brazilian real, British pound, Canadian dollar, Chinese yuan, euro and other currencies, changes in those currencies relative to the U.S. dollar will impact our revenue, cost of goods and expenses, and consequently, net income. Exchange rate fluctuations may also have an impact beyond our reported financial results and directly impact operations. These fluctuations may affect the ability to buy and sell our goods and services between markets impacted by significant exchange rate variances. For the year ended December 31, 2021, approximately 56% of our total revenue was in U.S. dollars. Our year-over-year total revenue growth was favorably impacted by 1% from changes in foreign currency values relative to the U.S. dollar.

Our growth strategies

We seek to enhance the health of animals and to bring solutions to our customers who raise and care for them. We have a global presence in both developed and emerging markets and across eight core species. We intend to grow our business by pursuing the following core strategies:

- ***drive innovative growth -*** We seek to deliver new products and solutions as well as lifecycle innovations across the continuum of care that spans from disease prediction and prevention to detection and treatment. We are focused on innovating across vaccines, pharmaceuticals, diagnostics, genetics, biodevices, and other product segments, and across all core species. Where appropriate, we complement internal R&D programs with external innovations;
- ***enhance customer experience -*** We believe that delighting our customers with compelling and personalized experiences that enable them to provide the best care for animals is critical for our success. We are focused on providing greater value to our customers through the integration and connectedness of our portfolio and by reducing frictions in the way they engage with us and our products and solutions;
- ***lead in digital and data analytics -*** We believe that healthcare insights enabled by data and digital technology and complemented with our comprehensive portfolio of products and solutions will be critical in enhancing care for animals and improving livestock productivity;
- ***cultivate a high-performing organization*** - We view the strength of our leadership team and our talented colleagues around the world as a critical component of our past and future success. We are committed to continuing to be a company our colleagues can be proud of and to attracting, retaining and developing the best, most diverse talent in the industry. We are further committed to sustaining a diverse, equitable and inclusive work environment for our colleagues; and
- ***champion a healthier, more sustainable future -*** As the world's leading animal health company, our business purpose is well aligned with our social purpose. We strive to make a meaningful difference in society through the three pillars of our sustainability approach: (1) by caring and collaborating with our customers, colleagues, and communities, and the animals that depend on them by improving access to care for animals, by creating a diverse, equitable, and inclusive work environment, and by supporting the veterinary profession; (2) by leveraging our innovation capabilities to develop solutions that improve productivity, keep animals healthy, and fight emerging infectious diseases; and (3) by taking actions to protect our planet that reduce our footprint on the environment.

Components of revenue and costs and expenses

Our revenue, costs and expenses are reported for the year ended December 31 for each year presented, except for operations outside the U.S., for which the financial information is included in our consolidated financial statements for the fiscal year ended November 30 for each year presented.

Revenue

Our revenue is primarily derived from our diversified product portfolio of medicines, vaccines and diagnostic products and services used to treat and protect companion animals and livestock. Generally, our products are promoted to veterinarians and livestock producers by our sales organization which includes sales representatives and technical and veterinary operations specialists, and then sold directly by us or through distributors, retailers or e-commerce outlets. The depth of our product portfolio enables us to address the varying needs of customers in different species and geographies. In 2021, our two top-selling products, Apoquel and Simparica/Simparica Trio, each contributed approximately 10% of our revenue, and combined with our next three top-selling products, Revolution/Revolution Plus/Stronghold, Cytopoint and the ceftiofur line, these five contributed approximately 33% of our revenue. Our ten top-selling product lines contributed 47% of our revenue. For additional information regarding our products, including descriptions of our product lines that each represented approximately 1% or more of our revenue in 2021, see *Item 1. Business—Products*.

Costs and expenses

Costs of sales consist primarily of cost of materials, facilities and other infrastructure used to manufacture our medicine and vaccine products, as well as costs to operate our reference labs and royalty expenses associated with the intellectual property of our products, when relevant.

Selling, general and administrative (SG&A) expenses consist of, among other things, the internal and external costs of marketing, promotion, advertising and shipping and handling as well as certain costs related to business technology, facilities, legal, finance, human resources, business development, public affairs and procurement.

Research and development (R&D) expenses consist primarily of project costs specific to new product R&D and product lifecycle innovation, overhead costs associated with R&D operations and investments that support local market clinical trials for approved indications and expenses related to regulatory approvals for our products. We do not disaggregate R&D expenses by research stage or by therapeutic area for purposes of managing our business.

Amortization of intangible assets consists primarily of the amortization expense for identifiable finite-lived intangible assets that have been acquired through business combinations. These assets consist of, but are not limited to, developed technology, brands and trademarks.

Restructuring charges and certain acquisition-related costs consist of all restructuring charges (those associated with acquisition activity and those associated with cost reduction/productivity initiatives), as well as costs associated with acquiring and integrating businesses. Restructuring charges are associated with employees, assets and activities that will not continue in the company. Acquisition-related costs are associated with acquiring and integrating acquired businesses, such as Abaxis in 2018, and may include transaction costs and expenditures for consulting and the integration of systems and processes.

Other (income)/deductions—net consists of various items, primarily net (gains)/losses on asset disposals, interest income, royalty-related income, foreign exchange translation (gains)/losses and certain asset impairment charges.

Significant accounting policies and application of critical accounting estimates

In presenting our financial statements in conformity with U.S. GAAP, we are required to make estimates and assumptions that affect the reported amounts of assets, liabilities, revenue, costs and expenses and related disclosures. For a description of our significant accounting policies, see Notes to Consolidated Financial Statements— *Note 3. Significant Accounting Policies*.

We believe that the following accounting policies are critical to an understanding of our consolidated financial statements as they require the application of the most difficult, subjective and complex judgments and, therefore, could have the greatest impact on our financial statements: (i) fair value; (ii) revenue; (iii) asset impairment reviews; and (iv) contingencies.

Below are some of our more critical accounting estimates. See also Notes to Consolidated Financial Statements— *Note 3. Significant Accounting Policies: Estimates and Assumptions* for a discussion about the risks associated with estimates and assumptions.

Fair value

For a discussion about the application of fair value to our long-term debt and financial instruments, see Notes to Consolidated Financial Statements— *Note 9. Financial Instruments*.

For a discussion about the application of fair value to our business combinations, see Notes to Consolidated Financial Statements— *Note 3. Significant Accounting Policies: Fair Value*.

For a discussion about the application of fair value to our asset impairment reviews, see *Asset impairment reviews* below.

Revenue

Our gross product revenue is subject to deductions that are generally estimated and recorded in the same period that the revenue is recognized and primarily represents sales returns and revenue incentives. For example:

- for sales returns, we perform calculations in each market that incorporate the following, as appropriate: local returns policies and practices; returns as a percentage of revenue; an understanding of the reasons for past returns; estimated shelf life by product; an estimate of the amount of time between shipment and return or lag time; and any other factors that could impact the estimate of future returns, product recalls, discontinuation of products or a changing competitive environment; and
- for revenue incentives, we use our historical experience with similar incentives programs to estimate the impact of such programs on revenue.

If any of our ratios, factors, assessments, experiences or judgments are not indicative or accurate predictors of our future experience, our results could be materially affected. Although the amounts recorded for these revenue deductions are dependent on estimates and assumptions, historically our adjustments to actual results have not been material. The sensitivity of our estimates can vary by program, type of customer and geographic location.

Amounts recorded for revenue deductions can result from a complex series of judgments about future events and uncertainties and can rely on estimates and assumptions. For further information about the risks associated with estimates and assumptions, see Notes to Consolidated Financial Statements— *Note 3. Significant Accounting Policies: Estimates and Assumptions*.

Asset impairment reviews

We review all of our long-lived assets for impairment indicators throughout the year and we perform detailed testing whenever impairment indicators are present. In addition, we perform impairment testing for goodwill and indefinite-lived intangible assets at least annually. When necessary, we record charges for impairments of long-lived assets for the amount by which the fair value is less than the carrying value of these assets.

Our impairment review processes are described below and in Notes to Consolidated Financial Statements— *Note 3. Significant Accounting Policies: Amortization of Intangible Assets, Depreciation and Certain Long-Lived Assets* and, for deferred tax assets, in *Note 3. Significant Accounting Policies: Deferred Tax Assets and Liabilities and Income Tax Contingencies*.

Examples of events or circumstances that may be indicative of impairment include:

- a significant adverse change in the extent or manner in which an asset is used. For example, restrictions imposed by the regulatory authorities could affect our ability to manufacture or sell a product; and

- a projection or forecast that demonstrates losses or reduced profits associated with an asset. This could result, for example, from the introduction of a competitor's product that results in a significant loss of market share or the inability to achieve the previously projected revenue growth, or from the lack of acceptance of a product by customers.

For finite-lived identifiable intangible assets, such as developed technology rights, and for other long-lived assets, such as property, plant and equipment, whenever impairment indicators are present, we calculate the undiscounted value of the projected cash flows associated with the asset, or asset group, and compare this estimated amount to the carrying amount. If the carrying amount is found to be greater, we record an impairment loss for the excess of book value over fair value. In addition, in all cases of an impairment review, we re-evaluate the remaining useful lives of the assets and modify them, as appropriate.

Our impairment reviews of most of our long-lived assets depend on the determination of fair value, as defined by U.S. GAAP, and these judgments can materially impact our results of operations. A single estimate of fair value can result from a complex series of judgments about future events and uncertainties and can rely on estimates and assumptions. For information about the risks associated with estimates and assumptions, see Notes to Consolidated Financial Statements—*Note 3. Significant Accounting Policies: Estimates and Assumptions*.

Intangible assets other than goodwill

We test indefinite-lived intangible assets for impairment at least annually, or more frequently if impairment indicators exist, by first assessing qualitative factors to determine whether it is more likely than not that the fair value of the indefinite-lived intangible asset is less than its carrying amount. If we conclude it is more likely than not that the fair value is less than the carrying amount, a quantitative test that compares the fair value of the indefinite-lived intangible asset with its carrying value is performed. If the fair value is less than the carrying amount, an impairment loss is recognized. Impairments of identifiable intangible assets other than goodwill, are recorded in *Restructuring charges and certain acquisition-related costs* and *Other (income)/deductions—net*, as applicable. We did not have any significant intangible asset impairment charges for the years ended December 31, 2021, 2020 and 2019.

When we are required to determine the fair value of intangible assets other than goodwill, we use an income approach, specifically the multi-period excess earnings method, also known as the discounted cash flow method. We start with a forecast of all the expected net cash flows associated with the asset, which includes the application of a terminal value for indefinite-lived assets, and then we apply an asset-specific discount rate to arrive at a net present value amount. Some of the more significant estimates and assumptions inherent in this approach include: the amount and timing of the projected net cash flows, which includes the expected impact of competitive, legal and/or regulatory forces on the projections, the impact of technological risk associated with IPR&D assets, as well as the selection of a long-term growth rate; the discount rate, which seeks to reflect the risks inherent in the projected cash flows; foreign currency fluctuations; and the effective tax rate, which seeks to incorporate the geographic diversity of the projected cash flows.

While all identifiable intangible assets can be impacted by events and thus lead to impairment, in general, identifiable intangible assets that are at the highest risk of impairment include IPR&D assets (approximately $88 million as of December 31, 2021). IPR&D assets are higher-risk assets because R&D is an inherently risky activity.

For a description of our accounting policy, see Notes to Consolidated Financial Statements—*Note 3. Significant Accounting Policies: Amortization of Intangible Assets, Depreciation and Certain Long-Lived Assets*.

Goodwill

Goodwill represents the excess of the consideration transferred over the fair value of net assets of businesses purchased and is assigned to reporting units. We test goodwill for impairment on at least an annual basis, or more frequently if necessary, either by assessing qualitative factors to determine whether it is more likely than not that the fair value of a reporting unit is less than its carrying amount or by performing a periodic quantitative assessment.

Factors considered in the qualitative assessment include general macroeconomic conditions, conditions specific to the industry and market, cost factors which could have a significant effect on earnings or cash flows, the overall financial performance of the reporting unit and whether there have been sustained declines in our share price. Additionally, we evaluate the extent to which the fair value exceeded the carrying value of the reporting unit at the date of the last quantitative assessment performed.

When performing a quantitative assessment to test for goodwill impairment we utilize the income approach, which is forward-looking, and relies primarily on internal forecasts. Within the income approach, the method that we use is the discounted cash flow method. We start with a forecast of all the expected net cash flows associated with the reporting unit, which includes the application of a terminal value, and then apply a reporting unit-specific discount rate to arrive at a net present value. Some of the more significant estimates and assumptions inherent in this approach include: the amount and timing of the projected net cash flows, which includes the expected impact of technological risk and competitive, legal and/or regulatory forces on the projections, as well as the selection of a long-term growth rate; the discount rate, which seeks to reflect the various risks inherent in the projected cash flows; and the effective tax rate, which seeks to incorporate the geographic diversity of the projected cash flows.

We test goodwill for impairment on at least an annual basis, or more frequently if necessary, either by assessing qualitative factors to determine whether it is more likely than not that the fair value of a reporting unit is less than its carrying amount or by performing a periodic quantitative assessment. In 2021 and 2020, we performed a periodic quantitative impairment assessment as of September 30, 2021 and 2020, respectively, which did not result in the impairment of goodwill associated with any of our reporting units.

For all of our reporting units, there are a number of future events and factors that may impact future results and that could potentially have an impact on the outcome of subsequent goodwill impairment testing. For a list of these factors, see *Forward-looking statements and factors that may affect future results.*

For a description of our accounting policy, see Notes to Consolidated Financial Statements— *Note 3. Significant Accounting Policies: Amortization of Intangible Assets, Depreciation and Certain Long-Lived Assets*.

Contingencies

For a discussion about income tax contingencies, see Notes to Consolidated Financial Statements— *Note 8D. Tax Matters: Tax Contingencies*.

For a discussion about legal contingencies, guarantees and indemnifications, see Notes to Consolidated Financial Statement— *Note 18. Commitments and Contingencies*.

Non-GAAP financial measures

We report information in accordance with U.S. generally accepted accounting principles (GAAP). Management also measures performance using non-GAAP financial measures that may exclude certain amounts from the most directly comparable GAAP measure. Despite the importance of these measures to management in goal setting and performance measurement, non-GAAP financial measures have no standardized meaning prescribed by U.S. GAAP and, therefore, have limits in their usefulness to investors and may not be comparable to the calculation of similar measures of other companies. We present certain identified non-GAAP measures solely to provide investors with useful information to more fully understand how management assesses performance.

Operational Growth

We believe that it is important to not only understand overall revenue and earnings growth, but also "operational growth." Operational growth is a non-GAAP financial measure defined as revenue or earnings growth excluding the impact of foreign exchange. This measure provides information on the change in revenue and earnings as if foreign currency exchange rates had not changed between the current and prior periods to facilitate a period-to-period comparison. We believe this non-GAAP measure provides a useful comparison to previous periods for the company and investors, but should not be viewed as a substitute for U.S. GAAP reported growth.

Adjusted Net Income and Adjusted Earnings Per Share

Adjusted net income and the corresponding adjusted earnings per share (EPS) are non-GAAP financial measures of performance used by management. We believe these financial measures are useful supplemental information to investors when considered together with our U.S. GAAP financial measures. We report adjusted net income to portray the results of our major operations, and the discovery, development, manufacture and commercialization of our products, prior to considering certain income statement elements. We define adjusted net income and adjusted EPS as net income attributable to Zoetis and EPS before the impact of purchase accounting adjustments, acquisition-related costs and certain significant items.

We recognize that, as an internal measure of performance, the adjusted net income and adjusted EPS measures have limitations, and we do not restrict our performance management process solely to these metrics. A limitation of the adjusted net income and adjusted EPS measures is that they provide a view of our operations without including all events during a period, such as the effects of an acquisition or amortization of purchased intangibles, and do not provide a comparable view of our performance to other companies. The adjusted net income and adjusted EPS measures are not, and should not be viewed as, a substitute for U.S. GAAP reported net income attributable to Zoetis and reported EPS. See the *Adjusted Net Income* section below for more information.

Analysis of the Consolidated Statements of Income

The following discussion and analysis of our Consolidated Statements of Income should be read along with our consolidated financial statements, and the notes thereto.

	Year Ended December 31,			% Change	
(MILLIONS OF DOLLARS)	**2021**	2020	2019	**21/20**	20/19
Revenue	**$ 7,776**	$ 6,675	$ 6,260	**16**	7
Costs and expenses:					
Cost of sales[(a)]	**2,303**	2,057	1,992	**12**	3
% of revenue	***30 %***	*31 %*	*32 %*		
Selling, general and administrative expenses[(a)]	**2,001**	1,726	1,638	**16**	5
% of revenue	***26 %***	*26 %*	*26 %*		
Research and development expenses[(a)]	**508**	463	457	**10**	1
% of revenue	***7 %***	*7 %*	*7 %*		
Amortization of intangible assets[(a)]	**161**	160	155	**1**	3
Restructuring charges and certain acquisition-related costs	**43**	25	51	**72**	(51)
Interest expense, net of capitalized interest	**224**	231	223	**(3)**	4
Other (income)/deductions—net	**48**	17	(57)	**182**	*
Income before provision for taxes on income	**2,488**	1,996	1,801	**25**	11
% of revenue	***32 %***	*30 %*	*29 %*		
Provision for taxes on income	**454**	360	301	**26**	20
Effective tax rate	***18.2 %***	*18.0 %*	*16.7 %*		
Net income before allocation to noncontrolling interests	**2,034**	1,636	1,500	**24**	9
Less: Net loss attributable to noncontrolling interests	**(3)**	(2)	—	*	*
Net income attributable to Zoetis	**$ 2,037**	$ 1,638	$ 1,500	**24**	9
% of revenue	***26 %***	*25 %*	*24 %*		

* Calculation not meaningful.

[(a)] Amortization expense related to finite-lived acquired intangible assets that contribute to our ability to sell, manufacture, research, market and distribute products, compounds and intellectual property is included in *Amortization of intangible assets* as these intangible assets benefit multiple business functions. Amortization expense related to finite-lived acquired intangible assets that are associated with a single function is included in *Cost of sales*, *Selling, general and administrative expenses* or *Research and development expenses*, as appropriate.

Revenue

Total revenue by operating segment was as follows:

	Year Ended December 31,			% Change	
(MILLIONS OF DOLLARS)	**2021**	2020	2019	**21/20**	20/19
U.S.	**$ 4,042**	$ 3,557	$ 3,203	**14**	11
International	**3,652**	3,035	2,972	**20**	2
Total operating segments	**7,694**	6,592	6,175	**17**	7
Contract manufacturing & human health	**82**	83	85	**(1)**	(2)
Total Revenue	**$ 7,776**	$ 6,675	$ 6,260	**16**	7

On a global basis, the mix of revenue between companion animal and livestock products was as follows:

	Year Ended December 31,			% Change	
(MILLIONS OF DOLLARS)	**2021**	2020	2019	**21/20**	20/19
Companion animal	**$ 4,689**	$ 3,652	$ 3,145	**28**	16
Livestock	**3,005**	2,940	3,030	**2**	(3)
Contract manufacturing & human health	**82**	83	85	**(1)**	(2)
Total Revenue	**$ 7,776**	$ 6,675	$ 6,260	**16**	7

2021 vs. 2020

Total revenue increased by $1,101 million, or 16%, in 2021 compared with 2020 reflecting operational revenue growth of $1,002 million, or 15%. Operational revenue growth was primarily due to the following:

- volume growth from in-line products, including key dermatology products, of approximately 9%;
- volume growth from new products of approximately 5%; and
- price growth of approximately 1%.

Foreign exchange increased our reported revenue growth by approximately 1%.

Costs and Expenses

Cost of sales

	Year Ended December 31,			% Change	
(MILLIONS OF DOLLARS)	**2021**	2020	2019	**21/20**	20/19
Cost of sales	**$ 2,303**	$ 2,057	$ 1,992	**12**	3
% of revenue	**30 %**	31 %	32 %		

2021 vs. 2020

Cost of sales as a percentage of revenue decreased from 31% to 30% in 2021 compared with 2020, primarily as a result of:

- favorable product mix;
- lower inventory obsolescence, scrap and other charges;
- favorable foreign exchange; and
- price increases,

partially offset by:

- higher freight and import costs; and
- unfavorable manufacturing and other costs.

Selling, general and administrative expenses

	Year Ended December 31,			% Change	
(MILLIONS OF DOLLARS)	**2021**	2020	2019	**21/20**	20/19
Selling, general and administrative expenses	**$ 2,001**	$ 1,726	$ 1,638	**16**	5
% of revenue	**26 %**	26 %	26 %		

2021 vs. 2020

SG&A expenses increased $275 million, or 16%, in 2021 compared with 2020, primarily as a result of:

- an increase in certain compensation-related costs;
- an increase in investments to support revenue growth;
- higher freight and logistics costs;
- higher charitable contributions; and
- unfavorable foreign exchange,

partially offset by:

- the reduced impact of purchase accounting adjustments and certain significant items.

Research and development expenses

	Year Ended December 31,			% Change	
(MILLIONS OF DOLLARS)	**2021**	2020	2019	**21/20**	20/19
Research and development expenses	**$ 508**	$ 463	$ 457	**10**	1
% of revenue	**7 %**	7 %	7 %		

2021 vs. 2020

R&D expenses increased $45 million, or 10%, in 2021 compared with 2020, primarily as a result of:

- an increase in certain compensation-related costs to support innovation;
- increased spending driven by project investments; and
- unfavorable foreign exchange.

Amortization of intangible assets

	Year Ended December 31,			% Change	
(MILLIONS OF DOLLARS)	**2021**	2020	2019	**21/20**	20/19
Amortization of intangible assets	**$ 161**	$ 160	$ 155	**1**	3

2021 vs. 2020

Amortization of intangible assets increased $1 million, or 1%, in 2021 compared with 2020, primarily as a result of certain intangible assets acquired during 2021 and 2020.

Restructuring charges and certain acquisition-related costs

	Year Ended December 31,			% Change	
(MILLIONS OF DOLLARS)	**2021**	2020	2019	**21/20**	20/19
Restructuring charges and certain acquisition-related costs	**$ 43**	$ 25	$ 51	**72**	(51)

2021 vs. 2020

Restructuring charges and certain acquisition-related costs increased by $18 million in 2021 compared with 2020. Restructuring charges and certain acquisition-related costs in 2021 primarily consisted of employee termination costs associated with the realignment of our international operations and other costs associated with cost-reduction and productivity initiatives, asset impairment charges related to the consolidation of manufacturing sites in China and integration costs related to recent acquisitions. Restructuring charges and certain acquisition-related costs in 2020 consisted of integration costs related to acquisitions, restructuring charges related to CEO transition-related costs and employee termination costs related to other cost-reduction and productivity initiatives.

For additional information regarding restructuring charges and acquisition-related costs, see Notes to Consolidated Financial Statements— *Note 6. Restructuring Charges and Other Costs Associated with Acquisitions, Cost-Reduction and Productivity Initiatives*.

Interest expense, net of capitalized interest

	Year Ended December 31,			% Change	
(MILLIONS OF DOLLARS)	**2021**	2020	2019	**21/20**	20/19
Interest expense, net of capitalized interest	**$ 224**	$ 231	$ 223	**(3)**	4

2021 vs. 2020

Interest expense, net of capitalized interest, decreased by $7 million, or 3%, in 2021 compared with 2020, primarily as a result of the redemption of $500 million aggregate principal amount of our senior notes in October 2020, as well as the redemption of our $300 million aggregate principal amount of our 2018 floating rate senior notes and the $300 million aggregate principal amount of our 2018 senior notes in August 2021, partially offset by the issuance of $1.25 billion aggregate principal amount of our senior notes in May 2020 and lower gains on cross-currency interest rate swaps as compared to the prior year.

Other (income)/deductions—net

	Year Ended December 31,			% Change	
(MILLIONS OF DOLLARS)	**2021**	2020	2019	**21/20**	20/19
Other (income)/deductions—net	**$ 48**	$ 17	$ (57)	*	*

* Calculation not meaningful.

2021 vs. 2020

The change in *Other (income)/deductions—net* is primarily as a result of a net gain in 2020 related to a cash payment received pursuant to an agreement related to the 2016 sale of a certain U.S. manufacturing site, as well as higher foreign currency losses and lower interest income in the current year, partially offset by an impairment of an equity investment in the prior year.

Provision for taxes on income

	Year Ended December 31,			% Change	
(MILLIONS OF DOLLARS)	**2021**	2020	2019	**21/20**	20/19
Provision for taxes on income	**$ 454**	$ 360	$ 301	**26**	20
Effective tax rate	**18.2%**	18.0%	16.7%		

The income tax provision in the Consolidated Statements of Income includes tax costs and benefits, such as uncertain tax positions, repatriation decisions and audit settlements, among others.

2021 vs. 2020

The higher effective tax rate in 2021 compared with 2020 is primarily due to the following components:

- changes in the jurisdictional mix of earnings, which includes the impact of the location of earnings from operations and repatriation costs. The jurisdictional mix of earnings can vary as a result of repatriation decisions, operating fluctuations in the normal course of business and the impact of non-deductible and non-taxable items. In addition, 2021 includes a tax benefit related to foreign-derived intangible income;
- a $6 million and $19 million discrete tax benefit recorded in 2021 and 2020, respectively, related to changes in various other tax items;
- a $7 million discrete tax benefit recorded in 2020 related to a remeasurement of deferred tax assets and liabilities resulting from the integration of acquired businesses;
- a $1 million discrete tax expense and a $4 million discrete tax benefit recorded in 2021 and 2020, respectively, related to a remeasurement of deferred tax assets and liabilities as a result of changes in statutory tax rates; and
- a $24 million and $29 million discrete tax benefit recorded in 2021 and 2020, respectively, related to the excess tax benefits for share-based payments,

partially offset by:

- a $5 million discrete tax expense recorded in 2020 related to changes in valuation allowances; and

- an $8 million and $4 million discrete tax benefit recorded in 2021 and 2020, respectively, related to the effective settlement of certain issues with tax authorities.

Operating Segment Results

Beginning in the first quarter of 2021, certain costs associated with information technology that specifically support our global manufacturing operations, which were previously reported in Other unallocated, are now reported in Corporate. In addition, in the first quarter of 2021, the company realigned certain management responsibilities. These changes did not impact the determination of our operating segments, however they resulted in the reallocation of certain costs between segments. These changes primarily include the following: (i) certain diagnostics costs, which were previously reported in Corporate, are now reported in our U.S. results; and (ii) certain other miscellaneous costs, which were previously reported in our U.S. results, are now reported in Corporate.

In 2020, the company realigned certain management responsibilities. These changes did not impact the determination of our operating segments, however they resulted in the reallocation of certain costs between segments. These changes primarily include the following: (i) R&D costs related to our aquaculture business, which were previously reported in our international commercial segment, are now reported in Other business activities; (ii) certain other miscellaneous costs, which were previously reported in international commercial segment results, are now reported in Corporate; and (iii) certain diagnostics and other miscellaneous costs, which were previously reported in our U.S. results, are now reported in Corporate.

Certain reclassifications of prior year information have been made to conform to the current year's presentation.

On a global basis, the mix of revenue between companion animal and livestock products was as follows:

				% Change					
				21/20			20/19		
					Related to			Related to	
	Year Ended December 31,				Foreign			Foreign	
(MILLIONS OF DOLLARS)	**2021**	2020	2019	Total	Exchange	Operational	Total	Exchange	Operational
U.S.									
Companion animal	**$ 2,990**	$ 2,391	$ 1,984	**25**	**—**	**25**	21	—	21
Livestock	**1,052**	1,166	1,219	**(10)**	**—**	**(10)**	(4)	—	(4)
	4,042	3,557	3,203	**14**	**—**	**14**	11	—	11
International									
Companion animal	**1,699**	1,261	1,161	**35**	**5**	**30**	9	(3)	12
Livestock	**1,953**	1,774	1,811	**10**	**2**	**8**	(2)	(5)	3
	3,652	3,035	2,972	**20**	**3**	**17**	2	(5)	7
Total									
Companion animal	**4,689**	3,652	3,145	**28**	**1**	**27**	16	(1)	17
Livestock	**3,005**	2,940	3,030	**2**	**1**	**1**	(3)	(3)	—
Contract manufacturing & human health	**82**	83	85	**(1)**	**—**	**(1)**	(2)	1	(3)
	$ 7,776	$ 6,675	$ 6,260	**16**	**1**	**15**	7	(2)	9

Earnings by segment and the operational and foreign exchange changes versus the comparable prior year period were as follows:

				% Change					
				21/20			20/19		
					Related to			Related to	
	Year Ended December 31,				Foreign			Foreign	
(MILLIONS OF DOLLARS)	**2021**	2020	2019	Total	Exchange	Operational	Total	Exchange	Operational
U.S.	**$ 2,569**	$ 2,239	$ 2,005	**15**	**—**	**15**	12	—	12
International	**1,948**	1,547	1,487	**26**	**5**	**21**	4	(5)	9
Total reportable segments	**4,517**	3,786	3,492	**19**	**2**	**17**	8	(3)	11
Other business activities	**(406)**	(372)	(348)	**9**			7		
Reconciling Items:									
Corporate	**(1,052)**	(879)	(755)	**20**			16		
Purchase accounting adjustments	**(175)**	(198)	(234)	**(12)**			(15)		
Acquisition-related costs	**(12)**	(18)	(43)	**(33)**			(58)		
Certain significant items	**(73)**	(43)	(67)	**70**			(36)		
Other unallocated	**(311)**	(280)	(244)	**11**			15		
Income before income taxes	**$ 2,488**	$ 1,996	$ 1,801	**25**			11		

* Calculation not meaningful.

2021 vs. 2020

U.S. operating segment

U.S. segment revenue increased by $485 million, or 14%, in 2021 compared with 2020, of which $599 million resulted from growth in companion animal products, offset by a $114 million decline in livestock products.

- Companion animal revenue growth was driven primarily by increased sales of parasiticides including Simparica Trio, as well as the ProHeart and Revolution/Stronghold franchises. In-line product growth benefited from increased sales of our key dermatology portfolio, vaccines and diagnostics products.
- Livestock revenue declined due to cattle, poultry and swine. Cattle product sales declined as a result of increased generic competition and challenges in the beef and dairy end-markets due to rising input costs. The poultry portfolio declined as a result of the expanded use of lower cost alternatives and smaller flock sizes reducing disease pressure, as well as generic competition. The decline in swine product sales was primarily due to pricing pressures on our anti-infective and vaccine portfolio and a non-recurring government purchase in the prior year.

U.S. segment earnings increased by $330 million, or 15%, in 2021 compared with 2020, primarily due to revenue and gross margin growth, partially offset by higher operating expenses.

International operating segment

International segment revenue increased by $617 million, or 20%, in 2021 compared with 2020. Operational revenue growth was $519 million, or 17%, reflecting growth of $383 million in companion animal products and $136 million in livestock products.

- Companion animal operational revenue growth resulted primarily from increased sales of our parasiticide products including the Simparica/ Simparica Trio and Revolution/Stronghold franchises. Also contributing to growth were our key dermatology portfolio, vaccine products, the recent launches of our mAb therapies, Librela and Solensia, and diagnostics products. Growth across the broader in-line portfolio benefited from increased pet ownership and standards of care.
- Livestock operational revenue growth was primarily driven by increased sales in cattle, swine and fish. Growth in cattle product sales was mainly due to the effect of marketing campaigns, key account penetration and favorable export market conditions in Brazil and favorable conditions in other emerging markets. Sales of swine products grew as a result of expanding pork production in the wake of African Swine Fever in China in the first half of the year. Fish growth was due to an increase in sales of the Alpha Flux sea lice treatment product, an increase in vaccine sales in key salmon markets and the 2020 acquisition of Fish Vet Group.
- Additionally, International segment revenue was favorably impacted by foreign exchange which increased revenue by approximately $98 million, or 3%, primarily driven by the euro, Chinese yuan, Australian dollar and Canadian dollar, partially offset by the Brazilian real and Argentinian peso.

International segment earnings increased by $401 million, or 26%, in 2021 compared with 2020. Operational earnings growth was $324 million, or 21%, primarily due to revenue and gross margin growth, partially offset by higher operating expenses.

Other business activities

Other business activities includes our CSS contract manufacturing results, our human health business and expenses associated with our dedicated veterinary medicine R&D organization, research alliances, U.S. regulatory affairs and other operations focused on the development of our products. Other R&D-related costs associated with non-U.S. market and regulatory activities are generally included in the International segment.

2021 vs. 2020

Other business activities net loss increased by $34 million, or 9%, in 2021 compared with 2020, reflecting an increase in R&D costs due to an increase in compensation-related costs, an increase in project investments and unfavorable foreign exchange.

Reconciling items

Reconciling items include certain costs that are not allocated to our operating segments results, such as costs associated with the following:

- ***Corporate,*** which includes certain costs associated with information technology, facilities, legal, finance, human resources, business development and communications, among others. These costs also include certain compensation costs, certain procurement costs, and other miscellaneous operating expenses that are not charged to our operating segments, as well as interest income and expense;
- Certain transactions and events such as (i) ***Purchase accounting adjustments***, which includes expenses associated with the amortization of fair value adjustments to inventory, intangible assets and property, plant and equipment; (ii) ***Acquisition-related activities***, which includes costs for acquisition and integration; and (iii) ***Certain significant items***, which includes non-acquisition-related restructuring charges, certain asset impairment charges, certain legal and commercial settlements, and costs associated with cost reduction/productivity initiatives; and
- ***Other unallocated***, which includes (i) certain overhead expenses associated with our global manufacturing operations not charged to our operating segments; (ii) certain costs associated with finance that specifically support our global manufacturing operations; (iii) certain supply chain and global logistics costs; and (iv) certain procurement costs.

2021 vs. 2020

Corporate expenses increased by $173 million, or 20%, in 2021 compared with 2020, primarily due to increases in certain compensation-related costs, investments in information technology, charitable contributions and unfavorable foreign exchange. Lower interest income was offset by lower interest expense.

Other unallocated expenses increased by $31 million, or 11%, in 2021 compared with 2020, primarily due to higher manufacturing costs, higher freight charges and unfavorable foreign exchange, partially offset by lower inventory obsolescence, scrap and other charges.

See Notes to Consolidated Financial Statements— *Note 19. Segment Information* for further information.

Adjusted net income

General description of adjusted net income (a non-GAAP financial measure)

Adjusted net income is an alternative view of performance used by management, and we believe that investors' understanding of our performance is enhanced by disclosing this performance measure. The adjusted net income measure is an important internal measurement for us. Additionally, we measure our overall performance on this basis in conjunction with other performance metrics. The following are examples of how the adjusted net income measure is utilized:

- senior management receives a monthly analysis of our operating results that is prepared on an adjusted net income basis;
- our annual budgets are prepared on an adjusted net income basis; and
- other goal setting and performance measurements.

Purchase accounting adjustments

Adjusted net income is calculated prior to considering certain significant purchase accounting impacts that result from business combinations and net asset acquisitions. These impacts, primarily associated with the acquisition of Abaxis (acquired in July 2018), the Pharmaq business (acquired in November 2015), certain assets of Abbott Animal Health (acquired in February 2015), King Animal Health (acquired in 2011), Fort Dodge Animal Health (acquired in 2009), and Pharmacia Animal Health business (acquired in 2003), include amortization related to the increase in fair value of the acquired finite-lived intangible assets and depreciation related to the increase/decrease to fair value of the acquired fixed assets. Therefore, the adjusted net income measure includes the revenue earned upon the sale of the acquired products without considering the aforementioned significant charges.

While certain purchase accounting adjustments can occur through 20 or more years, this presentation provides an alternative view of our performance that is used by management to internally assess business performance. We believe the elimination of amortization attributable to acquired intangible assets provides management and investors an alternative view of our business results by providing a degree of parity to internally developed intangible assets for which R&D costs previously have been expensed.

A completely accurate comparison of internally developed intangible assets and acquired intangible assets cannot be achieved through adjusted net income. These components of adjusted net income are derived solely from the impact of the items listed above. We have not factored in the impact of any other differences in experience that might have occurred if we had discovered and developed those intangible assets on our own, and this approach does not intend to be representative of the results that would have occurred in those circumstances. For example, our R&D costs in total, and in the periods presented, may have been different; our speed to commercialization and resulting revenue, if any, may have been different; or our costs to manufacture may have been different. In addition, our marketing efforts may have been received differently by our customers. As such, in total, there can be no assurance that our adjusted net income amounts would have been the same as presented had we discovered and developed the acquired intangible assets.

Acquisition-related costs

Adjusted net income is calculated prior to considering transaction and integration costs associated with significant business combinations or net asset acquisitions because these costs are unique to each transaction and represent costs that were incurred to acquire and integrate certain businesses as a result of the acquisition decision. We have made no adjustments for the resulting synergies.

We believe that viewing income prior to considering these charges provides investors with a useful additional perspective because the significant costs incurred in a business combination result primarily from the need to eliminate duplicate assets, activities or employees—a natural result of acquiring a fully integrated set of activities. For this reason, we believe that the costs incurred to convert disparate systems, to close duplicative facilities or to eliminate duplicate positions (for example, in the context of a business combination) can be viewed differently from those costs incurred in the ordinary course of business.

The integration costs associated with a business combination may occur over several years, with the more significant impacts generally ending within three years of the transaction. Because of the need for certain external approvals for some actions, the span of time needed to achieve certain restructuring and integration activities can be lengthy. For example, due to the regulated nature of the animal health medicines and vaccines business, the closure of excess facilities can take several years, as all manufacturing changes are subject to extensive validation and testing and must be approved by the FDA and/or other regulatory authorities.

Certain significant items

Adjusted net income is calculated excluding certain significant items. Certain significant items represent substantive, unusual items that are evaluated on an individual basis. Such evaluation considers both the quantitative and the qualitative aspect of their unusual nature. Unusual, in this context, may represent items that are not part of our ongoing business; items that, either as a result of their nature or size, we would not expect to occur as part of our normal business on a regular basis; items that would be nonrecurring; or items that relate to products that we no longer sell. While not all-inclusive, examples of items that could be included as certain significant items would be costs related to a major non-acquisition-related restructuring charge and associated implementation costs for a program that is specific in nature with a defined term, such as those related to our non-acquisition-related cost-reduction and productivity initiatives; amounts related to disposals of products or facilities that do not qualify as discontinued operations as defined by U.S. GAAP; certain intangible asset impairments; adjustments related to the resolution of certain tax positions; significant currency devaluation; the impact of adopting certain significant, event-driven tax legislation; costs related to our CEO transition in fiscal 2020; or charges related to legal matters. See Notes to Consolidated Financial Statements— *Note 18. Commitments and Contingencies*. Our normal, ongoing defense costs or settlements of and accruals on legal matters made in the normal course of our business would not be considered certain significant items.

Reconciliation

A reconciliation of net income attributable to Zoetis, as reported under U.S. GAAP, to adjusted net income follows:

	Year Ended December 31,			% Change	
(MILLIONS OF DOLLARS)	**2021**	2020	2019	**21/20**	20/19
GAAP reported net income attributable to Zoetis	**$ 2,037**	$ 1,638	$ 1,500	**24**	9
Purchase accounting adjustments—net of tax	**136**	142	156	**(4)**	(9)
Acquisition-related costs—net of tax	**10**	19	36	**(47)**	(47)
Certain significant items—net of tax	**57**	45	63	**27**	(29)
Non-GAAP adjusted net income[(a)]	**$ 2,240**	$ 1,844	$ 1,755	**21**	5

* Calculation not meaningful.

(a) The effective tax rate on adjusted pretax income is 18.6%, 18.3% and 18.2% in 2021, 2020 and 2019, respectively.

The higher effective tax rate for 2021, compared with 2020, was primarily attributable to (i) changes in the jurisdictional mix of earnings, which includes the impact of the location of earnings, repatriation costs, operating fluctuations in the normal course of business and the impact of non-deductible and non-taxable items. In addition, 2021 includes a tax benefit related to foreign-derived intangible income, (ii) a $7 million and $20 million net discrete tax benefit recorded in 2021 and 2020, respectively, related to changes in other tax items, (iii) a $24 million and $29 million discrete tax benefit recorded in 2021 and 2020, respectively, related to the excess tax benefits for share-based payments, and (iv) a $1 million discrete tax expense and a $3 million discrete tax benefit recorded in 2021 and 2020, respectively, related to a remeasurement of deferred tax assets and liabilities as a result of changes in statutory tax rates, partially offset by an $8 million and $4 million net discrete tax benefit recorded in 2021 and 2020, respectively, related to the effective settlement of certain issues with tax authorities.

The higher effective tax rate for 2020, compared with 2019, was primarily attributable to (i) changes in the jurisdictional mix of earnings, which includes the impact of the location of earnings, repatriation costs, operating fluctuations in the normal course of business and the impact of non-deductible and non-taxable items, (ii) an $18 million net discrete tax benefit recorded in 2019 related to changes in valuation allowances, and (iii) a $4 million and $10 million net discrete tax benefit recorded in 2020 and 2019, respectively, related to the effective settlement of certain issues with tax authorities, partially offset by (i) a $20 million and $4 million net discrete tax benefit recorded in 2020 and 2019, respectively, related to changes in other tax items, and (ii) a $29 million and $20 million discrete tax benefit recorded in 2020 and 2019, respectively, related to the excess tax benefits for share-based payments.

A reconciliation of reported diluted earnings per share (EPS), as reported under U.S. GAAP, to non-GAAP adjusted diluted EPS follows:

	Year Ended December 31,			% Change	
	2021	2020	2019	**21/20**	20/19
Earnings per share—diluted[(a)]:					
GAAP reported EPS attributable to Zoetis—diluted	**$ 4.27**	$ 3.42	$ 3.11	**25**	10
Purchase accounting adjustments—net of tax	**0.29**	0.30	0.32	**(3)**	(6)
Acquisition-related costs—net of tax	**0.02**	0.04	0.08	**(50)**	(50)
Certain significant items—net of tax	**0.12**	0.09	0.13	**33**	(31)
Non-GAAP adjusted EPS—diluted	**$ 4.70**	$ 3.85	$ 3.64	**22**	6

* Calculation not meaningful.

(a) Diluted earnings per share was computed using the weighted-average common shares outstanding during the period plus the common stock equivalents related to stock options, restricted stock units, performance-vesting restricted stock units and deferred stock units.

Adjusted net income includes the following charges for each of the periods presented:

	Year Ended December 31,		
(MILLIONS OF DOLLARS)	**2021**	2020	2019
Interest expense, net of capitalized interest	**$ 224**	$ 231	$ 223
Interest income	**(6)**	(12)	(37)
Income taxes	**511**	413	390
Depreciation	**236**	202	166
Amortization	**37**	40	27

Adjusted net income, as shown above, excludes the following items:

	Year Ended December 31,		
(MILLIONS OF DOLLARS)	**2021**	2020	2019
Purchase accounting adjustments:			
Amortization and depreciation[a]	**$ 175**	$ 198	$ 234
Total purchase accounting adjustments—pre-tax	**175**	198	234
Income taxes[b]	**39**	56	78
Total purchase accounting adjustments—net of tax	**136**	142	156
Acquisition-related costs:			
Integration costs	**10**	17	18
Restructuring costs[c]	**2**	1	25
Total acquisition-related costs—pre-tax	**12**	18	43
Income taxes[b]	**2**	(1)	7
Total acquisition-related costs—net of tax	**10**	19	36
Certain significant items:			
Operational efficiency initiative[d]	**—**	(18)	(20)
Supply network strategy[e]	**3**	4	7
Other restructuring charges and cost-reduction/productivity initiatives[f]	**21**	7	8
Certain asset impairment charges[g]	**46**	37	—
Net loss on sale of assets[h]	**3**	—	—
Other[i]	**—**	13	72
Total certain significant items—pre-tax	**73**	43	67
Income taxes[b]	**16**	(2)	4
Total certain significant items—net of tax	**57**	45	63
Total purchase accounting adjustments, acquisition-related costs, and certain significant items—net of tax	**$ 203**	$ 206	$ 255

[a] Amortization and depreciation expenses related to *Purchase accounting adjustments* with respect to identifiable intangible assets and property, plant and equipment.

[b] Income taxes include the tax effect of the associated pre-tax amounts, calculated by determining the jurisdictional location of the pre-tax amounts and applying that jurisdiction's applicable tax rate.

Income taxes in *Purchase accounting adjustments* also includes:

- For 2021, tax benefits related to a remeasurement of deferred tax assets and liabilities as a result of changes in statutory tax rates.
- For 2020, a tax benefit related to a remeasurement of deferred tax assets and liabilities resulting from the integration of acquired businesses and changes in statutory tax rates.
- For 2019, tax benefits related to a remeasurement of deferred tax assets and liabilities as a result of changes in statutory tax rates and an adjustment related to a change in tax basis.

Income taxes in *Acquisition-related costs* also includes:

- For 2020, a tax expense related to a remeasurement of deferred tax assets and liabilities resulting from the integration of acquired businesses.

Income taxes in *Certain significant items* also includes:

- For 2020, a tax expense related to changes in valuation allowances related to impairments of acquired assets.

[c] Primarily represents employee and lease termination costs related to the 2018 acquisition of Abaxis.

[d] For 2020 and 2019, represents net gain resulting from payments received pursuant to an agreement related to the 2016 sale of certain U.S. manufacturing sites.

[e] Primarily represents product transfer costs related to cost-reduction and productivity initiatives, included in *Cost of sales*.

[f] For 2021, primarily represents employee termination costs associated with the realignment of our international operations and other costs associated with cost-reduction and productivity initiatives. For 2020 and 2019, represents employee termination costs incurred as a result of the CEO transition.

[g] For 2021, primarily represents asset impairment charges related to:

- Developed technology rights and trademarks in our dairy cattle, diagnostics and aquatic health businesses, included in *Other (income)/deductions-net;*
- The consolidation of manufacturing sites in China, included in *Restructuring charges and certain acquisition related costs;* and
- Property, plant and equipment and inventory related to a dairy product termination included in *Other (income)/deductions-net* and *Cost of sales*.

For 2020, primarily represents asset impairment charges related to:

- Developed technology rights in our precision animal health and aquatic health businesses, included in *Other (income)/deductions-net*;
- Inventory in our precision animal health business, included in *Cost of sales*; and
- Property, plant and equipment in our precision animal health business, included in *Other (income)/deductions-net.*

[h] Represents a net loss related to the sale of certain assets of our poultry automation business located in the U.S. and Canada.

[i] For 2020, primarily represents CEO transition-related costs. For 2019, primarily represents a change in estimate related to inventory costing and CEO transition-related costs.

The classification of the above items excluded from adjusted net income are as follows:

	Year Ended December 31,		
(MILLIONS OF DOLLARS)	**2021**	2020	2019
Cost of sales:			
Purchase accounting adjustments	**$ 6**	$ 8	$ 24
Inventory write-offs	**2**	15	—
Consulting fees	**—**	4	7
Other	**6**	—	70
Total Cost of sales	**14**	27	101
Selling, general & administrative expenses:			
Purchase accounting adjustments	**30**	54	72
Other	**—**	13	2
Total Selling, general & administrative expenses	**30**	67	74
Research & development expenses:			
Purchase accounting adjustments	**1**	1	2
Total Research & development expenses	**1**	1	2
Amortization of intangible assets:			
Purchase accounting adjustments	**138**	135	136
Total Amortization of intangible assets	**138**	135	136
Restructuring charges and certain acquisition-related costs:			
Integration costs	**10**	17	18
Employee termination costs	**17**	8	33
Asset impairments	**13**	—	—
Exit costs	**3**	—	—
Total Restructuring charges and certain acquisition-related costs	**43**	25	51
Other (income)/deductions—net:			
Net loss/(gain) on sale of assets	**3**	(18)	(20)
Asset impairments	**31**	22	—
Total Other (income)/deductions—net	**34**	4	(20)
Provision for taxes on income	**57**	53	89
Total purchase accounting adjustments, acquisition-related costs, and certain significant items—net of tax	**$ 203**	$ 206	$ 255

Analysis of the Consolidated Statements of Comprehensive Income

Substantially all changes in other comprehensive income for the periods presented are related to foreign currency translation adjustments. These changes result from the strengthening or weakening of the U.S. dollar as compared to the currencies in the countries in which we do business. The gains and losses associated with these changes are deferred on the balance sheet in *Accumulated other comprehensive loss* until realized.

Analysis of the Consolidated Balance Sheets

December 31, 2021 vs. December 31, 2020

For a discussion about the changes in *Cash and cash equivalents*, *Short-term borrowings, Current portion of long-term debt* and *Long-term debt, net of discount and issuance costs*, see "Analysis of financial condition, liquidity and capital resources" below.

Accounts Receivable, less allowance for doubtful accounts increased primarily as a result of higher net sales in the period and the timing of customer payments, partially offset by the impact of foreign exchange and rebate credits issued to customers.

Inventories increased primarily as a result of the build-up of certain products for increased demand and new product launches, partially offset by higher sales than anticipated for certain products. See Notes to Consolidated Financial Statements - *Note 11. Inventories.*

Other current assets increased primarily due to the mark-to-market adjustment of derivative instruments and higher prepaid expenses, partially offset by the timing of income tax payments.

Property, plant and equipment less accumulated depreciation increased primarily as a result of capital spending, partially offset by depreciation expense. See Notes to Consolidated Financial Statements - *Note 12. Property, Plant and Equipment*

The decreases in *Operating lease right of use assets* and *Operating lease liabilities* reflect lease amortization and payments, partially offset by assets acquired through new lease obligations. See Notes to Consolidated Financial Statements - *Note 10. Leases.*

Identifiable intangible assets, less accumulated amortization decreased primarily as a result of amortization expense, the impairment of certain intangible assets and the impact of foreign exchange, partially offset by intangible asset additions from acquisitions. See Notes to Consolidated Financial Statements - *Note 13. Goodwill and Other Intangible Assets.*

Dividends payable increased as a result of an increase in the dividend rate for the first quarter 2022 dividend, which was declared on December 7, 2021.

Accrued expenses increased primarily as a result of accrued contract rebates, accrued third-party inventory and other accrued expenses.

Accrued compensation and related items increased primarily due to the accrual of 2021 annual incentive bonuses and a higher sales incentive bonus accrual, as well as the reclassification of FICA payroll taxes to be paid in 2022 under the CARES Act from *Other noncurrent liabilities,* partially offset by the payment of the 2020 annual incentive bonuses.

The net changes in *Noncurrent deferred tax assets, Noncurrent deferred tax liabilities, Income taxes payable* and *Other taxes payable* primarily reflect adjustments to the accrual for the income tax provision, the timing of income tax payments, the tax impact of various acquisitions, the impact of the remeasurement of deferred tax assets and liabilities as a result of changes in tax rates.

Other current liabilities and Other noncurrent liabilities decreased primarily due to the mark-to-market adjustment of derivative instruments, the reclassification of FICA payroll taxes to be paid in 2022 under the CARES Act to *Accrued compensation and related items* and decreases in accrued pension benefits and deferred compensation related to net investment activity.

For an analysis of the changes in *Total Equity*, see the Consolidated Statements of Equity and Notes to Consolidated Financial Statements— *Note 16. Stockholders' Equity*.

Analysis of the Consolidated Statements of Cash Flows

	Year Ended December 31,			% Change	
(MILLIONS OF DOLLARS)	**2021**	2020	2019	**21/20**	20/19
Net cash provided by (used in):					
Operating activities	**$ 2,213**	$ 2,126	$ 1,795	**4**	18
Investing activities	**(458)**	(572)	(504)	**(20)**	13
Financing activities	**(1,862)**	123	(951)	*	*
Effect of exchange-rate changes on cash and cash equivalents	**(12)**	(7)	(8)	**71**	(13)
Net (decrease)/increase in cash and cash equivalents	**$ (119)**	$ 1,670	$ 332	*	*

* Calculation not meaningful.

Operating activities

2021 vs. 2020

Net cash provided by operating activities was $2,213 million in 2021 compared with $2,126 million in 2020. The increase in operating cash flows was primarily attributable to higher cash earnings, partially offset by timing of receipts and payments in the ordinary course of business.

Investing activities

2021 vs. 2020

Net cash used in investing activities was $458 million in 2021 compared with $572 million in 2020. The net cash used in investing activities for 2021 was primarily attributable to capital expenditures, acquisitions and purchase of investments, partially offset by proceeds from cross-currency interest rate swaps. The net cash used in investing activities for 2020 was primarily due to capital expenditures, acquisitions and net payments for cross-currency interest rate swaps, partially offset by proceeds from the sale of assets, including a cash payment received pursuant to an agreement related to the 2016 sale of certain U.S. manufacturing sites.

Financing activities

2021 vs. 2020

Net cash used in financing activities was $1,862 million in 2021 compared with net cash provided by financing activities of $123 million in 2020. The net cash used in financing activities for 2021 was primarily attributable to the purchase of treasury shares, the repayment of the $300 million aggregate principal amount of our 2018 floating rate senior notes due 2021 and the $300 million aggregate principal amount of our 2018 senior notes due 2021, the payment of dividends and taxes paid on withholding shares, partially offset by proceeds in connection with the issuance of common stock under our equity incentive plan. The net cash provided by financing activities for 2020 was primarily attributable to the proceeds received from the issuance of senior notes in May 2020 and net proceeds in connection with the issuance of common stock under our equity incentive plan, partially offset by the payment of dividends and the purchase of treasury shares.

Analysis of financial condition, liquidity and capital resources

While we believe our cash and cash equivalents on hand, our operating cash flows and our existing financing arrangements will be sufficient to support our cash needs for the next twelve months and beyond, this may be subject to the environment in which we operate. Risks to our meeting future funding requirements include global economic conditions described in the following paragraph.

Global financial markets may be impacted by macroeconomic, business and financial volatility. As markets change, we will continue to monitor our liquidity position. While we do not anticipate it, there can be no assurance that a challenging economic environment or an economic downturn will not impact our liquidity or our ability to obtain future financing.

Selected measures of liquidity and capital resources

Certain relevant measures of our liquidity and capital resources follow:

(MILLIONS OF DOLLARS)	**December 31, 2021**	December 31, 2020
Cash and cash equivalents	**$ 3,485**	$ 3,604
Accounts receivable, net[(a)]	**1,133**	1,013
Short-term borrowings	**—**	4
Current portion of long-term debt	**—**	600
Long-term debt	**6,592**	6,595
Working capital	**5,133**	4,441
Ratio of current assets to current liabilities	**3.86:1**	3.05:1

(a) Accounts receivable are usually collected over a period of 45 to 75 days. For the years ended December 31, 2021 and 2020, the number of days that accounts receivables were outstanding have remained within this range. We regularly monitor our accounts receivable for collectability, particularly in markets where economic conditions remain uncertain. We believe that our allowance for doubtful accounts is appropriate. Our assessment is based on such factors as past due aging, historical and expected collection patterns, the financial condition of our customers, the robust nature of our credit and collection practices and the economic environment.

For additional information about the sources and uses of our funds, see the *Analysis of the Consolidated Balance Sheets* and *Analysis of the Consolidated Statements of Cash Flows* sections of this MD&A.

Credit facility and other lines of credit

In December 2016, we entered into an amended and restated revolving credit agreement with a syndicate of banks providing for a multi-year $1.0 billion senior unsecured revolving credit facility (the credit facility). In December 2018, the maturity for the amended and restated credit facility was extended through December 2023. Subject to certain conditions, we have the right to increase the credit facility to up to $1.5 billion. The credit facility contains a financial covenant requiring us to not exceed a maximum total leverage ratio (the ratio of consolidated net debt as of the end of the period to consolidated Earnings Before Interest, Income Taxes, Depreciation and Amortization (EBITDA) for such period) of 3.50:1. Upon entering into a material acquisition, the maximum total leverage ratio increases to 4.00:1, and extends until the fourth full consecutive fiscal quarter ended immediately following the consummation of a material acquisition.

The credit facility also contains a financial covenant requiring that we maintain a minimum interest coverage ratio (the ratio of EBITDA at the end of the period to interest expense for such period) of 3.50:1. In addition, the credit facility contains other customary covenants.

We were in compliance with all financial covenants as of December 31, 2021 and December 31, 2020. There were no amounts drawn under the credit facility as of December 31, 2021 or December 31, 2020.

We have additional lines of credit and other credit arrangements with a group of banks and other financial intermediaries for general corporate purposes. We maintain cash and cash equivalent balances in excess of our outstanding short-term borrowings. As of December 31, 2021, we had access to $63 million of lines of credit which expire at various times through 2022, and are generally renewed annually. We had no borrowings outstanding related to these facilities as of December 31, 2021 and $4 million borrowings outstanding as of December 31, 2020.

Domestic and international short-term funds

Many of our operations are conducted outside the U.S. The amount of funds held in the U.S. will fluctuate due to the timing of receipts and payments in the ordinary course of business and due to other reasons, such as business development activities. As part of our ongoing liquidity assessments, we regularly monitor the mix of U.S. and international cash flows (both inflows and outflows). Actual repatriation of overseas funds can result in additional U.S and local income taxes, such as U.S. state income taxes, local withholding taxes, and taxes on currency gains and losses. See Notes to Consolidated Financial Statements— *Note 8. Tax Matters*.

Global economic conditions

Challenging economic conditions in recent years have not had, nor do we anticipate that it will have, a significant impact on our liquidity. Due to our operating cash flows, financial assets, access to capital markets and available lines of credit and revolving credit agreements, we continue to believe that we have the ability to meet our liquidity needs for the foreseeable future. As markets change, we continue to monitor our liquidity position. There can be no assurance that a challenging economic environment or an economic downturn would not impact our ability to obtain financing in the future.

Contractual obligations

In the normal course of business, we enter into contracts and commitments that obligate us to make payments in the future. These obligations include long-term debt, including interest obligations, purchase obligations, operating lease commitments, other liabilities, benefit plan obligations and uncertain tax positions. See Notes to Consolidated Financial Statements—*Note 9. Financial Instruments*, *Note 18. Commitments and Contingencies, Note 10. Leases*, *Note 6. Restructuring Charges and Other Costs Associated with Acquisitions, Cost-Reduction and Productivity Initiatives, Note 14. Benefit Plans* and *Note 8. Tax Matters* for further information on material cash requirements from known contractual and other obligations.

Debt securities

On August 20, 2021, we redeemed, upon maturity, the $300 million aggregate principal amount of our 2018 floating rate senior notes due 2021 and the $300 million aggregate principal amount of our 2018 senior notes due 2021.

On May 12, 2020, we issued $1.25 billion aggregate principal amount of our senior notes (2020 senior notes), with an original issue discount of $10 million. These notes are comprised of $750 million aggregate principal amount of 2.000% senior notes due 2030 and $500 million aggregate principal amount of 3.000% senior notes due 2050. On October 13, 2020, the net proceeds were used to repay the $500 million aggregate principal amount of our 3.450% 2015 senior notes due 2020 and the remainder is being used for general corporate purposes.

On August 20, 2018, we issued $1.5 billion aggregate principal amount of our senior notes (2018 senior notes), with an original issue discount of $4 million. On September 12, 2017, we issued $1.25 billion aggregate principal amount of our senior notes (2017 senior notes), with an original issue discount of $7 million. On November 13, 2015, we issued $1.25 billion aggregate principal amount of our senior notes (2015 senior notes), with an original issue discount of $2 million. On January 28, 2013, we issued $3.65 billion aggregate principal amount of our senior notes (2013 senior notes) in a private placement, with an original issue discount of $10 million.

The 2013, 2015, 2017, 2018 and 2020 senior notes are governed by an indenture and supplemental indenture (collectively, the indenture) between us and Deutsche Bank Trust Company Americas, as trustee. The indenture contains certain covenants, including limitations on our and certain of our subsidiaries' ability to incur liens or engage in sale lease-back transactions. The indenture also contains restrictions on our ability to consolidate, merge or sell substantially all of our assets. In addition, the indenture contains other customary terms, including certain events of default, upon the occurrence of which, the 2013, 2015, 2017, 2018 and 2020 senior notes may be declared immediately due and payable.

Pursuant to the indenture, we are able to redeem the 2013, 2015, 2017, 2018 and 2020 senior notes of any series, in whole or in part, at any time by paying a “make whole” premium, plus accrued and unpaid interest to, but excluding, the date of redemption. Pursuant to our tax matters agreement with Pfizer, we will not be permitted to redeem the 2013 senior notes due 2023 pursuant to this optional redemption provision, except under limited circumstances. Upon the occurrence of a change of control of us and a downgrade of the 2013, 2015, 2017, 2018 and 2020 senior notes below an investment grade rating by each of Moody's Investors Service, Inc. and Standard & Poor's Ratings Services, we are, in certain circumstances, required to make an offer to repurchase all of the outstanding 2013, 2015, 2017, 2018 and 2020 senior notes at a price equal to 101% of the aggregate principal amount of the 2013, 2015, 2017, 2018 and 2020 senior notes together with accrued and unpaid interest to, but excluding, the date of repurchase.

Our outstanding debt securities are as follows:

Description	Principal Amount	Interest Rate	Terms
2013 Senior Notes due 2023	$1,350 million	3.250%	Interest due semi annually, not subject to amortization, aggregate principal due on February 1, 2023
2015 Senior Notes due 2025	$750 million	4.500%	Interest due semi annually, not subject to amortization, aggregate principal due on November 13, 2025
2017 Senior Notes due 2027	$750 million	3.000%	Interest due semi annually, not subject to amortization, aggregate principal due on September 12, 2027
2018 Senior Notes due 2028	$500 million	3.900%	Interest due semi annually, not subject to amortization, aggregate principal due on August 20, 2028
2020 Senior Notes due 2030	$750 million	2.000%	Interest due semi annually, not subject to amortization, aggregate principal due on May 15, 2030
2013 Senior Notes due 2043	$1,150 million	4.700%	Interest due semi annually, not subject to amortization, aggregate principal due on February 1, 2043
2017 Senior Notes due 2047	$500 million	3.950%	Interest due semi annually, not subject to amortization, aggregate principal due on September 12, 2047
2018 Senior Notes due 2048	$400 million	4.450%	Interest due semi annually, not subject to amortization, aggregate principal due on August 20, 2048
2020 Senior Notes due 2050	$500 million	3.000%	Interest due semi annually, not subject to amortization, aggregate principal due on May 15, 2050

Credit ratings

Two major corporate debt-rating organizations, Moody's and S&P, assign ratings to our short-term and long-term debt. A security rating is not a recommendation to buy, sell or hold securities and the rating is subject to revision or withdrawal at any time by the rating organization. Each rating should be evaluated independently of any other rating.

The following table provides the current ratings assigned by these rating agencies to our commercial paper and senior unsecured non-credit-enhanced long-term debt:

	Commercial Paper	Long-term Debt		Date of
Name of Rating Agency	Rating	Rating	Outlook	Last Action
Moody's	P-2	Baa1	Stable	August 2017
S&P	A-2	BBB	Stable	December 2016

Pension obligations

Our employees ceased to participate in the Pfizer U.S. qualified defined benefit and U.S. retiree medical plans effective December 31, 2012, and liabilities associated with our employees under these plans were retained by Pfizer. As part of the separation from Pfizer, Pfizer continued to credit certain employees' service with Zoetis generally through December 31, 2017 (or termination of employment from Zoetis, if earlier), for certain early retirement benefits with respect to Pfizer's U.S. defined benefit pension and retiree medical plans. In connection with the employee matters agreement, Zoetis is responsible for payment of three-fifths of the total cost of the service credit continuation (approximately $38 million) for these plans. The amount of the service cost continuation payment to be paid by Zoetis to Pfizer was determined and fixed based on an actuarial assessment of the value of the grow-in benefits and will be paid in equal installments over a period of 10 years. As of December 31, 2021, the remaining payments due to Pfizer (approximately $4 million in the aggregate) are to be paid over the next year.

As part of the separation from Pfizer, Pfizer transferred to us the net pension obligations associated with certain international defined benefit plans. We expect to contribute a total of approximately $5 million to these plans in 2022.

As of December 31, 2021, the supplemental savings plan liability was approximately $51 million.

For additional information, see Notes to Consolidated Financial Statements— *Note 14. Benefit Plans.*

Share repurchase program

In December 2018, the company's Board of Directors authorized a $2.0 billion share repurchase program. As of December 31, 2021, there was approximately $681 million remaining under this authorization. Purchases of Zoetis shares may be made at the discretion of management, depending on market conditions and business needs. Share repurchases may be executed through various means, including open market or privately negotiated transactions. The company temporarily suspended share repurchases beginning in the second quarter of 2020. In January 2021, the company resumed share repurchases under its share repurchase program. During 2021, approximately 4.0 million shares were repurchased.

In December 2021, the company's Board of Directors authorized a $3.5 billion share repurchase program.

Off-balance sheet arrangements

In the ordinary course of business and in connection with the sale of assets and businesses, we may indemnify our counterparties against certain liabilities that may arise in connection with a transaction or that are related to activities prior to a transaction. These indemnifications typically pertain to environmental, tax, employee and/or product-related matters, and patent-infringement claims. If the indemnified party were to make a successful claim pursuant to the terms of the indemnification, we would be required to reimburse the loss. These indemnifications are generally subject to threshold amounts, specified claim periods and other restrictions and limitations. Historically, we have not paid significant amounts under these provisions and, as of December 31, 2021 and December 31, 2020, recorded amounts for the estimated fair value of these indemnifications are not significant.

New accounting standards

See *Note 3. Significant Accounting Policies* in the Notes to Consolidated Financial Statements for discussion of recent accounting pronouncements, including the respective dates of adoption or expected adoption and effects or expected effects on our consolidated financial position, results of operations and cash flows.

Forward-looking statements and factors that may affect future results

This report contains “forward-looking” statements. We intend such forward-looking statements to be covered by the safe harbor provisions for forward-looking statements contained in Section 27A of the Securities Act of 1933 and Section 21E of the Securities Exchange Act of 1934. We generally identify forward-looking statements by using words such as “anticipate,” “estimate,” “could,” “expect,” “intend,” “project,” “plan,” “predict,” “believe,” “seek,” “continue,” “outlook,” "objective," "target," “may,” “might,” “will,” “should,” “can have,” “likely” or the negative version of these words or comparable words or by using future dates in connection with any discussion of future performance, actions or events.

In particular, forward-looking statements include statements relating to the impact of the COVID-19 global pandemic and any recovery therefrom on our business, our 2022 financial guidance, future actions, business plans or prospects, prospective products, product approvals or products under development, product supply disruptions, R&D costs, timing and likelihood of success, future operating or financial performance, future results of current and anticipated products and services, strategies, sales efforts, expenses, production efficiencies, production margins, anticipated timing of generic market entries, integration of acquired businesses, interest rates, tax rates and tax regimes and any changes thereto, foreign exchange rates, growth in emerging markets, the outcome of contingencies, such as legal proceedings, plans related to share repurchases and dividends, government regulation and financial results. These statements are not guarantees of future performance, actions or events. Forward-looking statements are subject to risks and uncertainties, many of which are beyond our control, and are based on assumptions that could prove to be inaccurate. Among the factors that could cause actual results to differ materially from past results, future plans and projected results are the following:

- the impact of the COVID-19 global pandemic on our business, supply chain, customers and workforce;
- unanticipated safety, quality or efficacy concerns or issues with any of our products;
- failure of our R&D, acquisition and licensing efforts to generate new products and product lifecycle innovations;
- the possible impact and timing of competing products, including generic alternatives, on our products and our ability to compete against such products;
- disruptive innovations and advances in medical practices and technologies;
- difficulties or delays in the development or commercialization of new products;
- consolidation of our customers or distributors;
- changes in the distribution channel for companion animal products;
- failure to successfully acquire businesses, license rights or products, integrate businesses, form and manage alliances or divest businesses;
- restrictions and bans on the use of and consumer preferences regarding antibacterials in food-producing animals;
- perceived adverse effects linked to the consumption of food derived from animals that utilize our products or animals generally;
- adverse global economic conditions, including inflation;
- increased regulation or decreased governmental support relating to the raising, processing or consumption of food-producing animals;
- fluctuations in foreign exchange rates and potential currency controls;
- legal factors, including product liability claims, antitrust litigation and governmental investigations, including tax disputes, environmental concerns, commercial disputes and patent disputes with branded and generic competitors, any of which could preclude commercialization of products or negatively affect the profitability of existing products;
- failure to protect our intellectual property rights or to operate our business without infringing the intellectual property rights of others;
- product launch delays, inventory shortages, recalls or unanticipated costs caused by manufacturing problems and capacity imbalances;
- an outbreak of infectious disease carried by animals;
- adverse weather conditions and the availability of natural resources;
- the impact of climate change;
- the economic, political, legal and business environment of the foreign jurisdictions in which we do business;
- a cyber-attack, information security breach or other misappropriation of our data;
- quarterly fluctuations in demand or costs;
- governmental laws and regulations affecting domestic and foreign operations, including without limitation, tax obligations and changes affecting the tax treatment by the United States of income earned outside the United States that may result from pending or possible future proposals;
- governmental laws and regulations affecting our interactions with veterinary healthcare providers; and
- the other factors set forth under "Risk Factors" in Item 1A of Part I of this 2021 Annual Report.

In addition, there may also be other risks that we are unable to predict at this time. These risks or uncertainties may cause actual results to differ materially from past results and those anticipated, estimated, implied or projected. Such risks and uncertainties may be amplified by the COVID-19 pandemic and its impact on the global economy and our business. You should not put undue reliance on forward-looking statements. Forward-looking statements speak only as of the date on which they are made. We undertake no obligation to publicly update forward-looking statements, whether as a result of new information, future events or otherwise, except as required by law or by the rules and regulations of the SEC. You are advised, however, to consult any further disclosures we make on related subjects in our Form 10-Q and 8-K reports and our other filings with the SEC. You should understand that it is not possible to predict or identify all such factors. Consequently, you should not consider the above to be a complete discussion of all potential risks or uncertainties.

Item 7A. Quantitative and Qualitative Disclosures About Market Risk.

A significant portion of our revenue and costs are exposed to changes in foreign exchange rates. In addition, our outstanding borrowings may be subject to risk from changes in interest rates and foreign exchange rates. The overall objective of our financial risk management program is to seek to manage the impact of foreign exchange rate movements and interest rate movements on our earnings. We manage these financial exposures through operational means and by using certain financial instruments. These practices may change as economic conditions change.

Foreign exchange risk

Our primary net foreign currency translation exposures are the Australian dollar, Brazilian real, Canadian dollar, Chinese yuan, euro, and British pound. We seek to manage our foreign exchange risk, in part, through operational means, including managing same-currency revenue in relation to same-currency costs and same-currency assets in relation to same-currency liabilities.

We use cross-currency swap contracts designated as net investment hedges to hedge the foreign currency risks related to our investment in foreign subsidiaries. These cross-currency swap contracts serve to offset the foreign currency translation risk from certain of our foreign operations.

Our cross-currency swap contracts at December 31, 2021 were analyzed to determine their sensitivity to foreign exchange rate changes. If the U.S. dollar were to strengthen or weaken against all other currencies by 10%, the amount recorded in cumulative translation adjustment (CTA) within *Accumulated other comprehensive loss* related to our net investment hedge would increase or decrease by approximately $86 million. The change in value recorded to CTA would be expected to offset a corresponding foreign currency translation gain or loss from our investment in foreign subsidiaries. See Notes to Consolidated Financial Statements—*Note 9. Financial Instruments*: *B. Derivative Financial Instruments*.

Foreign exchange risk is also managed through the use of foreign currency forward-exchange contracts. These contracts are used to offset the potential earnings effects from mostly intercompany short-term foreign currency assets and liabilities that arise from operations but are not designated as hedges.

Our forward-exchange contracts at December 31, 2021 were analyzed to determine their sensitivity to foreign exchange rate changes. If the U.S. dollar were to strengthen or weaken against all other currencies by 10%, the fair value of these contracts would decrease or increase by $2 million. The foreign currency gains and losses on the assets and liabilities are recorded in *Other income (deductions)-net*. See Notes to Consolidated Financial Statements—*Note 9. Financial Instruments: B. Derivative Financial Instruments*.

Interest rate risk

Our outstanding debt balances are predominantly fixed rate debt. While changes in interest rates will have no impact on the interest we pay on our fixed rate debt, interest on our commercial paper and revolving credit facility will be exposed to interest rate fluctuations. Additionally, as of December 31, 2021, because we held certain interest rate swap agreements that have the economic effect of modifying the fixed-interest obligations associated with our 3.900% Senior Notes due 2028 and our 2.00% Senior Notes due 2030, a portion of the fixed-rate interest payable on these senior notes effectively became variable based on LIBOR or SOFR. At December 31, 2021, there were no commercial paper borrowings outstanding and no outstanding principal balance under our revolving credit facility.

By entering into the aforementioned swap arrangements, we have assumed risks associated with variable interest rates based upon LIBOR and SOFR. Changes in the overall level of interest rates affect the interest expense that we recognize in our Consolidated Statements of Income. An interest rate risk sensitivity analysis is used to measure interest rate risk by computing estimated changes in cash flows as a result of assumed changes in market interest rates. As of December 31, 2021, if LIBOR or SOFR-based interest rates would have been higher by 100 basis points, the change would have increased our interest expense annually by approximately $3 million, as it relates to our fixed to floating interest rate swap agreements. See Notes to Consolidated Financial Statements—*Note 9. Financial Instruments*.

In anticipation of issuing fixed-rate debt, we may use forward-starting interest rate swaps that are designated as cash flow hedges to hedge against changes in interest rates that could impact expected future issuances of debt. A 100-basis point change in LIBOR or SOFR-based interest rates would have resulted in an increase or (decrease) in the fair value of our forward-starting interest rate swaps by $47 million and $(53) million, respectively at December 31, 2021.

At December 31, 2021, our cash equivalents were primarily invested in money market funds. Interest paid on such funds fluctuates with the prevailing interest rate.

Item 8. Financial Statements and Supplementary Data.

INDEX TO FINANCIAL STATEMENTS

Report of Independent Registered Public Accounting Firm

To the Stockholders and Board of Directors
Zoetis Inc.:

Opinion on the Consolidated Financial Statements

We have audited the accompanying consolidated balance sheets of Zoetis Inc. and subsidiaries (the Company) as of December 31, 2021 and 2020, the related consolidated statements of income, comprehensive income, equity, and cash flows for each of the years in the three-year period ended December 31, 2021, and the related notes and financial statement Schedule II - Valuation and Qualifying Accounts (collectively, the consolidated financial statements). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2021 and 2020, and the results of its operations and its cash flows for each of the years in the three-year period ended December 31, 2021, in conformity with U.S. generally accepted accounting principles.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the Company's internal control over financial reporting as of December 31, 2021, based on criteria established in Internal Control – Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission, and our report dated February 15, 2022 expressed an unqualified opinion on the effectiveness of the Company's internal control over financial reporting.

Basis for Opinion

These consolidated financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these consolidated financial statements based on our audits. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement, whether due to error or fraud. Our audits included performing procedures to assess the risks of material misstatement of the consolidated financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the consolidated financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements. We believe that our audits provide a reasonable basis for our opinion.

Critical Audit Matters

The critical audit matters communicated below are matters arising from the current period audit of the consolidated financial statements that were communicated or required to be communicated to the audit committee and that: (1) relate to accounts or disclosures that are material to the consolidated financial statements and (2) involved our especially challenging, subjective, or complex judgments. The communication of critical audit matters does not alter in any way our opinion on the consolidated financial statements, taken as a whole, and we are not, by communicating the critical audit matters below, providing separate opinions on the critical audit matters or on the accounts or disclosures to which they relate.

Evaluation of gross unrecognized tax benefits

As discussed in Notes 3 and 8D in the consolidated financial statements, the Company's tax positions are subject to examination by local taxing authorities in each respective tax jurisdiction, and the resolution of such examinations may span multiple years. Since tax law is complex and often subject to varied interpretations and judgments, it is uncertain whether some of the Company's tax positions will be sustained upon examination. The Company accounts for income tax contingencies using a benefit recognition model. If a tax position is more likely than not (more than a 50% likelihood) to be sustained upon examination, based solely on the technical merits of the position, a benefit is recognized. As of December 31, 2021, the Company has recorded gross unrecognized tax benefits of $189 million.

We identified the evaluation of gross unrecognized tax benefits as a critical audit matter. Complex auditor judgment, including the involvement of tax professionals with specialized skills and knowledge was required to assess the valuation of a tax position, which included interpretation of relevant tax law, identification of relevant tax elements, the estimate of the more likely than not assessment of tax positions being sustained under examination and the estimate of the amount of the gross unrecognized tax benefit.

The following are the primary procedures we performed to address this critical audit matter. We evaluated the design and tested the operating effectiveness of certain internal controls over the Company's unrecognized tax benefit process. This included controls related to (a) interpretation of relevant tax law, (b) evaluation of which of the Company's tax positions may not be sustained upon examination, and (c) estimation of the gross unrecognized tax benefits. We involved tax professionals, with specialized skills and knowledge, who assisted in:

- evaluating the Company's interpretation of relevant tax laws and the potential impact on the unrecognized tax benefits by developing an independent assessment of the tax position's more likely than not to be sustained under examination determination as well as the estimate of the amount of the gross unrecognized tax benefit, if any, based on our understanding and interpretation of tax laws,
- reading and evaluating the tax opinion, and
- assessing the Company's transfer pricing policies for compliance with applicable laws and regulations.

Deductions from revenue related to the rebates accrual for the U.S. segment

As discussed in Note 3 to the consolidated financial statements, the Company records an accrual for estimated rebates as a deduction from revenue when the related revenue is recognized. Included in the rebates accrual are estimated revenue deductions for future payments to distributors, clinics, veterinarians and pet owners under various programs offered by the Company. The volume of varied rebate programs offered, each with varying terms and conditions covering how the rebate is measured and earned, requires the Company to estimate the accrual using a number of inputs from multiple sources. Accruals for deductions from revenue are recorded as either a reduction in accounts receivable or within accrued expenses, depending on the nature of the contract and method of expected payment. Amounts recorded as a reduction in accounts receivable as of December 31, 2021 are approximately $216 million and accruals for deductions from revenue included in accrued expenses are approximately $312 million. These amounts include rebate accruals for both the U.S. and international segments.

We identified assessing deductions from revenue related to the rebates accrual for the U.S. segment as a critical audit matter. Because of the variety of programs offered by the Company in the U.S., the size of the U.S. market, and the length of time between when a sale is made and when the related rebate is settled by the Company, challenging auditor judgment was required in assessing the estimate of the required rebates accrual. In particular, the identification of which revenue transactions were subject to a rebate and the relevance and reliability of information used to estimate an individual rebate programs' accrual required challenging auditor judgment.

The following are the primary procedures we performed to address this critical audit matter. We evaluated the design and tested the operating effectiveness of certain internal controls over the Company's rebate accrual process for the U.S. segment. This included controls related to the identification of revenue transactions subject to a rebate and the relevance and reliability of information used in the estimated rebates accrual. We identified and considered the relevance, reliability and sufficiency of sources of data used by the Company in developing the estimate. We tested the estimate of the rebates accrual for a sample of U.S. programs, using a combination of Company internal data, historical information, executed contracts, and third-party data and compared our estimate to the amount recorded by the Company. We evaluated the historical accuracy of the Company's U.S. rebates accrual by comparing the previously recorded accrual as of December 31, 2020 to the actual amount that ultimately was paid by the Company during 2021.

/s/ KPMG LLP

We have served as the Company's auditor since 2011.

Short Hills, New Jersey
February 15, 2022

Report of Independent Registered Public Accounting Firm

To the Stockholders and Board of Directors
Zoetis Inc.:

Opinion on Internal Control Over Financial Reporting

We have audited Zoetis Inc. and subsidiaries' (the Company) internal control over financial reporting as of December 31, 2021, based on criteria established in *Internal Control - Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission. In our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2021, based on criteria established in *Internal Control - Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the consolidated balance sheets of the Company as of December 31, 2021 and 2020, the related consolidated statements of income, comprehensive income, equity, and cash flows for each of the years in the three-year period ended December 31, 2021, and the related notes and financial statement Schedule II - Valuation and Qualifying Accounts (collectively, the consolidated financial statements), and our report dated February 15, 2022 expressed an unqualified opinion on those consolidated financial statements.

Basis for Opinion

The Company's management is responsible for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting, included in the accompanying Management's Report on Internal Control over Financial Reporting. Our responsibility is to express an opinion on the Company's internal control over financial reporting based on our audit. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects. Our audit of internal control over financial reporting included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audit also included performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

Definition and Limitations of Internal Control Over Financial Reporting

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

/s/ KPMG LLP
Short Hills, New Jersey
February 15, 2022

ZOETIS INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF INCOME

(MILLIONS OF DOLLARS AND SHARES, EXCEPT PER SHARE DATA)	Year Ended December 31, 2021	2020	2019
Revenue	**$ 7,776**	$ 6,675	$ 6,260
Costs and expenses:			
Cost of sales[(a)]	**2,303**	2,057	1,992
Selling, general and administrative expenses[(a)]	**2,001**	1,726	1,638
Research and development expenses[(a)]	**508**	463	457
Amortization of intangible assets	**161**	160	155
Restructuring charges and certain acquisition-related costs	**43**	25	51
Interest expense, net of capitalized interest	**224**	231	223
Other (income)/deductions—net	**48**	17	(57)
Income before provision for taxes on income	**2,488**	1,996	1,801
Provision for taxes on income	**454**	360	301
Net income before allocation to noncontrolling interests	**2,034**	1,636	1,500
Less: Net loss attributable to noncontrolling interests	**(3)**	(2)	—
Net income attributable to Zoetis Inc.	**$ 2,037**	$ 1,638	$ 1,500
Earnings per share attributable to Zoetis Inc. stockholders:			
Basic	**$ 4.29**	$ 3.44	$ 3.14
Diluted	**$ 4.27**	$ 3.42	$ 3.11
Weighted-average common shares outstanding:			
Basic	**474.348**	475.502	478.128
Diluted	**476.717**	478.569	481.787
Dividends declared per common share	**$ 1.075**	$ 0.850	$ 0.692

[(a)] Exclusive of amortization of intangible assets, except as disclosed in *Note 3. Significant Accounting Policies—Amortization of Intangible Assets, Depreciation and Certain Long-Lived Assets.*

ZOETIS INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME

(MILLIONS OF DOLLARS)	Year Ended December 31, **2021**	2020	2019
Net income before allocation to noncontrolling interests	**$ 2,034**	$ 1,636	$ 1,500
Other comprehensive loss, net of tax and reclassification adjustments:			
Unrealized gains/(losses) on derivatives for cash flow hedges, net[(a)]	**19**	(15)	4
Unrealized gains/(losses) on derivatives for net investment hedges, net[(a)]	**42**	(58)	12
Foreign currency translation adjustments, net	**(101)**	69	(104)
Benefit plans: Actuarial gain/(loss), net[(a)]	**6**	—	(9)
Total other comprehensive loss, net of tax	**(34)**	(4)	(97)
Comprehensive income before allocation to noncontrolling interests	**2,000**	1,632	1,403
Comprehensive loss attributable to noncontrolling interests	**(3)**	(2)	—
Comprehensive income attributable to Zoetis Inc.	**$ 2,003**	$ 1,634	$ 1,403

(a) Presented net of reclassification adjustments and tax impacts, which are not significant in any period presented. Reclassification adjustments related to benefit plans are generally reclassified, as part of net periodic pension cost, into *Cost of sales, Selling, general and administrative expenses,* and/or *Research and development expenses,* as appropriate, in the Consolidated Statements of Income.

ZOETIS INC. AND SUBSIDIARIES
CONSOLIDATED BALANCE SHEETS

(MILLIONS OF DOLLARS, EXCEPT PER SHARE DATA)	December 31, 2021	December 31, 2020
Assets		
Cash and cash equivalents[(a)]	**$ 3,485**	$ 3,604
Accounts receivable, less allowance for doubtful accounts of $17 in 2021 and $20 in 2020	**1,133**	1,013
Inventories	**1,923**	1,628
Other current assets	**389**	366
Total current assets	**6,930**	6,611
Property, plant and equipment, less accumulated depreciation of $2,072 in 2021 and $1,952 in 2020	**2,422**	2,202
Operating lease right of use assets	**181**	192
Goodwill	**2,682**	2,694
Identifiable intangible assets, less accumulated amortization	**1,474**	1,710
Noncurrent deferred tax assets	**100**	94
Other noncurrent assets	**111**	106
Total assets	**$ 13,900**	$ 13,609
Liabilities and Equity		
Short-term borrowings	**$ —**	$ 4
Current portion of long-term debt	**—**	600
Accounts payable	**436**	457
Dividends payable	**154**	119
Accrued expenses	**710**	556
Accrued compensation and related items	**392**	295
Income taxes payable	**38**	46
Other current liabilities	**67**	93
Total current liabilities	**1,797**	2,170
Long-term debt, net of discount and issuance costs	**6,592**	6,595
Noncurrent deferred tax liabilities	**320**	378
Operating lease liabilities	**151**	163
Other taxes payable	**257**	260
Other noncurrent liabilities	**239**	270
Total liabilities	**9,356**	9,836
Commitments and contingencies (Note 18)		
Stockholders' equity:		
Common stock, $0.01 par value: 6,000,000,000 authorized, 501,891,243 and 501,891,243 shares issued; 472,574,090 and 475,317,751 shares outstanding at December 31, 2021 and 2020, respectively	**5**	5
Treasury stock, at cost, 29,317,153 and 26,573,492 shares of common stock at December 31, 2021 and 2020, respectively	**(2,952)**	(2,230)
Additional paid-in capital	**1,068**	1,065
Retained earnings	**7,186**	5,659
Accumulated other comprehensive loss	**(764)**	(730)
Total Zoetis Inc. equity	**4,543**	3,769
Equity attributable to noncontrolling interests	**1**	4
Total equity	**4,544**	3,773
Total liabilities and equity	**$ 13,900**	$ 13,609

[(a)] As of December 31, 2021 and 2020, includes $3 million and $2 million, respectively, of restricted cash.

ZOETIS INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF EQUITY

(MILLIONS OF DOLLARS, EXCEPT SHARE DATA)	Zoetis								
	Common Stock		Treasury Stock		Additional Paid-in Capital	Retained Earnings	Accumulated Other Comprehensive Loss	Equity Attributable to Noncontrolling Interests	Total Equity
	Shares	Amount	Shares	Amount					
Balance, December 31, 2018	501.9	$ 5	22.3	$ (1,487)	$ 1,026	$ 3,270	$ (629)	$ —	$ 2,185
Net income	—	—	—	—	—	1,500	—	—	1,500
Other comprehensive loss	—	—	—	—	—	—	(97)	—	(97)
Share-based compensation awards[(a)]	—	—	(1.8)	71	15	(13)	—	—	73
Treasury stock acquired[(b)]	—	—	5.8	(626)	—	—	—	—	(626)
Employee benefit plan contribution from Pfizer Inc.[(c)]	—	—	—	—	3	—	—	—	3
Dividends declared	—	—	—	—	—	(330)	—	—	(330)
Balance, December 31, 2019	501.9	$ 5	26.4	$ (2,042)	$ 1,044	$ 4,427	$ (726)	$ —	$ 2,708
Net income/(loss)	—	—	—	—	—	1,638	—	(2)	1,636
Other comprehensive loss	—	—	—	—	—	—	(4)	—	(4)
Consolidation of a noncontrolling interest[(d)]	—	—	—	—	—	—	—	6	6
Share-based compensation awards[(a)]	—	—	(1.6)	62	18	(2)	—	—	78
Treasury stock acquired[(b)]	—	—	1.8	(250)	—	—	—	—	(250)
Employee benefit plan contribution from Pfizer Inc.[(c)]	—	—	—		3	—	—	—	3
Dividends declared	—	—	—		—	(404)	—	—	(404)
Balance, December 31, 2020	501.9	$ 5	26.6	$ (2,230)	$ 1,065	$ 5,659	$ (730)	$ 4	$ 3,773
Net income/(loss)	**—**	**—**	**—**	**—**	**—**	**2,037**	**—**	**(3)**	**2,034**
Other comprehensive loss	**—**	**—**	**—**	**—**	**—**	**—**	**(34)**	**—**	**(34)**
Share-based compensation awards[(a)]	**—**	**—**	**(1.3)**	**21**	**—**	**(1)**	**—**	**—**	**20**
Treasury stock acquired[(b)]	**—**	**—**	**4.0**	**(743)**	**—**	**—**	**—**	**—**	**(743)**
Employee benefit plan contribution from Pfizer Inc.[(c)]	**—**	**—**	**—**	**—**	**3**	**—**	**—**	**—**	**3**
Dividends declared	**—**	**—**	**—**	**—**	**—**	**(509)**	**—**	**—**	**(509)**
Balance, December 31, 2021	**501.9**	**$ 5**	**29.3**	**$ (2,952)**	**$ 1,068**	**$ 7,186**	**$ (764)**	**$ 1**	**$ 4,544**

Shares may not add due to rounding.

(a) Includes the issuance of shares of Zoetis Inc. common stock and the reacquisition of shares of treasury stock associated with exercises of employee share-based awards. Also includes the reacquisition of shares of treasury stock associated with the vesting of employee share-based awards to satisfy tax withholding requirements. For additional information, see *Note 15. Share-based Payments* and *Note 16. Stockholders' Equity.*

(b) Reflects the acquisition of treasury shares in connection with the share repurchase program. For additional information, see *Note 16. Stockholders' Equity*.

(c) Represents contributed capital from Pfizer Inc. associated with service credit continuation for certain Zoetis Inc. employees in Pfizer Inc.'s U.S. qualified defined benefit and U.S. retiree medical plans. See *Note 14. Benefit Plans.*

(d) Represents the consolidation of a research and development arrangement with a Belgian company, a variable interest entity of which Zoetis is the primary beneficiary.

ZOETIS INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF CASH FLOWS

(MILLIONS OF DOLLARS)	Year Ended December 31, 2021	2020	2019
Operating Activities			
Net income before allocation to noncontrolling interests	**$ 2,034**	$ 1,636	$ 1,500
Adjustments to reconcile net income before noncontrolling interests to net cash provided by operating activities:			
Depreciation and amortization expense	**448**	441	412
Share-based compensation expense	**58**	59	67
Asset write-offs and asset impairments	**47**	43	7
Net loss/(gain) on sales of assets	**2**	(19)	(20)
Provision for losses on inventory	**46**	105	68
Deferred taxes	**(80)**	(62)	(79)
Loss on treasury locks	**—**	(6)	—
Employee benefit plan contribution from Pfizer Inc.	**3**	3	3
Other non-cash adjustments	**(2)**	11	(12)
Other changes in assets and liabilities, net of acquisitions and divestitures:			
Accounts receivable	**(155)**	74	(69)
Inventories	**(366)**	(346)	(104)
Other assets	**(7)**	(68)	(51)
Accounts payable	**(17)**	147	(10)
Other liabilities	**227**	91	91
Other tax accounts, net	**(25)**	17	(8)
Net cash provided by operating activities	**2,213**	2,126	1,795
Investing Activities			
Capital expenditures	**(477)**	(453)	(460)
Acquisitions, net of cash acquired	**(14)**	(113)	(195)
Purchase of investments	**(12)**	—	—
Proceeds from maturities and redemptions of investments	**—**	—	101
Settlements on swaps designated as net investment hedges	**44**	(27)	37
Net proceeds from sale of assets	**2**	21	21
Other investing activities	**(1)**	—	(8)
Net cash used in investing activities	**(458)**	(572)	(504)
Financing Activities			
(Decrease)/increase in short-term borrowings, net	**(4)**	4	(9)
Principal payments on long-term debt	**(600)**	(500)	—
Proceeds from issuance of long-term debt—senior notes, net of discount	**—**	1,240	—
Payment of consideration related to previous acquisitions	**(6)**	(2)	(9)
Share-based compensation-related proceeds, net of taxes paid on withholding shares	**(35)**	20	7
Purchases of treasury stock	**(743)**	(250)	(626)
Cash dividends paid	**(474)**	(380)	(314)
Payment of debt issuance costs	**—**	(12)	—
Acquisition of a noncontrolling interest, net of cash acquired	**—**	3	—
Net cash (used in)/provided by financing activities	**(1,862)**	123	(951)
Effect of exchange-rate changes on cash and cash equivalents	**(12)**	(7)	(8)
Net (decrease)/increase in cash and cash equivalents	**(119)**	1,670	332
Cash and cash equivalents at beginning of period	**3,604**	1,934	1,602
Cash and cash equivalents at end of period	**$ 3,485**	$ 3,604	$ 1,934
Supplemental cash flow information			
Cash paid during the period for:			
Income taxes	**$ 548**	$ 418	$ 418
Interest, net of capitalized interest	**253**	257	247
Non-cash transactions:			
Capital expenditures	**$ 6**	$ 3	$ 7
Contingent purchase price consideration	**—**	—	23
Dividends declared, not paid	**154**	119	95

1. Business Description

Zoetis Inc. (including its subsidiaries, collectively, Zoetis, the company, we, us or our) is a global leader in the animal health industry, focused on the discovery, development, manufacture and commercialization of medicines, vaccines, diagnostic products and services, biodevices, genetic tests and precision animal health technology. We organize and operate our business in two geographic regions: the United States (U.S.) and International.

We directly market our products in approximately 45 countries across North America, Europe, Africa, Asia, Australia and South America. Our products are sold in more than 100 countries, including developed markets and emerging markets. We have a diversified business, marketing products across eight core species: dogs, cats and horses (collectively, companion animals) and cattle, swine, poultry, fish and sheep (collectively, livestock); and within seven major product categories: vaccines, parasiticides, anti-infectives, dermatology, other pharmaceutical products, medicated feed additives and animal health diagnostics.

We were incorporated in Delaware in July 2012 and prior to that the company was a business unit of Pfizer Inc. (Pfizer).

2. Basis of Presentation

The consolidated financial statements were prepared in accordance with accounting principles generally accepted in the United States of America (U.S. GAAP). For subsidiaries operating outside the United States, the consolidated financial information is included as of and for the fiscal year ended November 30 for each year presented. All significant intercompany balances and transactions between the legal entities that comprise Zoetis have been eliminated. For those subsidiaries included in these consolidated financial statements where our ownership is less than 100%, including a variable interest entity consolidated by Zoetis as the primary beneficiary, the noncontrolling interests have been shown in equity as *Equity attributable to noncontrolling interests*.

3. Significant Accounting Policies

Recently Issued Accounting Standards

In March 2020, the FASB issued ASU No. 2020-04, Reference Rate Reform (Topic 848): Facilitation of the Effects of Reference Rate Reform on Financial Reporting. In January 2021, it issued a subsequent amendment to the initial guidance: ASU No. 2021-01, Reference Rate Reform (Topic 848). The new guidance provides temporary optional expedients and exceptions for applying GAAP to contracts, hedging relationships, and other transactions that reference the London Interbank Offered Rate (LIBOR) or another reference rate expected to be discontinued because of reference rate reform. Adoption of the guidance is optional and effective as of March 12, 2020, but only available through December 31, 2022. We currently have a revolving credit facility and various hedging transactions that reference LIBOR. We will make specific amendments to our affected contracts and hedge documentation to adopt these standards as of December 31, 2022 and we do not expect these changes to have a material impact on our consolidated financial statements or related disclosures.

Estimates and Assumptions

In preparing the consolidated financial statements, we use certain estimates and assumptions that affect reported amounts and disclosures, including amounts recorded in connection with acquisitions. These estimates and underlying assumptions can impact all elements of our consolidated financial statements. For example, in the Consolidated Statements of Income, estimates are used when accounting for deductions from revenue (such as rebates, sales allowances, product returns and discounts), determining cost of sales, allocating cost in the form of depreciation and amortization, and estimating restructuring charges and the impact of contingencies. On the Consolidated Balance Sheets, estimates are used in determining the valuation and recoverability of assets, such as accounts receivables, inventories, fixed assets, goodwill and other identifiable intangible assets, and estimates are used in determining the reported amounts of liabilities, such as taxes payable, uncertain tax positions, benefit obligations, the impact of contingencies, deductions from revenue and restructuring reserves, all of which also impact the Consolidated Statements of Income.

Our estimates are often based on complex judgments, probabilities and assumptions that we believe to be reasonable but that can be inherently uncertain and unpredictable. If our estimates and assumptions are not representative of actual outcomes, our results could be materially impacted.

As future events and their effects cannot be determined with precision, our estimates and assumptions may prove to be incomplete or inaccurate, or unanticipated events and circumstances may occur that might cause us to change those estimates and assumptions. We are subject to risks and uncertainties that may cause actual results to differ from estimated amounts, such as changes in competition, litigation, legislation and regulations. We regularly evaluate our estimates and assumptions using historical experience and expectations about the future. We adjust our estimates and assumptions when facts and circumstances indicate the need for change. Those changes generally will be reflected in our consolidated financial statements on a prospective basis unless they are required to be treated retrospectively under relevant accounting standards. It is possible that others, applying reasonable judgment to the same facts and circumstances, could develop and support a range of alternative estimated amounts.

Acquisitions

Our consolidated financial statements include the operations of acquired businesses from the date of acquisition. We account for acquired businesses using the acquisition method of accounting, which requires, among other things, that most assets acquired and liabilities assumed be recognized at their estimated fair values as of the acquisition date and that the fair value of acquired in-process research and development (IPR&D) be recorded on the balance sheet. Transaction costs are expensed as incurred. Any excess of the consideration transferred over the assigned values of the net assets acquired is recorded as goodwill. When we acquire net assets that do not constitute a business as defined in U.S. GAAP, no goodwill is recognized.

Amounts recorded for acquisitions can result from a complex series of judgments about future events and uncertainties and can rely on estimates and assumptions. For information about the risks associated with estimates and assumptions, see *Estimates and Assumptions*.

Leases

We determine if a contract contains a lease at inception. Our current portfolio includes only operating leases which are recorded as a right of use asset, as of the lease commencement date, in an amount equal to the present value of future payments over the lease term. We have elected not to recognize right of use assets and lease liabilities for short-term leases of vehicles and equipment with a lease term of twelve months or less.

Options to extend or terminate a lease are considered in the lease term to the extent that the option is reasonably certain of exercise. A corresponding lease liability is recorded within *Other current liabilities* and *Operating lease liabilities*. The present value of future payments is discounted using the rate implicit in the lease, when available. When the implicit rate is not available, as is frequently the case with our lease portfolio, the present value is calculated using our incremental borrowing rate, which is determined on the commencement date. The incremental borrowing rate represents the rate of interest that we would expect to pay on a collateralized basis to borrow an amount equal to the lease payments under similar terms. As we do not borrow on a collateralized basis, our non-collateralized borrowing rate is used as an input in deriving the incremental borrowing rate.

Fixed lease payments are recognized on straight-line basis over the lease term, while variable payments are recognized in the period incurred. Variable lease payments include real estate taxes and charges for other non-lease services due to lessors that are not dependent on an index or rate and utilization based charges associated with fleet vehicles.

Our real estate and fleet lease contracts may include fixed consideration attributable to both lease and non-lease components, including non-lease services provided by the vendor, which are accounted for as a single fixed minimum payment. For leases of certain classes of machinery and equipment, contract consideration is allocated to lease and non-lease components on the basis of relative standalone price.

Foreign Currency Translation

For most of our international operations, local currencies have been determined to be the functional currencies. We translate functional currency assets and liabilities to their U.S. dollar equivalents at exchange rates in effect at the balance sheet date and we translate functional currency income and expense amounts to their U.S. dollar equivalents at average exchange rates for the period. The U.S. dollar effects that arise from changing translation rates are recorded in *Other comprehensive income/(loss), net of tax.* The effects of converting non-functional currency assets and liabilities into the functional currency are recorded in *Other (income)/deductions—net.* For operations in highly inflationary economies, we translate monetary items at rates in effect at the balance sheet date, with translation adjustments recorded in *Other (income)/deductions—net*, and we translate non-monetary items at historical rates.

Revenue, Deductions from Revenue and the Allowance for Doubtful Accounts

We recognize revenue from product sales when control of the goods has transferred to the customer, which is typically once the goods have shipped and the customer has assumed title. Revenue reflects the total consideration to which we expect to be entitled (i.e., the transaction price), in exchange for products sold, after considering various types of variable consideration including rebates, sales allowances, product returns and discounts.

Variable consideration is estimated and recorded at the time that related revenue is recognized. Our estimates reflect the amount by which we expect variable consideration to impact revenue recognized and are generally based on contractual terms or historical experience, adjusted as necessary to reflect our expectations about the future. Our customer payment terms generally range from 45 to 75 days.

Estimates of variable consideration utilize a complex series of judgments and assumptions to determine the amount by which we expect revenue to be reduced, for example;

- for sales returns, we perform calculations in each market that incorporate the following, as appropriate: local returns policies and practices; historic returns as a percentage of revenue; estimated shelf life by product; an estimate of the amount of time between shipment and return or lag time; and any other factors that could impact the estimate of future returns, product recalls, discontinuation of products or a changing competitive environment; and
- for revenue incentives, we use our historical experience with similar incentives programs to estimate the impact of such programs on revenue for the current period.

Although the amounts recorded for these deductions from revenue are dependent on estimates and assumptions, historically our adjustments to actual results have not been material. The sensitivity of our estimates can vary by program, type of customer and geographic location.

Accruals for deductions from revenue are recorded as either a reduction in *Accounts receivable* or within *Accrued expenses*, depending on the nature of the contract and method of expected payment. Amounts recorded as a reduction in *Accounts receivable* as of December 31, 2021 and 2020 are approximately $216 million and $185 million, respectively. As of December 31, 2021, and 2020, accruals for deductions from revenue included in *Accrued expenses* are approximately $312 million and $226 million, respectively.

A deferral of revenue may be required in the event that we have not satisfied all customer obligations for which we have been compensated. The transaction price is allocated to the individual performance obligations on the basis of relative stand-alone selling price, which is typically based on actual sales prices. Revenue associated with unsatisfied performance obligations are contract liabilities, is recorded within *Other current liabilities* and *Other noncurrent liabilities*, and is recognized once control of the underlying products has transferred to the customer. Contract liabilities reflected within *Other current liabilities* as of December 31, 2020 and subsequently recognized as revenue during 2021 were approximately $6 million. Contract liabilities as of December 31, 2021 were approximately $12 million.

We do not disclose the transaction price allocated to unsatisfied performance obligations related to contracts with an original expected duration of one year or less, or for contracts for which we recognize revenue in line with our right to invoice the customer. Estimated future revenue expected to be generated from long-term contracts with unsatisfied performance obligations as of December 31, 2021 is not material.

Taxes collected from customers relating to product sales and remitted to governmental authorities are excluded from *Revenue.* Shipping and handling costs incurred after control of the purchased product has transferred to the customer are accounted for as a fulfillment cost, within *Selling, general and administrative expenses.*

We also record estimates for bad debts. We periodically assess the adequacy of the allowance for doubtful accounts by evaluating the collectability of outstanding receivables based on factors such as past due history, historical and expected collection patterns, the financial condition of our customers, the robust nature of our credit and collection practices and the economic environment.

Amounts recorded for sales deductions and bad debts can result from a complex series of judgments about future events and uncertainties and can rely on estimates and assumptions. For information about the risks associated with estimates and assumptions, see *Estimates and Assumptions.*

Cost of Sales and Inventories

Inventories are carried at the lower of cost or net realizable value. The cost of finished goods, work-in-process and raw materials is determined using average actual cost. We regularly review our inventories for impairment and adjustments are recorded when necessary.

Selling, General and Administrative Expenses

Selling, general and administrative costs are expensed as incurred. Among other things, these expenses include the internal and external costs of marketing, advertising, and shipping and handling as well as certain costs related to business technology, facilities, legal, finance, human resources, business development, public affairs and procurement, among others.

Advertising expenses relating to production costs are expensed as incurred, and the costs of space in publications are expensed when the related advertising occurs. Advertising and promotion expenses totaled approximately $292 million in 2021, $233 million in 2020 and $167 million in 2019.

Shipping and handling costs totaled approximately $80 million in 2021, $66 million in 2020 and $59 million in 2019.

Research and Development Expenses

Research and development (R&D) costs are expensed as incurred. Research is the effort associated with the discovery of new knowledge that will be useful in developing a new product or in significantly improving an existing product. Development is the implementation of the research findings. Before a compound receives regulatory approval, we record upfront and milestone payments made by us to third parties under licensing arrangements as expense. Upfront payments are recorded when incurred, and milestone payments are recorded when the specific milestone has been achieved. Once a compound receives regulatory approval in a major market, we record any milestone payments in *Identifiable intangible assets, less accumulated amortization* and, unless the assets are determined to have an indefinite life, we amortize them on a straight-line basis over the remaining agreement term or the expected product life cycle, whichever is shorter.

Amortization of Intangible Assets, Depreciation and Certain Long-Lived Assets

Long-lived assets include:

- *Goodwill*—goodwill represents the excess of the consideration transferred for an acquired business over the assigned values of its net assets. Goodwill is not amortized.
- *Identifiable intangible assets, less accumulated amortization*—these acquired assets are recorded at our cost. Identifiable intangible assets with finite lives are amortized on a straight-line basis over their estimated useful lives. Identifiable intangible assets with indefinite lives that are associated with marketed products are not amortized until a useful life can be determined. Identifiable intangible assets associated with IPR&D projects are not amortized until regulatory approval is obtained. The useful life of an amortizing asset generally is determined by identifying the period in which substantially all of the cash flows are expected to be generated.
- *Property, plant and equipment, less accumulated depreciation*—these assets are recorded at our cost and are increased by the cost of any significant improvements after purchase. Property, plant and equipment assets, other than land and construction-in-progress, are depreciated on a straight-line basis over the estimated useful life of the individual assets. Depreciation begins when the asset is ready for its intended use. For tax purposes, accelerated depreciation methods are used as allowed by tax laws.

Amortization expense related to finite-lived identifiable intangible assets that contribute to our ability to sell, manufacture, research, market and distribute products, compounds and intellectual property are included in *Amortization of intangible assets* as they benefit multiple business functions. Amortization expense related to intangible assets that are associated with a single function and depreciation of property, plant and equipment are included in *Cost of sales*, *Selling, general and administrative expenses* and *Research and development expenses*, as appropriate.

We review all of our long-lived assets for impairment indicators throughout the year and we perform detailed testing whenever impairment indicators are present. In addition, we perform impairment testing for goodwill and indefinite-lived assets at least annually. When necessary, we record charges for impairments. Specifically:

- For finite-lived identifiable intangible assets, such as developed technology rights, and for other long-lived assets, such as property, plant and equipment, whenever impairment indicators are present, we calculate the undiscounted value of the projected cash flows associated with the asset, or asset group, and compare this estimated amount to the carrying amount. If the carrying amount is found to be greater, we record an impairment loss for the excess of book value over fair value. In addition, in all cases of an impairment review, we re-evaluate the remaining useful lives of the assets and modify them, as appropriate.
- For indefinite-lived identifiable intangible assets, such as brands and IPR&D assets, we test for impairment at least annually, or more frequently if impairment indicators exist, by first assessing qualitative factors to determine whether it is more likely than not that the fair value of the indefinite-lived intangible asset is less than its carrying amount. If we conclude it is more likely than not that the fair value is less than the carrying amount, a quantitative test that compares the fair value of the indefinite-lived intangible asset with its carrying value is performed. If the fair value is less than the carrying amount, an impairment loss is recognized. We record an impairment loss, if any, for

the excess of book value over fair value. In addition, in all cases of an impairment review other than for IPR&D assets, we re-evaluate whether continuing to characterize the asset as indefinite-lived is appropriate.

- For goodwill, we test for impairment on at least an annual basis, or more frequently if necessary, either by assessing qualitative factors to determine whether it is more likely than not that the fair value of a reporting unit is less than its carrying amount, or by performing a periodic quantitative assessment. If we choose to perform a qualitative analysis and conclude it is more likely than not that the fair value of a reporting unit is less than its carrying amount, a quantitative fair value test is performed. We determine the implied fair value of goodwill by subtracting the fair value of all the identifiable net assets other than goodwill from the fair value of the reporting unit and record an impairment loss for the excess, if any, of book value of goodwill over the implied fair value. In 2021 and 2020, we performed a periodic quantitative impairment assessment as of September 30, 2021 and 2020, respectively, which did not result in the impairment of goodwill associated with any of our reporting units.

Impairment reviews can involve a complex series of judgments about future events and uncertainties and can rely on estimates and assumptions. For information about the risks associated with estimates and assumptions, see *Estimates and Assumptions.*

Software Capitalization and Depreciation

We capitalize certain costs incurred in connection with obtaining or developing internal-use software, including payroll and payroll-related costs for employees who are directly associated with the internal-use software project, external direct costs of materials and services and interest costs while developing the software. Capitalized software costs are included in *Property, plant and equipment* and are amortized using the straight-line method over the estimated useful life of 5 to 10 years. Capitalization of such costs ceases when the project is substantially complete and ready for its intended purpose. Costs incurred during the preliminary project and post-implementation stages, as well as software maintenance and training costs, are expensed in the period in which they are incurred. The company capitalized $73 million and $59 million of internal-use software for the years ended December 31, 2021 and 2020, respectively. Depreciation expense for capitalized software was $52 million in 2021, $46 million in 2020 and $27 million in 2019.

Restructuring Charges and Certain Acquisition-Related Costs

We may incur restructuring charges in connection with acquisitions when we implement plans to restructure and integrate the acquired operations or in connection with cost-reduction and productivity initiatives. Included in *Restructuring charges and certain acquisition-related costs* are all restructuring charges and certain costs associated with acquiring and integrating an acquired business. Transaction costs and integration costs are expensed as incurred. Termination costs are a significant component of restructuring charges and are generally recorded when the actions are probable and estimable.

Amounts recorded for restructuring charges and other associated costs can result from a complex series of judgments about future events and uncertainties and can rely on estimates and assumptions. For information about the risks associated with estimates and assumptions, see *Estimates and Assumptions*.

Earnings per Share

Basic earnings per share is computed by dividing net income attributable to Zoetis by the weighted-average number of common shares outstanding during the period. Diluted earnings per share adjusts the weighted-average number of common shares outstanding for the potential dilution that could occur if common stock equivalents (stock options, restricted stock units, and performance-vesting restricted stock units) were exercised or converted into common stock, calculated using the treasury stock method.

Cash Equivalents

Cash equivalents include items almost as liquid as cash, such as money market funds, certificates of deposit and time deposits with maturity periods of three months or less when purchased.

Fair Value

Certain assets and liabilities are required to be measured at fair value, either upon initial recognition or for subsequent accounting or reporting. For example, we use fair value extensively in the initial recognition of net assets acquired in a business combination. Fair value is estimated using an exit price approach, which requires, among other things, that we determine the price that would be received to sell an asset or paid to transfer a liability in an orderly market. The determination of an exit price is considered from the perspective of market participants, considering the highest and best use of assets and, for liabilities, assuming that the risk of non-performance will be the same before and after the transfer.

When estimating fair value, depending on the nature and complexity of the asset or liability, we may use one or all of the following approaches:

- Income approach, which is based on the present value of a future stream of net cash flows.
- Market approach, which is based on market prices and other information from market transactions involving identical or comparable assets or liabilities.
- Cost approach, which is based on the cost to acquire or construct comparable assets less an allowance for functional and/or economic obsolescence.

These fair value methodologies depend on the following types of inputs:

- Quoted prices for identical assets or liabilities in active markets (Level 1 inputs).
- Quoted prices for similar assets or liabilities in active markets or quoted prices for identical or similar assets or liabilities in markets that are not active or are directly or indirectly observable (Level 2 inputs).
- Unobservable inputs that reflect estimates and assumptions (Level 3 inputs).

A single estimate of fair value can result from a complex series of judgments about future events and uncertainties and can rely on estimates and assumptions. For information about the risks associated with estimates and assumptions, see *Estimates and Assumptions*.

Accounts Receivable

The recorded amounts of accounts receivable approximate fair value because of their relatively short-term nature. As of December 31, 2021 and 2020, *Accounts receivable, less allowance for doubtful accounts,* of $1,133 million and $1,013 million, respectively, includes approximately $47 million and $48 million, respectively, of other receivables, such as trade notes receivable and royalty receivables, among others.

Deferred Tax Assets and Liabilities and Income Tax Contingencies

Deferred tax assets and liabilities are recognized for the expected future tax consequences of differences between the financial reporting and tax bases of assets and liabilities using enacted tax rates and laws. We provide a valuation allowance when we believe that our deferred tax assets are not recoverable based on an assessment of estimated future taxable income that incorporates ongoing, prudent and feasible tax planning strategies.

We account for income tax contingencies using a benefit recognition model. If we consider that a tax position is more likely than not to be sustained upon audit, based solely on the technical merits of the position, we recognize the benefit. We measure the benefit by determining the amount that is greater than 50% likely of being realized upon settlement, presuming that the tax position is examined by the appropriate taxing authority that has full knowledge of all relevant information. Under the benefit recognition model, if the initial assessment fails to result in the recognition of a tax benefit, we regularly monitor our position and subsequently recognize the tax benefit: (i) if there are changes in tax law, analogous case law or there is new information that sufficiently raise the likelihood of prevailing on the technical merits of the position to more likely than not; (ii) if the statute of limitations expires; or (iii) if there is a completion of an audit resulting in a favorable settlement of that tax year with the appropriate agency. We regularly re-evaluate our tax positions based on the results of audits of federal, state and foreign income tax filings, statute of limitations expirations, changes in tax law or receipt of new information that would either increase or decrease the technical merits of a position relative to the "more-likely-than-not" standard. Liabilities associated with uncertain tax positions are classified as current only when we expect to pay cash within the next 12 months. Interest and penalties, if any, are recorded in *Provision for taxes on income* and are classified on our Consolidated Balance Sheets with the related tax liability.

Amounts recorded for valuation allowances and income tax contingencies can result from a complex series of judgments about future events and uncertainties and can rely on estimates and assumptions. For information about the risks associated with estimates and assumptions, see *Estimates and Assumptions.*

Benefit Plans

All dedicated benefit plans are pension plans. For our dedicated benefit plans, we recognize the overfunded or underfunded status of defined benefit plans as an asset or liability on the Consolidated Balance Sheets and the obligations generally are measured at the actuarial present value of all benefits attributable to employee service rendered, as provided by the applicable benefit formula. Pension obligations may include assumptions such as long-term rate of return on plan assets, expected employee turnover, participant mortality, and future compensation levels. Plan assets are measured at fair value. Net periodic benefit costs are recognized, as required, into *Cost of sales, Selling, general and administrative expenses* and *Research and development expenses*, as appropriate.

Amounts recorded for benefit plans can result from a complex series of judgments about future events and uncertainties and can rely on estimates and assumptions. For information about the risks associated with estimates and assumptions, see *Estimates and Assumptions.*

Asset Retirement Obligations

We record accruals for the legal obligations associated with the retirement of tangible long-lived assets, including obligations under the doctrine of promissory estoppel and those that are conditioned upon the occurrence of future events. These obligations generally result from the acquisition, construction, development and/or normal operation of long-lived assets. We recognize the fair value of these obligations in the period in which they are incurred by increasing the carrying amount of the related asset. Over time, we recognize expense for the accretion of the liability and for the amortization of the asset.

As of December 31, 2021 and 2020, accruals for asset retirement obligations are $25 million and are primarily included in *Other noncurrent liabilities.*

Amounts recorded for asset retirement obligations can result from a complex series of judgments about future events and uncertainties and can rely on estimates and assumptions. For information about the risks associated with estimates and assumptions, see *Estimates and Assumptions.*

Legal and Environmental Contingencies

We are subject to numerous contingencies arising in the ordinary course of business, such as product liability and other product-related litigation, commercial litigation, patent litigation, environmental claims and proceedings, government investigations and guarantees and indemnifications. We record accruals for these contingencies to the extent that we conclude that a loss is both probable and reasonably estimable. If some amount within a range of loss appears to be a better estimate than any other amount within the range, we accrue that amount. Alternatively, when no amount within a range of loss appears to be a better estimate than any other amount, we accrue the lowest amount in the range. We record anticipated recoveries under existing insurance contracts when recovery is assured.

Amounts recorded for contingencies can result from a complex series of judgments about future events and uncertainties and can rely on estimates and assumptions. For information about the risks associated with estimates and assumptions, see *Estimates and Assumptions.*

Share-Based Payments

Our compensation programs can include share-based payment plans. All grants under share-based payment programs are accounted for at fair value and such amounts generally are amortized on a straight-line basis over the vesting term to *Cost of sales, Selling, general and administrative expenses,* and *Research and development expenses*, as appropriate. We include the impact of estimated forfeitures when determining share-based compensation expense.

Amounts recorded for share-based compensation can result from a complex series of judgments about future events and uncertainties and can rely on estimates and assumptions. For information about the risks associated with estimates and assumptions, see *Estimates and Assumptions*.

4. Revenue

A. Revenue from Product Sales

We offer a diversified portfolio of products which allows us to capitalize on local and regional customer needs. Generally, our products are promoted to veterinarians and livestock producers by our sales organization which includes sales representatives and technical and veterinary operations specialists, and then sold directly by us or through distributors, retailers or e-commerce outlets. The depth of our product portfolio enables us to address the varying needs of customers in different species and geographies. Many of our top-selling product lines are distributed across both of our operating segments, leveraging our R&D operations and manufacturing and supply chain network.

Over the course of our history, we have focused on developing a diverse portfolio of animal health products, including medicines, vaccines and diagnostics, complemented by biodevices, genetic tests and a range of services. We refer to all different brands of a particular product, or its dosage forms for all species, as a product line. We have approximately 300 comprehensive product lines, including products for both companion animals and livestock within each of our major product categories.

Our major product categories are:

- **vaccines**: biological preparations that help prevent diseases of the respiratory, gastrointestinal and reproductive tracts or induce a specific immune response;
- **parasiticides**: products that prevent or eliminate external and internal parasites such as fleas, ticks and worms;
- **anti-infectives**: products that prevent, kill or slow the growth of bacteria, fungi or protozoa;
- **dermatology products:** products that relieve itch associated with allergic conditions and atopic dermatitis;
- **other pharmaceutical products**: pain and sedation, antiemetic, reproductive, and oncology products;
- **medicated feed additives**: products added to animal feed that provide medicines to livestock; and
- **animal health diagnostics**: blood and urine analysis testing capabilities, including point-of-care diagnostic products, instruments and reagents, rapid immunoassay tests, reference laboratory kits and services and blood glucose monitors.

Our remaining revenue is derived from other non-pharmaceutical product categories, such as nutritionals and agribusiness, as well as products and services in biodevices, genetic tests and precision animal health.

Our companion animal products help extend and improve the quality of life for pets; increase convenience and compliance for pet owners; and help veterinarians improve the quality of their care and the efficiency of their businesses. Growth in the companion animal medicines, vaccines and diagnostics sector is driven by economic development, related increases in disposable income and increases in pet ownership and spending on pet care. Companion animals are also living longer, deepening the human-animal bond, receiving increased medical treatment and benefiting from advances in animal health medicine, vaccines and diagnostics.

Our livestock products primarily help prevent or treat diseases and conditions to allow veterinarians and producers to care for their animals and to enable the cost-effective production of safe, high-quality animal protein. Human population growth and increasing standards of living are important long-term growth drivers for our livestock products in three major ways. First, population growth and increasing standards of living drive demand for improved nutrition, particularly through increased consumption of animal protein. Second, population growth leads to greater natural resource constraints driving a need for enhanced productivity. Finally, as standards of living improve and the global chain faces increased scrutiny, there is more focus on food quality, safety, and reliability of supply.

The following tables present our revenue disaggregated by geographic area, species, and major product category:

Revenue by geographic area

	Year Ended December 31,		
(MILLIONS OF DOLLARS)	**2021**	2020	2019
United States	**$ 4,042**	$ 3,557	$ 3,203
Australia	**259**	207	196
Brazil	**312**	258	293
Canada	**232**	210	206
Chile	**136**	100	91
China	**357**	266	200
France	**132**	118	117
Germany	**183**	159	153
Italy	**115**	90	112
Japan	**186**	177	158
Mexico	**133**	116	117
Spain	**128**	112	114
United Kingdom	**234**	178	198
Other developed markets	**467**	388	370
Other emerging markets	**778**	656	647
	7,694	6,592	6,175
Contract manufacturing & human health	**82**	83	85
Total Revenue	**$ 7,776**	$ 6,675	$ 6,260

Revenue exceeded $100 million in twelve countries outside the U.S. in 2021 and eleven countries outside the U.S. in 2020 and 2019. The U.S. was the only country to contribute more than 10% of total revenue in each year.

Revenue by major species

	Year Ended December 31,		
(MILLIONS OF DOLLARS)	**2021**	2020	2019
U.S.			
Companion animal	**$ 2,990**	$ 2,391	$ 1,984
Livestock	**1,052**	1,166	1,219
	4,042	3,557	3,203
International			
Companion animal	**1,699**	1,261	1,161
Livestock	**1,953**	1,774	1,811
	3,652	3,035	2,972
Total			
Companion animal	**4,689**	3,652	3,145
Livestock	**3,005**	2,940	3,030
Contract manufacturing & human health	**82**	83	85
Total Revenue	**$ 7,776**	$ 6,675	$ 6,260

Revenue by species

(MILLIONS OF DOLLARS)	Year Ended December 31, 2021	2020	2019
Companion Animal:			
Dogs and Cats	**$ 4,426**	$ 3,437	$ 2,950
Horses	**263**	215	195
	4,689	3,652	3,145
Livestock:			
Cattle	**1,557**	1,558	1,654
Swine	**659**	621	611
Poultry	**507**	537	559
Fish	**187**	148	134
Sheep and other	**95**	76	72
	3,005	2,940	3,030
Contract manufacturing & human health	**82**	83	85
Total Revenue	**$ 7,776**	$ 6,675	$ 6,260

Revenue by product category

(MILLIONS OF DOLLARS)	Year Ended December 31, 2021	2020	2019
Vaccines	**$ 1,673**	$ 1,476	$ 1,483
Parasiticides	**1,635**	1,173	966
Anti-infectives	**1,215**	1,206	1,254
Dermatology	**1,180**	941	770
Other pharmaceuticals	**966**	821	780
Medicated feed additives	**420**	460	470
Animal health diagnostics	**374**	305	268
Other non-pharmaceuticals	**231**	210	184
	7,694	6,592	6,175
Contract manufacturing & human health	**82**	83	85
Total Revenue	**$ 7,776**	$ 6,675	$ 6,260

B. Other Revenue Information

Significant Customers

We sell our companion animal products primarily to veterinarians who then sell the products to pet owners. We sell our livestock products primarily to veterinarians and livestock producers as well as third-party veterinary distributors, and retail outlets who generally sell the products to livestock producers. Sales to our largest customer, a U.S. veterinary distributor, represented approximately 14%, 14% and 15% of total revenue for 2021, 2020, and 2019, respectively.

5. Acquisitions and Divestitures

A. Acquisitions

During 2021, we entered into an agreement to acquire Jurox, a privately held animal health company based in Australia, which develops, manufactures and markets a wide range of veterinary medicines for treating companion animals and livestock. The transaction is subject to customary closing conditions and the satisfaction of regulatory requirements. We expect to complete the acquisition in 2022. We also acquired certain assets to expand our portfolio of equine care products, which did not have a significant impact on our consolidated financial statements.

During 2020, we completed the acquisitions of Fish Vet Group, a diagnostics company for aquaculture, Virtual Recall, a veterinary engagement software company, Performance Livestock Analytics, a cloud-based technology company in the precision animal health business, and Ethos Diagnostic Science, a veterinary reference laboratory business with labs across the U.S. We also entered into an option purchase agreement as part of a research and development arrangement with a Belgian company, a variable interest entity of which Zoetis is the primary beneficiary and now consolidating within our results. These transactions did not have a significant impact on our consolidated financial statements.

During 2019, we completed the acquisitions of Platinum Performance, a nutrition-focused animal health business for companion animals, and Phoenix Lab and ZNLabs, both full service veterinary reference laboratory companies with networks of labs across the U.S. These transactions did not have a significant impact on our consolidated financial statements.

B. Divestitures

In 2020 and 2019, we received cash proceeds of $20 million resulting from payments received pursuant to an agreement related to the 2016 sale of certain U.S. manufacturing sites.

6. Restructuring Charges and Other Costs Associated with Acquisitions, Cost-Reduction and Productivity Initiatives

In connection with our cost-reduction/productivity initiatives, we typically incur costs and charges associated with site closings and other facility rationalization actions, workforce reductions and the expansion of shared services, including the development of global systems. In connection with our acquisition activity, we typically incur costs and charges associated with executing the transactions, integrating the acquired operations, which may include expenditures for consulting and the integration of systems and processes, product transfers and restructuring the consolidated company, which may include charges related to employees, assets and activities that will not continue in the consolidated company. All operating functions can be impacted by these actions, including sales and marketing, manufacturing and R&D, as well as functions such as business technology, shared services and corporate operations.

The components of costs incurred in connection with restructuring initiatives, acquisitions and cost-reduction/productivity initiatives are as follows:

	Year Ended December 31,		
(MILLIONS OF DOLLARS)	**2021**	2020	2019
Restructuring charges and certain acquisition-related costs:			
Integration costs[a]	**$ 10**	$ 17	$ 18
Restructuring charges[b][c]:			
Employee termination costs	**17**	8	33
Asset impairment charges	**13**	—	—
Exit costs	**3**	—	—
Total *Restructuring charges and certain acquisition-related costs*	**$ 43**	$ 25	$ 51

[a] Integration costs represent external, incremental costs directly related to integrating acquired businesses and primarily include expenditures for consulting and the integration of systems and processes, as well as product transfer costs.

[b] The restructuring charges for the year ended December 31, 2021 are primarily related to the realignment of our international operations and other cost-reduction and productivity initiatives.

The restructuring charges for the year ended December 31, 2020 are primarily related to CEO transition-related costs and other cost-reduction and productivity initiatives.

The restructuring charges for the year ended December 31, 2019 are primarily related to the acquisition of Abaxis and CEO transition-related costs.

[c] The restructuring charges are associated with the following:

- For the year ended December 31, 2021, Manufacturing/research/corporate of $21 million and International of $12 million.
- For the year ended December 31, 2020, Manufacturing/research/corporate of $8 million.
- For the year ended December 31, 2019, Manufacturing/research/corporate of $31 million and International of $2 million.

The components of, and changes in, our restructuring accruals are as follows:

(MILLIONS OF DOLLARS)	Employee Termination Costs	Asset Impairment Charges	Exit Costs	Accrual
Balance, December 31, 2018	$ 45	$ —	$ —	$ 45
Provision	33	—	—	33
Utilization and other[a]	(33)	—	—	(33)
Balance, December 31, 2019	$ 45	$ —	$ —	$ 45
Provision	8	—	—	8
Utilization and other[a]	(32)	—	—	(32)
Balance, December 31, 2020[b]	$ 21	$ —	$ —	$ 21
Provision	**17**	**13**	**3**	**33**
Non-cash activity	**—**	**(13)**	**—**	**(13)**
Utilization and other[a]	**(15)**	**—**	**(1)**	**(16)**
Balance, December 31, 2021[b][c]	**$ 23**	**$ —**	**$ 2**	**$ 25**

[a] Includes adjustments for foreign currency translation.

[b] At December 31, 2021 and 2020, included in *Accrued Expenses* ($14 million and $6 million, respectively) and *Other noncurrent liabilities* ($11 million and $15 million, respectively).

[c] Includes contractual obligations of $16 million, of which payments are expected to be approximately $14 million in 2022 and $2 million thereafter.

7. Other (Income)/Deductions—Net

The components of *Other (income)/deductions—net* follow:

	Year Ended December 31,		
(MILLIONS OF DOLLARS)	**2021**	2020	2019
Royalty-related income	**$ (10)**	$ (12)	$ (16)
Interest income	**(6)**	(12)	(37)
Identifiable intangible asset impairment charges[(a)]	**27**	26	—
Net loss/(gain) on sale of assets[(b)]	**3**	(19)	(20)
Impairment of an equity investment	**—**	4	—
Other asset impairment charges	**3**	4	—
Foreign currency loss[(c)]	**27**	21	16
Other, net	**4**	5	—
Other (income)/deductions—net	**$ 48**	$ 17	$ (57)

(a) For 2021, primarily represents asset impairment charges related to developed technology rights and trademarks in our dairy cattle, diagnostics and aquatic health businesses. For 2020, primarily represents asset impairment charges related to developed technology rights in our precision animal health and aquatic health businesses.

(b) For 2020 and 2019, represents income resulting from payments received pursuant to an agreement related to the 2016 sale of certain U.S. manufacturing sites.

(c) Primarily driven by costs related to hedging and exposures to certain emerging market currencies.

8. Tax Matters

A. Taxes on Income

The income tax provision in the Consolidated Statements of Income includes tax costs and benefits, such as uncertain tax positions, repatriation decisions and audit settlements, among others.

The components of *Income before provision for taxes on income* follow:

	Year Ended December 31,		
(MILLIONS OF DOLLARS)	**2021**	2020	2019
United States	**$ 1,308**	$ 1,109	$ 965
International	**1,180**	887	836
Income before provision for taxes on income	**$ 2,488**	$ 1,996	$ 1,801

The components of *Provision for taxes on income* based on the location of the taxing authorities follow:

	Year Ended December 31,		
(MILLIONS OF DOLLARS)	**2021**	2020	2019
United States:			
Current income taxes:			
Federal	**$ 311**	$ 232	$ 192
State and local	**35**	36	28
Deferred income taxes:			
Federal	**(84)**	(29)	(5)
State and local	**(10)**	(14)	(15)
Total U.S. tax provision	**252**	225	200
International:			
Current income taxes	**188**	154	161
Deferred income taxes	**14**	(19)	(60)
Total international tax provision	**202**	135	101
Provision for taxes on income[(a)(b)(c)]	**$ 454**	$ 360	$ 301

(a) In 2021, the *Provision for taxes on income* reflects the following:

- the change in the jurisdictional mix of earnings, which includes the impact of the location of earnings from operations and repatriation costs. The jurisdictional mix of earnings can vary as a result of repatriation decisions, operating fluctuations in the normal course of business, the impact of non-deductible and non-taxable items, and the extent and location of other income and expense items, such as gains and losses on asset divestitures;
- tax benefit related to foreign-derived intangible income;
- U.S. tax benefit related to U.S. Research and Development Tax Credit;
- tax expense related to changes in uncertain tax positions (see *D. Tax Contingencies*);
- a $24 million discrete tax benefit recorded in 2021 related to the excess tax benefits for share-based payments;

- an $8 million net discrete tax benefit recorded in 2021 related to the effective settlement of certain issues with tax authorities;
- a $6 million net discrete tax benefit recorded in 2021 related to changes in various other tax items; and
- a $1 million discrete tax expense recorded in 2021 related to a remeasurement of deferred tax assets and liabilities as a result of changes in statutory tax rates.

(b) In 2020, the *Provision for taxes on income* reflects the following:

- the change in the jurisdictional mix of earnings, which includes the impact of the location of earnings from operations and repatriation costs. The jurisdictional mix of earnings can vary as a result of repatriation decisions, operating fluctuations in the normal course of business, the impact of non-deductible and non-taxable items, and the extent and location of other income and expense items, such as gains and losses on asset divestitures;
- U.S. tax benefit related to U.S. Research and Development Tax Credit;
- tax expense related to changes in uncertain tax positions (see *D. Tax Contingencies*);
- a $29 million discrete tax benefit recorded in 2020 related to the excess tax benefits for share-based payments;
- a $19 million net discrete tax benefit recorded in 2020 related to changes in various other tax items;
- a $7 million discrete tax benefit recorded in 2020 related to the remeasurement of deferred tax assets and liabilities resulting from the integration of acquired businesses;
- a $5 million discrete tax expense related to the changes in valuation allowances;
- a $4 million discrete tax benefit recorded in 2020 related to a remeasurement of deferred tax assets and liabilities as a result of changes in statutory tax rates; and
- a $4 million net discrete tax benefit recorded in 2020 related to the effective settlement of certain issues with tax authorities.

(c) In 2019, the *Provision for taxes on income* reflects the following:

- the change in the jurisdictional mix of earnings, which includes the impact of the location of earnings from operations and repatriation costs. The jurisdictional mix of earnings can vary as a result of repatriation decisions, operating fluctuations in the normal course of business, the impact of non-deductible and non-taxable items, and the extent and location of other income and expense items, such as gains and losses on asset divestitures;
- U.S. tax benefit related to U.S. Research and Development Tax Credit;
- tax expense related to changes in uncertain tax positions (see *D. Tax Contingencies*);
- the impact of the Global Intangible Low-Tax Income tax, a new provision of the Tax Act, which became effective for the company in the first quarter of 2019;
- a $20 million discrete tax benefit recorded in 2019 related to the excess tax benefits for share-based payments;
- an $18 million discrete tax benefit related to the changes in valuation allowances;
- a $14 million net discrete tax benefit recorded in the third quarter of 2019 due to a change in tax basis related to purchase accounting;
- a $12 million net discrete tax benefit recorded in 2019 related to changes in various other tax items;
- a $10 million net discrete tax benefit recorded in 2019 related to the effective settlement of certain issues with tax authorities; and
- an $8 million discrete tax benefit recorded in 2019 related to a remeasurement of deferred tax assets and liabilities as a result of changes in statutory tax rates.

Tax Rate Reconciliation

The reconciliation of the U.S. statutory income tax rate to our effective tax rate follows:

	Year Ended December 31,		
	2021	2020	2019
U.S. statutory income tax rate	**21 %**	21 %	21 %
State and local taxes, net of federal benefits	**0.8**	0.9	0.6
Unrecognized tax benefits and tax settlements and resolution of certain tax positions[(a)]	**0.1**	0.1	0.5
Foreign Derived Intangible Income	**(1.1)**	—	(0.6)
U.S. Research and Development Tax Credit	**(0.6)**	(0.7)	(0.7)
Share-based payments	**(0.9)**	(1.3)	(1.0)
Non-deductible / non-taxable items	**0.3**	0.4	0.4
Taxation of non-U.S. operations[(b)(c)]	**(1.3)**	(1.6)	(3.1)
All other—net	**(0.1)**	(0.8)	(0.4)
Effective tax rate	**18.2 %**	18.0 %	16.7 %

(a) For a discussion about unrecognized tax benefits and tax settlements and resolution of certain tax positions, see above in this section and *D. Tax Contingencies*.

(b) In all years, the rate impact of taxation of non-U.S. operations was a decrease to our effective tax rate due to the jurisdictional mix of earnings.

(c) In 2020, the rate impact of non-U.S. operations also includes (i) a $5 million discrete tax expense related to the changes in valuation allowances, and (ii) an $8 million net discrete tax benefit related to changes in various other tax items. In 2019, the rate impact of non-U.S. operations also includes (i) an $18 million discrete tax benefit related to the changes in valuation allowances, (ii) a $14 million net discrete tax benefit due to a change in tax basis related to purchase accounting, and (iii) a $10 million discrete tax benefit related to the effective settlement of certain issues with non-U.S. tax authorities.

B. Tax Matters Agreement

In connection with the separation from Pfizer in 2013, we entered into a tax matters agreement with Pfizer that governs the parties' respective rights, responsibilities and obligations with respect to tax liabilities and benefits, tax attributes, the preparation and filing of tax returns, the control of audits and other tax proceedings and other matters regarding taxes.

In general, under the agreement:

- Pfizer will be responsible for any U.S. federal, state, local or foreign income taxes and any U.S. state or local non-income taxes (and any related interest, penalties or audit adjustments and including those taxes attributable to our business) reportable on a consolidated, combined or unitary return that includes Pfizer or any of its subsidiaries (and us and/or any of our subsidiaries) for any periods or portions thereof ending on or prior to December 31, 2012. We will be responsible for the portion of any such taxes for periods or portions thereof beginning on or after January 1, 2013, as would be applicable to us if we filed the relevant tax returns on a standalone basis.
- We will be responsible for any U.S. federal, state, local or foreign income taxes and any U.S. state or local non-income taxes (and any related interest, penalties or audit adjustments) that are reportable on returns that include only us and/or any of our subsidiaries, for all tax periods whether before or after the completion of the separation from Pfizer.
- Pfizer will be responsible for certain specified foreign taxes directly resulting from certain aspects of the separation from Pfizer.

We will not generally be entitled to receive payment from Pfizer in respect of any of our tax attributes or tax benefits or any reduction of taxes of Pfizer. Neither party's obligations under the agreement will be limited in amount or subject to any cap. The agreement also assigns responsibilities for administrative matters, such as the filing of returns, payment of taxes due, retention of records and conduct of audits, examinations or similar proceedings. In addition, the agreement provides for cooperation and information sharing with respect to tax matters.

Pfizer is primarily responsible for preparing and filing any tax return with respect to the Pfizer affiliated group for U.S. federal income tax purposes and with respect to any consolidated, combined, unitary or similar group for U.S. state or local or foreign income tax purposes or U.S. state or local non-income tax purposes that includes Pfizer or any of its subsidiaries, including those that also include us and/or any of our subsidiaries. We are generally responsible for preparing and filing any tax returns that include only us and/or any of our subsidiaries.

The party responsible for preparing and filing a given tax return will generally have exclusive authority to control tax contests related to any such tax return.

C. Deferred Taxes

Deferred taxes arise as a result of basis differentials between financial statement accounting and tax amounts.

The components of our deferred tax assets and liabilities follow:

	As of December 31,	
	2021	2020
(MILLIONS OF DOLLARS)	**Assets (Liabilities)**	
Prepaid/deferred items	**$ 109**	$ 64
Inventories	**10**	15
Intangibles	**(187)**	(237)
Property, plant and equipment	**(183)**	(168)
Employee benefits	**58**	59
Restructuring and other charges	**3**	3
Legal and product liability reserves	**14**	15
Net operating loss/credit carryforwards	**132**	127
Unremitted earnings	**(7)**	(6)
All other	**5**	1
Subtotal	**(46)**	(127)
Valuation allowance	**(174)**	(157)
Net deferred tax liability[a][b]	**$ (220)**	$ (284)

[a] The decrease in the total net deferred tax liability from December 31, 2020 to December 31, 2021 is primarily attributable to a decrease in deferred tax liabilities related to intangibles, partially offset by an increase in valuation allowances representing the amounts determined to be unrecoverable, and deferred tax liabilities related to property, plant and equipment. In addition, the decrease in the total net deferred tax liability was also attributable to an increase in deferred tax assets related to prepaid/deferred items and net operation loss/credit carry forwards, partially offset by a decrease in inventory and employee benefits.

[b] In 2021, included in *Noncurrent deferred tax assets* ($100 million) and *Noncurrent deferred tax liabilities* ($320 million). In 2020, included in *Noncurrent deferred tax assets* ($94 million) and *Noncurrent deferred tax liabilities* ($378 million).

We have carryforwards, primarily related to net operating losses, which are available to reduce future foreign, U.S. federal, and U.S. state income taxes payable with either an indefinite life or expiring at various times from 2022 to 2041.

Valuation allowances are provided when we believe that our deferred tax assets are not recoverable based on an assessment of estimated future taxable income that incorporates ongoing, prudent and feasible tax planning strategies. On the basis of this evaluation, as of December 31, 2021 and December 31, 2020, a valuation allowance of $174 million and $157 million, respectively, has been recorded to reflect only the portion of the deferred tax asset that is more likely than not to be realized. The amount of the deferred tax asset considered realizable, however, could be adjusted if estimates of future taxable income during the carryforward period are reduced or increased or if objective negative evidence in the form of cumulative losses is no longer present and additional weight may be given to subjective evidence such as projections for growth.

In general, it is our practice and intention to permanently reinvest the majority of the earnings of the company’s non-U.S. subsidiaries. As of December 31, 2021, the cumulative amount of such undistributed earnings was approximately $7.0 billion, for which we have not provided U.S. and local income taxes, such as U.S. state income taxes, local withholding taxes, and taxes on currency gains and losses. Since these earnings are intended to be indefinitely reinvested overseas as of December 31, 2021, we cannot predict the time or manner of a potential repatriation. As such,

other than the deferred tax liability associated with the one-time mandatory deemed repatriation tax on such undistributed earnings imposed by the Tax Act, it is not practicable to estimate the additional deferred tax liability associated with the potential repatriation of the unremitted earnings due to the complexity of the hypothetical calculation.

D. Tax Contingencies

We are subject to income tax in many jurisdictions, and a certain degree of estimation is required in recording the assets and liabilities related to income taxes. All of our tax positions are subject to audit by the local taxing authorities in each tax jurisdiction. These tax audits can involve complex issues, interpretations and judgments and the resolution of matters may span multiple years, particularly if subject to negotiation or litigation. Our assessments are based on estimates and assumptions that have been deemed reasonable by management, but our estimates of unrecognized tax benefits and potential tax benefits may not be representative of actual outcomes, and variation from such estimates could materially affect our financial statements in the period of settlement or when the statute of limitations expire. We treat these events as discrete items in the period of resolution.

For a description of our accounting policies associated with accounting for income tax contingencies, see *Note 3. Significant Accounting Policies: Deferred Tax Assets and Liabilities* and *Income Tax Contingencies.* For a description of the risks associated with estimates and assumptions, see *Note 3. Significant Accounting Policies: Estimates and Assumptions.*

Uncertain Tax Positions

As tax law is complex and often subject to varied interpretations, it is uncertain whether some of our tax positions will be sustained upon audit. As of December 31, 2021, 2020 and 2019, we had approximately $188 million, $187 million and $180 million, respectively, in net liabilities associated with uncertain tax positions, excluding associated interest and penalties:

- Tax assets associated with uncertain tax positions primarily represent our estimate of the potential tax benefits in one tax jurisdiction that could result from the payment of income taxes in another tax jurisdiction. These potential benefits generally result from cooperative efforts among taxing authorities, as required by tax treaties to minimize double taxation, commonly referred to as the competent authority process. The recoverability of these assets, which we believe to be more likely than not, is dependent upon the actual payment of taxes in one tax jurisdiction and, in some cases, the successful petition for recovery in another tax jurisdiction. As of December 31, 2021, 2020 and 2019, we had approximately $3 million in assets associated with uncertain tax positions recorded in *Noncurrent deferred tax assets* and *Other noncurrent assets*.
- Tax liabilities associated with uncertain tax positions represent unrecognized tax benefits, which arise when the estimated benefit recorded in our financial statements differs from the amounts taken or expected to be taken in a tax return because of the uncertainties described above. These unrecognized tax benefits relate primarily to issues common among multinational corporations. Substantially all of these unrecognized tax benefits, if recognized, would impact our effective income tax rate.

  The reconciliation of the beginning and ending amounts of gross unrecognized tax benefits follows:

(MILLIONS OF DOLLARS)		**2021**		2020		2019
Balance, January 1	**$**	**(188)**	$	(182)	$	(185)
Increases based on tax positions taken during a prior period[(a)(b)]		**(1)**		(6)		(3)
Decreases based on tax positions taken during a prior period[(a)(c)]		**7**		6		12
Increases based on tax positions taken during the current period[(a)(d)]		**(9)**		(9)		(8)
Lapse in statute of limitations		**2**		3		2
Balance, December 31[(e)]	**$**	**(189)**	$	(188)	$	(182)

(a) Primarily included in *Provision for taxes on income.*

(b) In 2021, 2020 and 2019, the increases are primarily related to movements on prior year positions.

(c) In 2021 and 2020, the decreases are primarily related to effective settlement of certain issues with tax authorities. In 2019, the decreases are primarily related to movements on prior year positions and effective settlement of certain issues with tax authorities, including movements in foreign translation adjustments on prior year positions.

(d) In 2021, 2020 and 2019, the increases are primarily related to movements on current year positions.

(e) In 2021, included in *Noncurrent deferred tax assets* and *Other noncurrent assets* ($1 million) and *Other taxes payable* ($188 million). In 2020, included in *Noncurrent deferred tax assets* and *Other noncurrent assets* ($1 million) and *Other taxes payable* ($187 million). In 2019, included in *Noncurrent deferred tax assets* and *Other noncurrent assets* ($2 million) and *Other taxes payable* ($180 million).

- Interest related to our unrecognized tax benefits is recorded in accordance with the laws of each jurisdiction and is recorded in *Provision for taxes on income* in our Consolidated Statements of Income. In 2021, we recorded a net interest expense of $1 million; in 2020, we recorded a net interest expense of $2 million; and in 2019, we recorded a net interest expense of $2 million. Gross accrued interest totaled $12 million, $11 million and $9 million as of December 31, 2021, 2020 and 2019, respectively, and were included in *Other taxes payable*. As of December 31, 2021, 2020 and 2019, gross accrued penalties totaled $3 million and were included in *Other taxes payable*.

Status of Tax Audits and Potential Impact on Accruals for Uncertain Tax Positions

We are subject to taxation in the U.S. including various states, and foreign jurisdictions. The U.S. is one of our major tax jurisdictions, and we are currently under audit for tax years 2015 through 2018. For U.S. Federal and state tax purposes, the tax years 2015 through 2021 are open for examination (see *B. Tax Matters Agreement* for years prior to 2013).

In addition to the open audit years in the U.S., we have open audit years in other major foreign tax jurisdictions, such as Canada (2018-2021), Asia-Pacific (2011-2021, primarily reflecting Australia, China and Japan), Europe (2012-2021, primarily reflecting France, Germany, Italy, Spain and the U.K.) and Latin America (2006-2021, primarily reflecting Brazil and Mexico).

Any settlements or statute of limitations expirations could result in a significant decrease in our uncertain tax positions. We do not expect that within the next twelve months any of our gross unrecognized tax benefits, exclusive of interest, could significantly decrease as a result of settlements with taxing authorities or the expiration of the statutes of limitations. Our assessments are based on estimates and assumptions that have been deemed reasonable by management, but our estimates of unrecognized tax benefits and potential tax benefits may not be representative of actual outcomes, and any variation from such estimates could materially affect our financial statements in the period of settlement or when the statutes of limitations expire, as we treat these events as discrete items in the period of resolution. Finalizing audits with the relevant taxing authorities can include formal administrative and legal proceedings, and, as a result, it is difficult to estimate the timing and range of possible change related to our uncertain tax positions, and such changes could be significant.

9. Financial Instruments

A. Debt

Credit Facilities

In December 2016, we entered into an amended and restated revolving credit agreement with a syndicate of banks providing for a multi-year $1.0 billion senior unsecured revolving credit facility (the credit facility). In December 2018, the maturity for the amended and restated credit facility was extended through December 2023. Subject to certain conditions, we have the right to increase the credit facility to up to $1.5 billion. The credit facility contains a financial covenant requiring us to not exceed a maximum total leverage ratio (the ratio of consolidated net debt as of the end of the period to consolidated Earnings Before Interest, Income Taxes, Depreciation and Amortization (EBITDA) for such period) of 3.50:1. Upon entering into a material acquisition, the maximum total leverage ratio increases to 4.00:1, and extends until the fourth full consecutive fiscal quarter ended immediately following the consummation of a material acquisition.

The credit facility also contains a financial covenant requiring that we maintain a minimum interest coverage ratio (the ratio of EBITDA at the end of the period to interest expense for such period) of 3.50:1. In addition, the credit facility contains other customary covenants.

We were in compliance with all financial covenants as of December 31, 2021 and December 31, 2020. There were no amounts drawn under the credit facility as of December 31, 2021 or December 31, 2020.

We have additional lines of credit and other credit arrangements with a group of banks and other financial intermediaries for general corporate purposes. We maintain cash and cash equivalent balances in excess of our outstanding short-term borrowings. As of December 31, 2021, we had access to $63 million of lines of credit which expire at various times through 2022, and are generally renewed annually. As of December 31, 2021 we had no borrowings outstanding related to these facilities and $4 million of borrowings outstanding related to these facilities as of December 31, 2020.

Commercial Paper Program

In February 2013, we entered into a commercial paper program with a capacity of up to $1.0 billion. As of December 31, 2021 and 2020, there was no commercial paper outstanding under this program.

Senior Notes and Other Long-Term Debt

On August 20, 2021, we redeemed, upon maturity, the $300 million aggregate principal amount of our 2018 floating rate senior notes due 2021 and the $300 million aggregate principal amount of our 2018 senior notes due 2021.

On May 12, 2020, we issued $1.25 billion aggregate principal amount of our senior notes (2020 senior notes), with an original issue discount of $10 million. These notes are comprised of $750 million aggregate principal amount of 2.000% senior notes due 2030 and $500 million aggregate principal amount of 3.000% senior notes due 2050. On October 13, 2020, the net proceeds were used to repay the $500 million aggregate principal amount of our 3.450% 2015 senior notes due 2020 and the remainder is being used for general corporate purposes.

On August 20, 2018, we issued $1.5 billion aggregate principal amount of our senior notes (2018 senior notes), with an original issue discount of $4 million. On September 12, 2017, we issued $1.25 billion aggregate principal amount of our senior notes (2017 senior notes), with an original issue discount of $7 million. On November 13, 2015, we issued $1.25 billion aggregate principal amount of our senior notes (2015 senior notes), with an original issue discount of $2 million. On January 28, 2013, we issued $3.65 billion aggregate principal amount of our senior notes (the 2013 senior notes offering) in a private placement, with an original issue discount of $10 million.

The 2013, 2015, 2017, 2018 and 2020 senior notes are governed by an indenture and supplemental indenture (collectively, the indenture) between us and Deutsche Bank Trust Company Americas, as trustee. The indenture contains certain covenants, including limitations on our and certain of our subsidiaries' ability to incur liens or engage in sale-leaseback transactions. The indenture also contains restrictions on our ability to consolidate, merge or sell substantially all of our assets. In addition, the indenture contains other customary terms, including certain events of default, upon the occurrence of which the 2013, 2015, 2017, 2018 and 2020 senior notes may be declared immediately due and payable.

Pursuant to the indenture, we are able to redeem the 2013, 2015, 2017, 2018 and 2020 senior notes of any series, in whole or in part, at any time by paying a “make whole” premium, plus accrued and unpaid interest to, but excluding, the date of redemption. Pursuant to our tax matters agreement with Pfizer, we will not be permitted to redeem the 2013 senior notes due 2023 pursuant to this optional redemption provision, except under limited circumstances. Upon the occurrence of a change of control of us and a downgrade of the 2013, 2015, 2017, 2018 and 2020 senior notes below an investment grade rating by each of Moody's Investors Service, Inc. and Standard & Poor's Ratings Services, we are, in certain circumstances, required to make an offer to repurchase all of the outstanding 2013, 2015, 2017, 2018 and 2020 senior notes at a price equal to 101% of the aggregate principal amount of the 2013, 2015, 2017, 2018 and 2020 senior notes together with accrued and unpaid interest to, but excluding, the date of repurchase.

The components of our long-term debt are as follows:

	As of December 31,	
(MILLIONS OF DOLLARS)	**2021**	2020
2018 floating rate (three-month USD LIBOR plus 0.44%) senior notes due 2021	**$ —**	$ 300
3.250% 2018 senior notes due 2021	**—**	300
3.250% 2013 senior notes due 2023	**1,350**	1,350
4.500% 2015 senior notes due 2025	**750**	750
3.000% 2017 senior notes due 2027	**750**	750
3.900% 2018 senior notes due 2028	**500**	500
2.000% 2020 senior notes due 2030	**750**	750
4.700% 2013 senior notes due 2043	**1,150**	1,150
3.950% 2017 senior notes due 2047	**500**	500
4.450% 2018 senior notes due 2048	**400**	400
3.000% 2020 senior notes due 2050	**500**	500
	6,650	7,250
Unamortized debt discount / debt issuance costs	**(60)**	(66)
Less current portion of long-term debt	**—**	600
Cumulative fair value adjustment for interest rate swap contracts	**2**	11
Long-term debt, net of discount and issuance costs	**$ 6,592**	$ 6,595

The fair value of our long-term debt was $7,443 million and $7,835 million as of December 31, 2021 and 2020, respectively, and has been determined using a third-party matrix-pricing model that uses significant inputs derived from, or corroborated by, observable market data and Zoetis' credit rating (Level 2 inputs). See *Note 3. Significant Accounting Policies— Fair Value.*

The following table provides the principal amount of debt outstanding as of December 31, 2021 by scheduled maturity date. The table also provides the expected interest payments on these borrowings as of December 31, 2021.

(MILLIONS OF DOLLARS)	2022	2023	2024	2025	2026	After 2026	Total
Maturities	$ —	$ 1,350	$ —	$ 750	$ —	$ 4,550	$ 6,650
Interest payments	$ 241	$ 219	$ 197	$ 197	$ 164	$ 2,165	$ 3,183

Interest Expense

Interest expense, net of capitalized interest, was $224 million for 2021, $231 million for 2020 and $223 million for 2019. Capitalized interest expense was $20 million for 2021, $17 million for 2020 and $13 million for 2019.

B. Derivative Financial Instruments

Foreign Exchange Risk

A significant portion of our revenue, earnings and net investment in foreign affiliates is exposed to changes in foreign exchange rates. We seek to manage our foreign exchange risk, in part, through operational means, including managing same-currency revenue in relation to same-currency costs and same-currency assets in relation to same-currency liabilities. Depending on market conditions, foreign exchange risk is also managed through the use of various derivative financial instruments. These derivative financial instruments serve to manage the exposure of our net investment in certain foreign operations to changes in foreign exchange rates and protect net income against the impact of translation into U.S. dollars of certain foreign exchange-denominated transactions.

All derivative financial instruments used to manage foreign currency risk are measured at fair value and are reported as assets or liabilities on the Consolidated Balance Sheets. The derivative financial instruments primarily offset exposures in the Canadian dollar, Chinese yuan, Danish krone, euro, Japanese yen and Norwegian krone. Changes in fair value are reported in earnings or in *Accumulated other comprehensive loss*, depending on the nature and purpose of the financial instrument, as follows:

- For foreign exchange contracts not designated as hedging instruments, we recognize the gains and losses on forward-exchange contracts that are used to offset the same foreign currency assets or liabilities immediately into earnings along with the earnings impact of the items they generally offset. These contracts essentially take the opposite currency position of that reflected in the month-end balance sheet to counterbalance the effect of any currency movement. The vast majority of the foreign exchange derivative financial instruments mature within 60 days and all mature within three years.
- For cross-currency interest rate swaps, which are designated as a hedge against our net investment in foreign operations, changes in the fair value are recorded as a component of cumulative translation adjustment within *Accumulated other comprehensive loss* and reclassified into earnings when the foreign investment is sold or substantially liquidated. Gains and losses excluded from the assessment of hedge effectiveness are recognized in earnings (*Interest expense—net of capitalized interest)*. The cash flows from these contracts are reflected within the investing section of our *Condensed Consolidated Statement of Cash Flows.* These cross-currency interest rate swap contracts have varying maturities of up to four years.

Interest Rate Risk

The company may use interest rate swap contracts on certain investing and borrowing transactions to manage its net exposure to interest rates and to reduce its overall cost of borrowing.

- In anticipation of issuing fixed-rate debt, we may use forward-starting interest rate swaps that are designated as cash flow hedges to hedge against changes in interest rates that could impact expected future issuances of debt. Unrealized gains or losses on the forward-starting interest rate swaps are reported in *Accumulated other comprehensive loss* and are recognized in earnings over the life of the future fixed rate notes. When the company discontinues hedge accounting because it is no longer probable that an anticipated transaction will occur within the originally expected period of execution, or within an additional two-month period thereafter, changes to fair value accumulated in other comprehensive income are recognized immediately in earnings.
- As of December 31, 2021, we had outstanding forward-starting interest rate swaps, having an effective date and mandatory termination date in March 2023, to hedge against interest rate exposure related principally to the anticipated future issuance of fixed-rate debt to be used primarily to refinance our 3.250% 2013 senior notes due 2023, and a forward-starting interest rate swap, having an effective date and mandatory termination date in March 2026, to hedge against interest rate exposure related principally to the anticipated future issuance of fixed-rate debt to be used primarily to refinance our 4.500% 2015 senior notes due 2025.
- We may use fixed-to-floating interest rate swaps that are designated as fair value hedges to hedge against changes in the fair value of certain fixed-rate debt attributable to changes in the benchmark LIBOR or SOFR rate. These derivative instruments effectively convert a portion of the company's long-term debt from fixed rate to floating rate debt based on three-month LIBOR or the daily SOFR rate plus a spread. Gains or losses on the fixed to floating interest rate swaps are recorded in *Interest expense, net of capitalized interest.* Changes in the fair value of the fixed-to-floating interest rate swaps are offset by changes in the fair value of the underlying fixed rate debt. As of December 31, 2021, we had outstanding fixed-to-floating interest rate swaps that correspond to a portion of the 3.900% 2018 senior notes due 2028 and the 2.00% senior notes due 2030. The amounts recorded during the twelve months ended December 31, 2021 for changes in the fair value of these hedges are not material to our consolidated financial statements.

Outstanding Positions

The aggregate notional amount of derivative instruments are as follows:

	Notional			
	As of December 31,			
(MILLIONS)		**2021**		2020
Foreign currency forward-exchange contracts	**$**	**1,749**	$	1,633
Cross-currency interest rate swap contracts (in foreign currency):				
Euro		**650**		650
Danish krone		**600**		600
Swiss franc		**25**		25
Forward-starting interest rate swaps	**$**	**550**	$	550
Fixed-to-floating interest rate swap contracts	**$**	**200**	$	150

Fair Value of Derivative Instruments

The classification and fair values of derivative instruments are as follows:

		Fair Value of Derivatives			
		As of December 31,			
(MILLIONS OF DOLLARS)	Balance Sheet Location		**2021**		2020
Derivatives Not Designated as Hedging Instruments:					
Foreign currency forward-exchange contracts	Other current assets	**$**	**16**	$	10
Foreign currency forward-exchange contracts	Other current liabilities		**(15)**		(16)
Total derivatives not designated as hedging instruments			**1**		(6)
Derivatives Designated as Hedging Instruments:					
Forward starting interest rate swap contracts	Other non-current assets	**$**	**17**	$	6
Forward starting interest rate swap contracts	Other non-current liabilities		**(5)**		(17)
Cross-currency interest rate swap contracts	Other current assets		**12**		2
Cross-currency interest rate swap contracts	Other non-current assets		**14**		5
Cross-currency interest rate swap contracts	Other current liabilities		**(3)**		(21)
Fixed to floating interest rate swap contracts	Other non-current assets		**2**		11
Total derivatives designated as hedging instruments			**37**		(14)
Total derivatives		**$**	**38**	$	(20)

The company's cross-currency interest rate swaps are subject to master netting arrangements to mitigate credit risk by permitting net settlement of transactions with the same counterparty. We may also enter into collateral security arrangements with certain of our counterparties to exchange cash collateral when the net fair value of certain derivative instruments fluctuates from contractually established thresholds. At December 31, 2021, there was $23 million of collateral received related to interest rate swap contracts and cross-currency interest rate swaps recorded in *Other noncurrent assets.*

We use a market approach in valuing financial instruments on a recurring basis. Our derivative financial instruments are measured at fair value on a recurring basis using Level 2 inputs in the calculation of fair value. See *Note 3. Significant Accounting Policies— Fair Value.*

The amounts of net losses on derivative instruments not designated as hedging instruments, recorded in *Other (income)/deductions - net,* are as follows:

	Year Ended December 31,	
(MILLIONS OF DOLLARS)	**2021**	2020
Foreign currency forward-exchange contracts	**$ (20)**	$ (2)

These amounts were substantially offset in *Other (income)/deductions—net* by the effect of changing exchange rates on the underlying foreign currency exposures.

The amounts of unrecognized net gains/(losses) on interest rate swap contracts, recorded, net of tax, in *Accumulated other comprehensive loss*, are as follows:

	Year Ended December 31,	
(MILLIONS OF DOLLARS)	**2021**	2020
Forward starting interest rate swap contracts	**$ 18**	$ (11)
Cross-currency interest rate swap contracts	**$ 42**	$ (58)

Gains on interest rate swap contracts, recognized within *Interest expense, net of capitalized interest,* are as follows:

	Year Ended December 31,	
(MILLIONS OF DOLLARS)	**2021**	2020
Cross-currency interest rate swap contracts	**$ 12**	$ 18

The net amount of deferred gains/(losses) related to derivative instruments designated as cash flow hedges that is expected to be reclassified from *Accumulated other comprehensive loss* into earnings over the next 12 months is insignificant.

10. Leases

We have facilities, vehicles and equipment under various non-cancellable operating leases with third parties. These leases generally have remaining terms ranging from 1 to 15 years, inclusive of renewal options that are reasonably certain of exercise.

Supplemental information for operating leases is as follows:

	As of December 31,	
(MILLIONS OF DOLLARS, EXCEPT LEASE TERM AND DISCOUNT RATE AMOUNTS)	**2021**	2020
Supplemental Balance Sheet information for operating leases		
Operating lease right of use assets	$ 181	$ 192
Operating lease liabilities		
Operating lease liabilities - current (in *Other current liabilities*)	$ 41	$ 40
Operating lease liabilities - noncurrent	151	163
Total operating lease liabilities	$ 192	$ 203
Weighted-average remaining lease term—operating leases (years)	6.55	6.59
Weighted-average discount rate—operating leases	2.81 %	3.12 %

	Year Ended December 31,		
(MILLIONS OF DOLLARS)	**2021**	2020	2019
Supplemental Income Statement information for operating leases			
Operating lease expense	$ 50	$ 46	$ 40
Variable lease payments not included in the measurement of lease liabilities	19	20	21
Short-term lease payments not included in the measurement of lease liabilities	9	7	9
Supplemental Cash Flow information for operating leases			
Cash paid for amounts included in the measurement of lease liabilities	$ 47	$ 42	$ 42
Lease obligations obtained in exchange for right-of-use assets (non-cash)	39	47	241

Future minimum lease payments under non-cancellable operating lease contracts as of December 31, 2021 are as follows:

(MILLIONS OF DOLLARS)	2022	2023	2024	2025	2026	After 2026	Total Lease Payments	Less: Imputed Interest	Total
Maturities	$ 46	$ 39	$ 31	$ 23	$ 19	$ 54	$ 212	$ (20)	$ 192

11. Inventories

The components of inventory follow:

	As of December 31,	
(MILLIONS OF DOLLARS)	**2021**	2020
Finished goods	**$ 888**	$ 805
Work-in-process	**696**	594
Raw materials and supplies	**339**	229
Inventories	**$ 1,923**	$ 1,628

12. Property, Plant and Equipment

The components of property, plant and equipment follow:

(MILLIONS OF DOLLARS)	Useful Lives (Years)	As of December 31, **2021**	2020
Land	—	**$ 22**	$ 22
Buildings	33.3 - 50	**1,103**	1,019
Machinery, equipment and fixtures	3 - 20	**2,627**	2,440
Construction-in-progress	—	**742**	673
		4,494	4,154
Less: Accumulated depreciation		**2,072**	1,952
Property, plant and equipment		**$ 2,422**	$ 2,202

Depreciation expense was $244 million in 2021, $211 million in 2020 and $175 million in 2019.

13. Goodwill and Other Intangible Assets

A. Goodwill

The components of, and changes in, the carrying amount of goodwill follow:

(MILLIONS OF DOLLARS)	U.S.	International	Total
Balance, December 31, 2019	$ 1,367	$ 1,225	$ 2,592
Additions / Adjustments[a]	58	17	75
Other[b]	—	27	27
Balance, December 31, 2020	$ 1,425	$ 1,269	$ 2,694
Adjustments	**(1)**	**4**	**3**
Other[b]	**—**	**(15)**	**(15)**
Balance, December 31, 2021	**$ 1,424**	**$ 1,258**	**$ 2,682**

[a] For 2020, primarily relates to the acquisitions of Performance Livestock Analytics, Fish Vet Group and Virtual Recall. See *Note 5. Acquisitions and Divestitures.*

[b] Includes adjustments for foreign currency translation.

The gross goodwill balance was $3,218 million as of December 31, 2021 and $3,230 million as of December 31, 2020. Accumulated goodwill impairment losses (generated entirely in fiscal 2002) was $536 million as of December 31, 2021 and 2020.

B. Other Intangible Assets

The components of identifiable intangible assets follow:

	As of December 31, 2021			As of December 31, 2020		
(MILLIONS OF DOLLARS)	**Gross Carrying Amount**	**Accumulated Amortization**	**Identifiable Intangible Assets, Less Accumulated Amortization**	Gross Carrying Amount	Accumulated Amortization	Identifiable Intangible Assets, Less Accumulated Amortization
Finite-lived intangible assets:						
Developed technology rights	**$ 1,933**	**$ (949)**	**$ 984**	$ 1,968	$ (809)	$ 1,159
Brands and tradenames	**426**	**(260)**	**166**	427	(243)	184
Other	**473**	**(335)**	**138**	474	(306)	168
Total finite-lived intangible assets	**2,832**	**(1,544)**	**1,288**	2,869	(1,358)	1,511
Indefinite-lived intangible assets:						
Brands and tradenames	**91**	**—**	**91**	104	—	104
In-process research and development	**88**	**—**	**88**	88	—	88
Product rights	**7**	**—**	**7**	7	—	7
Total indefinite-lived intangible assets	**186**	**—**	**186**	199	—	199
Identifiable intangible assets	**$ 3,018**	**$ (1,544)**	**$ 1,474**	$ 3,068	$ (1,358)	$ 1,710

Developed Technology Rights

Developed technology rights represent the amortized cost associated with developed technology, which has been acquired from third parties and which can include the right to develop, use, market, sell and/or offer for sale the product, compounds and intellectual property that we have acquired with respect to products, compounds and/or processes that have been completed. These assets include technologies related to the care and treatment of dogs, cats, horses, cattle, swine, poultry, fish and sheep.

Brands and Tradenames

Brands and tradenames represent the amortized or unamortized cost associated with product name recognition, as the products themselves do not receive patent protection and legal trademark and tradenames. The more significant finite-lived brands are Platinum Performance, Excenel and Lutalyse and the most significant indefinite-lived brand is the Linco family of products. The more significant finite-lived trademarks and tradenames are finite-lived trademarks and tradenames acquired from Abaxis. The more significant components of indefinite-lived trademarks and tradenames are indefinite-lived trademarks and tradenames acquired from SmithKlineBeecham.

In-Process Research and Development

IPR&D assets represent R&D assets that have not yet received regulatory approval in a major market. The majority of these IPR&D assets were acquired in connection with our acquisition of an Irish biologic therapeutics company.

IPR&D assets are required to be classified as indefinite-lived assets until the successful completion or abandonment of the associated R&D effort. Accordingly, during the development period after the date of acquisition, these assets will not be amortized until approval is obtained in a major market, typically either the U.S. or the EU, or in a series of other countries, subject to certain specified conditions and management judgment. At that time, we will determine the useful life of the asset, reclassify the asset out of IPR&D and begin amortization. If the associated R&D effort is abandoned, the related IPR&D assets will be written-off and we will record an impairment charge.

There can be no certainty that IPR&D assets ultimately will yield a successful product.

Product Rights

Product rights represent product registration and application rights that were acquired from Pfizer in 2014.

C. Amortization

The weighted average life of our total finite-lived intangible assets is approximately 9 years. Total amortization expense for finite-lived intangible assets was $204 million in 2021, $230 million in 2020 and $237 million in 2019.

The annual amortization expense expected for the years 2022 through 2026 is as follows:

(MILLIONS OF DOLLARS)	2022	2023	2024	2025	2026
Amortization expense	$ 190	$ 181	$ 162	$ 148	$ 139

14. Benefit Plans

Our employees ceased to participate in the Pfizer U.S. qualified defined benefit and U.S. retiree medical plans effective December 31, 2012 and liabilities associated with our employees under these plans were retained by Pfizer. Pfizer continued to credit certain employees' service with Zoetis generally through December 31, 2017 (or termination of employment from Zoetis, if earlier) for certain early retirement benefits with respect to Pfizer's U.S. defined benefit pension and retiree medical plans. In connection with an employee matters agreement between Pfizer and Zoetis, Zoetis is responsible for payment of three-fifths of the total cost of the service credit continuation (approximately $38 million) for these plans and Pfizer is responsible for the remaining two-fifths of the total cost (approximately $25 million). The $25 million capital contribution from Pfizer and corresponding contra-equity account (which is being reduced as the service credit continuation is incurred) is included in *Employee benefit plan contribution from Pfizer Inc.* in the Consolidated Statements of Equity. The balance in the contra-equity account was approximately $3 million and $5 million as of December 31, 2021 and 2020, respectively. The amount of the service cost continuation payment to be paid by Zoetis to Pfizer was determined and fixed based on an actuarial assessment of the value of the grow-in benefits and is being paid in equal installments over a period of 10 years. Pension and postretirement benefit expense associated with the extended service for certain employees in the U.S. plans totaled approximately $6 million per year in 2021 and 2020.

Pension expense associated with the U.S. and certain significant international locations (inclusive of service cost grow-in benefits discussed above) totaled approximately $14 million in 2021, $14 million in 2020 and $13 million in 2019.

A. International Pension Plans

Information about the dedicated pension plans, including the plans transferred to us as part of the separation from Pfizer, is provided in the tables below.

Obligations and Funded Status—Dedicated Plans

The following table provides an analysis of the changes in the benefit obligations, plan assets and funded status of our dedicated pension plans (including those transferred to us):

	As of and for the Year Ended December 31,	
(MILLIONS OF DOLLARS)	**2021**	2020
Change in benefit obligation:		
Projected benefit obligation, beginning	**$ 164**	$ 144
Service cost	**8**	8
Interest cost	**2**	2
Changes in actuarial assumptions and other	**(1)**	1
Settlements and curtailments	**(2)**	—
Benefits paid	**(2)**	(2)
Adjustments for foreign currency translation	**(9)**	12
Other—net	**(1)**	(1)
Benefit obligation, ending	**159**	164
Change in plan assets:		
Fair value of plan assets, beginning	**85**	72
Actual return on plan assets	**11**	4
Company contributions	**5**	5
Settlements and curtailments	**(1)**	—
Benefits paid	**(2)**	(2)
Adjustments for foreign currency translation	**(5)**	6
Other—net	**(1)**	—
Fair value of plan assets, ending	**92**	85
Funded status—Projected benefit obligation in excess of plan assets at end of year[(a)]	**$ (67)**	$ (79)

(a) Included in *Other noncurrent liabilities*.

Changes in the benefit obligation resulted in a net gain of $1 million in 2021 and a net loss of $1 million in 2020.

Actuarial losses were approximately $21 million ($16 million, net of tax) at December 31, 2021 and $32 million ($22 million, net of tax) at December 31, 2020. The actuarial gains and losses primarily represent the cumulative difference between the actuarial assumptions and actual return on plan assets, changes in discount rates and changes in other assumptions used in measuring the benefit obligations. These actuarial gains and losses are recognized in *Accumulated other comprehensive loss*. The actuarial losses will be amortized into net periodic benefit costs over an average period of 10.5 years.

Information related to the funded status of selected plans follows:

	As of December 31,	
(MILLIONS OF DOLLARS)	**2021**	2020
Pension plans with an accumulated benefit obligation in excess of plan assets:		
Fair value of plan assets	**$ 24**	$ 77
Accumulated benefit obligation	**72**	131
Pension plans with a projected benefit obligation in excess of plan assets:		
Fair value of plan assets	**84**	83
Projected benefit obligation	**152**	162

Net Periodic Benefit Costs—Dedicated Plans

The following table provides the net periodic benefit cost associated with dedicated pension plans (including those transferred to us):

	Year Ended December 31,		
(MILLIONS OF DOLLARS)	**2021**	2020	2019
Service cost	**$ 8**	$ 8	$ 6
Interest cost	**2**	2	3
Expected return on plan assets	**(3)**	(3)	(3)
Amortization of net losses	**1**	2	1
Net periodic benefit cost	**$ 8**	$ 9	$ 7

Actuarial Assumptions—Dedicated Plans

The following table provides the weighted average actuarial assumptions for the dedicated pension plans (including those transferred to us):

	As of December 31,		
(PERCENTAGES)	**2021**	2020	2019
Weighted average assumptions used to determine benefit obligations:			
Discount rate	**1.4 %**	1.2%	1.3%
Rate of compensation increase	**3.4 %**	3.1%	3.1%
Cash balance credit interest rate	**1.5 %**	1.5%	1.5%
Weighted average assumptions used to determine net benefit cost for the year ended December 31:			
Discount rate	**1.2 %**	1.3%	2.3%
Expected return on plan assets	**3.8 %**	3.8%	4.1%
Rate of compensation increase	**3.1 %**	3.1%	3.0%
Cash balance credit interest rate	**1.5 %**	1.5%	1.7%

The assumptions above are used to develop the benefit obligations at the end of the year and to develop the net periodic benefit cost for the following year. Therefore, the assumptions used to determine the net periodic benefit cost for each year are established at the end of each previous year, while the assumptions used to determine the benefit obligations are established at each year-end. The net periodic benefit cost and the benefit obligations are based on actuarial assumptions that are reviewed on an annual basis. The assumptions are revised based on an annual evaluation of long-term trends, as well as market conditions that may have an impact on the cost of providing retirement benefits.

Actuarial and other assumptions for pension plans can result from a complex series of judgments about future events and uncertainties and can rely on estimates and assumptions. For a description of the risks associated with estimates and assumptions, see *Note 3. Significant Accounting Policies—Estimates and Assumptions*.

Plan Assets—Dedicated Plans

The components of plan assets follow:

	As of December 31,	
(MILLIONS OF DOLLARS)	**2021**	2020
Cash and cash equivalents	**$ 1**	$ 1
Equity securities: Equity commingled funds	**36**	31
Debt securities: Government bonds	**45**	43
Other investments	**10**	10
Total[(a)]	**$ 92**	$ 85

(a) Fair values are determined based on valuation inputs categorized as Level 1, 2 or 3 (see *Note 3. Significant Accounting Policies—Fair Value*). Investment plan assets are valued using Level 1 or Level 2 inputs.

A single estimate of fair value can result from a complex series of judgments about future events and uncertainties and can rely on estimates and assumptions. For information about the risks associated with estimates and assumptions, see *Note 3. Significant Accounting Policies—Estimates and Assumptions.*

Specifically, the following methods and assumptions were used to estimate the fair value of our pension assets:

- Equity commingled funds—observable market prices (Level 1).
- Government bonds and other investments—principally observable market prices (Level 2).

The long-term target asset allocations and the percentage of the fair value of plans assets for dedicated benefit plans follow:

	As of December 31,		
	Target allocation percentage	Percentage of Plan Assets	
(PERCENTAGES)	**2021**	**2021**	2020
Cash and cash equivalents	**0-10%**	**1.5 %**	1.2 %
Equity securities	**0-60%**	**39.3 %**	37.0 %
Debt securities	**15-100%**	**48.7 %**	50.2 %
Other investments	**0-100%**	**10.5 %**	11.6 %
Total	**100%**	**100 %**	100 %

Zoetis utilizes long-term asset allocation ranges in the management of our plans' invested assets. Long-term return expectations are developed with input from outside investment consultants based on the company's investment strategy, which takes into account historical experience, as well as the impact of portfolio diversification, active portfolio management, and the investment consultant's view of current and future economic and financial market conditions. As market conditions and other factors change, the targets may be adjusted accordingly and actual asset allocations may vary from the target allocations.

The long-term asset allocation ranges reflect the asset class return expectations and tolerance for investment risk within the context of the respective plans' long-term benefit obligations. These ranges are supported by an analysis that incorporates historical and expected returns by asset class, as

well as volatilities and correlations across asset classes and our liability profile. This analysis, referred to as an asset-liability analysis, also provides an estimate of expected returns on plan assets, as well as a forecast of potential future asset and liability balances.

The investment consultants review investment performance with Zoetis on a quarterly basis in total, as well as by asset class, relative to one or more benchmarks.

Cash Flows—Dedicated Plans

Our plans are generally funded in amounts that are at least sufficient to meet the minimum requirements set forth in applicable employee benefit laws and local tax and other laws.

We expect to contribute approximately $5 million to our dedicated pension plans in 2022. Benefit payments are expected to be approximately $5 million for 2022, $3 million for 2023, $6 million for 2024, $6 million for 2025 and $11 million for 2026. Benefit payments are expected to be approximately $50 million in the aggregate for the five years thereafter. These expected benefit payments reflect the future plan benefits subsequent to 2022 projected to be paid from the plans or from the general assets of Zoetis entities under the current actuarial assumptions used for the calculation of the projected benefit obligation and, therefore, actual benefit payments may differ from projected benefit payments.

B. Postretirement Plans

Postretirement benefit expense associated with these U.S. retiree medical plans totaled approximately $4 million per year in 2021, 2020 and 2019 (inclusive of service cost grow-in benefits discussed above). The expected benefit payments for next year is approximately $4 million.

C. Defined Contribution Plans

Zoetis has a voluntary defined contribution plan (Zoetis Savings Plan) that allows participation by substantially all U. S. employees. Zoetis matches 100% of employee contributions, up to a maximum of 5% of each employee's eligible compensation. The Zoetis Savings Plan also includes a profit-sharing feature that provides for an additional contribution ranging between 0 and 8 percent of each employee's eligible compensation. All eligible employees receive the profit-sharing contribution regardless of the amount they choose to contribute to the Zoetis Savings Plan. The profit-sharing contribution is a discretionary amount provided by Zoetis and is determined on an annual basis. Employees can direct their contributions and the company's matching and profit-sharing contributions into any of the funds offered. These funds provide participants with a cross section of investing options, including the Zoetis stock fund. The matching and profit-sharing contributions are cash funded.

Employees are permitted to diversify all or any portion of their company matching or profit-sharing contribution. Once the contributions have been paid, Zoetis has no further payment obligations. Contribution expense, associated with the Zoetis Savings Plan, totaled approximately $54 million in 2021, $48 million in 2020 and $46 million in 2019.

Employees in the U.S. who meet certain eligibility requirements participate in a supplemental (non-qualified) savings plan sponsored by Zoetis. The cost of the supplemental savings plan was $12 million in 2021, $11 million in 2020 and $12 million in 2019. Benefit payments for this plan are expected to be approximately $5 million in 2022 and $46 million thereafter.

15. Share-based Payments

The Zoetis 2013 Equity and Incentive Plan (Equity Plan) provides long-term incentives to our employees and non-employee directors. The principal types of share-based awards available under the Equity Plan may include, but are not limited to, stock options, restricted stock and restricted stock units (RSUs), deferred stock units (DSUs), performance-vesting restricted stock units (PSUs), and other equity-based or cash-based awards.

Twenty-five million shares of stock were approved and registered with the Securities and Exchange Commission for grants to participants under the Equity Plan. The shares reserved may be used for any type of award under the Equity Plan. At December 31, 2021, the aggregate number of remaining shares available for future grant under the Equity Plan was approximately 10 million shares.

A. Share-Based Compensation Expense

The components of share-based compensation expense follow:

	Year Ended December 31,		
(MILLIONS OF DOLLARS)	**2021**	2020	2019
Stock options / stock appreciation rights	**$ 9**	$ 9	$ 10
RSUs / DSUs	**33**	31	43
PSUs	**16**	19	14
Share-based compensation expense—total[(a)]	**$ 58**	$ 59	$ 67
Tax benefit for share-based compensation expense	**(7)**	(7)	(10)
Share-based compensation expense, net of tax	**$ 51**	$ 52	$ 57

[(a)] For each of the years ended December 31, 2021, 2020 and 2019, we capitalized less than $1 million of share-based compensation expense to inventory.

B. Stock Options

Stock options represent the right to purchase shares of our common stock within a specified period of time at a specified price. The exercise price for a stock option will be not less than 100% of the fair market value of the common stock on the date of grant. Stock options granted may include those intended to be "incentive stock options" within the meaning of Section 422 of the U.S. Internal Revenue Code of 1986 (the Code).

Stock options are accounted for using a fair-value-based method at the date of grant in the Consolidated Statements of Income. The values determined through this fair-value-based method generally are amortized on a straight-line basis over the vesting term.

Eligible employees may receive Zoetis stock option awards. Zoetis stock option awards generally vest after three years of continuous service from the date of grant and have a contractual term of 10 years.

The fair-value-based method for valuing each Zoetis stock option grant on the grant date uses the Black-Scholes-Merton option-pricing model, which incorporates a number of valuation assumptions noted in the following table, shown at their weighted-average values:

	Year Ended December 31,		
	2021	2020	2019
Expected dividend yield[(a)]	**0.62%**	0.55%	0.75%
Risk-free interest rate[(b)]	**0.53%**	1.41%	2.56%
Expected stock price volatility[(c)]	**27.94%**	24.33%	23.08%
Expected term[(d)] (years)	**5.0**	5.5	5.7

(a) Determined using a constant dividend yield during the expected term of the Zoetis stock option.

(b) Determined using the interpolated yield on U.S. Treasury zero-coupon issues.

(c) Determined using an equal weighting between historical volatility of the Zoetis stock price and implied volatility. The selection of the blended historical and implied volatility approach was based on our assessment that this calculation of expected volatility is more representative of future stock price trends.

(d) Determined using expected exercise and post-vesting termination patterns.

The following table provides an analysis of stock option activity for the year ended December 31, 2021:

	Shares	Weighted-Average Exercise Price	Weighted-Average Remaining Contractual Term (Years)	Aggregate Intrinsic Value[(a)] (MILLIONS)
Outstanding, December 31, 2020	2,554,451	$ 64.43		
Granted	**284,198**	**160.73**		
Exercised	**(680,970)**	**52.88**		
Forfeited	**(25,112)**	**80.72**		
Outstanding, December 31, 2021	**2,132,567**	**$ 80.19**	**5.4**	**$ 349**
Exercisable, December 31, 2021	**1,176,959**	**$ 42.78**	**3.3**	**$ 237**

(a) Market price of underlying Zoetis common stock less exercise price.

As of December 31, 2021, there was approximately $9 million of unrecognized compensation costs related to nonvested stock options, which will be recognized over an expected remaining weighted-average period of one year.

The following table summarizes data related to stock option activity:

	Year Ended/As of December 31,		
(MILLIONS OF DOLLARS, EXCEPT PER STOCK OPTION AMOUNTS)	**2021**	2020	2019
Weighted-average grant date fair value per stock option	**$ 37.81**	$ 34.22	$ 21.84
Aggregate intrinsic value on exercise	**87**	114	76
Cash received upon exercise	**36**	57	39
Tax benefits realized related to exercise	**34**	39	31

C. Restricted Stock Units (RSUs)

Restricted stock units represent the right to receive a share of our common stock that is subject to a risk of forfeiture until the restrictions lapse at the end of the vesting period subject to the recipient's continued employment. RSUs accrue dividend equivalent units and are paid in shares of our common stock upon vesting (or cash determined by reference to the value of our common stock).

RSUs are accounted for using a fair-value-based method that utilizes the closing price of Zoetis common stock on the date of grant. Zoetis RSUs generally vest after three years of continuous service from the grant date and the values are amortized on a straight-line basis over the vesting term.

The following table provides an analysis of RSU activity for the year ended December 31, 2021:

	RSUs	Weighted-Average Grant Date Fair Value
Nonvested, December 31, 2020	983,466	$ 95.82
Granted	**261,182**	**164.14**
Vested	**(393,575)**	**78.29**
Reinvested dividend equivalents	**4,528**	**116.78**
Forfeited	**(45,717)**	**115.19**
Nonvested, December 31, 2021	**809,884**	**$ 125.71**

As of December 31, 2021, there was approximately $43 million of unrecognized compensation costs related to nonvested RSUs, which will be recognized over an expected remaining weighted-average period of one year.

D. Deferred Stock Units (DSUs)

Deferred stock units, which were granted to non-employee compensated Directors in 2013 and 2014, represent the right to receive shares of our common stock at a future date. The DSU awards will be automatically settled and paid in shares within 60 days following the Director's separation from service on the Board of Directors.

DSUs are accounted for using a fair-value-based method that utilizes the closing price of Zoetis common stock on the date of grant. DSUs vested immediately as of the grant date and the values were expensed at the time of grant into *Selling, general and administrative expenses*.

For the years ended December 31, 2021 and 2020, there were no DSUs granted. As of December 31, 2021 and 2020, there were 64,599 and 74,688 DSUs outstanding, respectively, including dividend equivalents.

E. Performance-Vesting Restricted Stock Units (PSUs)

Performance-vesting restricted stock units, which are granted to eligible senior management, represent the right to receive a share of our common stock that is subject to a risk of forfeiture until the restrictions lapse, which include continued employment through the end of the vesting period and the attainment of performance goals. PSUs represent the right to receive shares of our common stock in the future (or cash determined by reference to the value of our common stock).

PSUs are accounted for using a Monte Carlo simulation model. The units underlying the PSUs will be earned and vested over a three-year performance period, based upon the total shareholder return of the company in comparison to the total shareholder return of the companies comprising the S&P 500 index at the start of the performance period, excluding companies that during the performance period are acquired or are no longer publicly traded (Relative TSR). The weighted-average fair value was estimated based on volatility assumptions of Zoetis common stock and an average of peer companies, which were 28.9% and 38.1%, respectively, in 2021, and 20.2% and 24.8%, respectively, in 2020. Depending on the company's Relative TSR performance at the end of the performance period, the recipient may earn between 0% and 200% of the target number of units. Vested units, including dividend equivalent units, are paid in shares of the company's common stock. PSU values are amortized on a straight-line basis over the vesting term.

On October 3, 2019, the Company announced the retirement of Juan Ramón Alaix as Chief Executive Officer ("CEO") effective December 31, 2019. As a result of Mr. Alaix's retirement as CEO, a transition services letter agreement was entered into between the Company and Mr. Alaix. The letter agreement stipulates that any nonvested equity awards as of his retirement date would continue to vest according to their original vesting schedule. As a result of this change, 37,265 of nonvested PSUs granted as part of his 2018 and 2019 equity grants were modified resulting in $8 million to be recognized through December 31, 2020. During the years ended December 31, 2020 and 2019, the company recognized $6 million and $2 million, respectively, of expense related to share-based compensation in connection with Mr. Alaix's retirement.

The following table provides an analysis of PSU activity for the year ended December 31, 2021:

	PSUs	Weighted-Average Grant Date Fair Value
Nonvested, December 31, 2020	344,271	$ 129.38
Granted	**103,759**	**208.81**
Vested	**(98,088)**	**101.24**
Reinvested dividend equivalents	**1,945**	**150.26**
Forfeited	**(9,501)**	**163.67**
Nonvested, December 31, 2021	**342,386**	**$ 160.68**
Shares issued, December 31, 2021	**422,315**	**$ 80.55**

As of December 31, 2021, there was approximately $23 million of unrecognized compensation costs related to nonvested PSUs, which will be recognized over an expected remaining weighted-average period of 0.9 years.

F. Other Equity-Based or Cash-Based Awards

Our Compensation Committee is authorized to grant awards in the form of other equity-based awards or other cash-based awards, as deemed to be consistent with the purposes of the Equity Plan.

16. Stockholders' Equity

Zoetis is authorized to issue 6 billion shares of common stock and 1 billion shares of preferred stock.

In December 2016, the company's Board of Directors authorized a $1.5 billion share repurchase program. This program was completed as of December 31, 2019. In December 2018, the company's Board of Directors authorized an additional $2.0 billion share repurchase program. As of December 31, 2021, there was approximately $681 million remaining under this authorization. The company temporarily suspended share repurchases beginning in the second quarter of 2020. In January 2021, the company resumed share repurchases under its share repurchase program. In December 2021, the company's Board of Directors authorized a $3.5 billion share repurchase program. Purchases of Zoetis shares may be made at the discretion of management, depending on market conditions and business needs.

Accumulated other comprehensive loss

Changes, net of tax, in accumulated other comprehensive loss, excluding noncontrolling interest, follow:

		Currency Translation Adjustments			
(MILLIONS OF DOLLARS)	Cash Flow Hedges	Net Investment Hedges	Other Currency Translation Adj	Benefit Plans Actuarial (Losses)/Gains	Accumulated Other Comprehensive Loss
Balance, December 31, 2018	$ (4)	$ 9	$ (620)	$ (14)	$ (629)
Other comprehensive gain/(loss), net of tax	4	12	(104)	(9)	(97)
Balance, December 31, 2019	—	21	(724)	(23)	(726)
Other comprehensive (loss)/gain, net of tax	(15)	(58)	69	—	(4)
Balance, December 31, 2020	(15)	(37)	(655)	(23)	(730)
Other comprehensive gain/(loss), net of tax	**19**	**42**	**(101)**	**6**	**(34)**
Balance, December 31, 2021	**$ 4**	**$ 5**	**$ (756)**	**$ (17)**	**$ (764)**

17. Earnings per Share

The following table presents the calculation of basic and diluted earnings per share:

	Year Ended December 31,		
(MILLIONS OF DOLLARS AND SHARES, EXCEPT PER SHARE DATA)	**2021**	2020	2019
Numerator			
Net income before allocation to noncontrolling interests	**$ 2,034**	$ 1,636	$ 1,500
Less: net loss attributable to noncontrolling interests	**(3)**	(2)	—
Net income attributable to Zoetis Inc.	**$ 2,037**	$ 1,638	$ 1,500
Denominator			
Weighted-average common shares outstanding	**474.348**	475.502	478.128
Common stock equivalents: stock options, RSUs, DSUs and PSUs	**2.369**	3.067	3.659
Weighted-average common and potential dilutive shares outstanding	**476.717**	478.569	481.787
Earnings per share attributable to Zoetis Inc. stockholders—basic	**$ 4.29**	$ 3.44	$ 3.14
Earnings per share attributable to Zoetis Inc. stockholders—diluted	**$ 4.27**	$ 3.42	$ 3.11

The number of stock options outstanding under the company's Equity Plan that were excluded from the computation of diluted earnings per share, as the effect would have been antidilutive, were de minimis for the years ended December 31, 2021, 2020 and 2019.

18. Commitments and Contingencies

We and certain of our subsidiaries are subject to numerous contingencies arising in the ordinary course of business. For a discussion of our tax contingencies, see *Note 8. Tax Matters*.

A. Legal Proceedings

Our non-tax contingencies include, among others, the following:

- Product liability and other product-related litigation, which can include injury, consumer, off-label promotion, antitrust and breach of contract claims.
- Commercial and other matters, which can include product-pricing claims and environmental claims and proceedings.
- Patent litigation, which typically involves challenges to the coverage and/or validity of our patents or those of third parties on various products or processes.
- Government investigations, which can involve regulation by national, state and local government agencies in the U.S. and in other countries.

Certain of these contingencies could result in losses, including damages, fines and/or civil penalties, and/or criminal charges, which could be substantial.

We believe that we have strong defenses in these types of matters, but litigation is inherently unpredictable and excessive verdicts do occur. We do not believe that any of these matters will have a material adverse effect on our financial position. However, we could incur judgments, enter into settlements or revise our expectations regarding the outcome of certain matters, and such developments could have a material adverse effect on our results of operations or cash flows in the period in which the amounts are paid.

We have accrued for losses that are both probable and reasonably estimable. Substantially all of these contingencies are subject to significant uncertainties and, therefore, determining the likelihood of a loss and/or the measurement of any loss can be complex. Consequently, we are unable to estimate the range of reasonably possible loss in excess of amounts accrued. Our assessments are based on estimates and assumptions that have been deemed reasonable by management, but the assessment process relies on estimates and assumptions that may prove to be incomplete or inaccurate, and unanticipated events and circumstances may occur that might cause us to change those estimates and assumptions.

Amounts recorded for legal and environmental contingencies can result from a complex series of judgments about future events and uncertainties and can rely on estimates and assumptions.

The principal matters to which we are a party are discussed below. In determining whether a pending matter is significant for financial reporting and disclosure purposes, we consider both quantitative and qualitative factors in order to assess materiality, such as, among other things, the amount of damages and the nature of any other relief sought in the proceeding, if such damages and other relief are specified; our view of the merits of the claims and of the strength of our defenses; whether the action purports to be a class action and our view of the likelihood that a class will be certified by the court; the jurisdiction in which the proceeding is pending; any experience that we or, to our knowledge, other companies have had in similar proceedings; whether disclosure of the action would be important to a reader of our financial statements, including whether disclosure might change a reader's judgment about our financial statements in light of all of the information about the company that is available to the reader; the potential impact of the proceeding on our reputation; and the extent of public interest in the matter. In addition, with respect to patent matters, we consider, among other things, the financial significance of the product protected by the patent.

Ulianopolis, Brazil

In February 2012, the Municipality of Ulianopolis (State of Para, Brazil) filed a complaint against Fort Dodge Saúde Animal Ltda. (FDSAL), a Zoetis entity, and five other large companies alleging that waste sent to a local waste incineration facility for destruction, but that was not ultimately destroyed as the facility lost its operating permit, caused environmental impacts requiring cleanup.

The Municipality is seeking recovery of cleanup costs purportedly related to FDSAL's share of all waste accumulated at the incineration facility awaiting destruction, and compensatory damages to be allocated among the six defendants. We believe we have strong arguments against the claim, including defense strategies against any claim of joint and several liability.

At the request of the Municipal prosecutor, in April 2012, the lawsuit was suspended for one year. Since that time, the prosecutor has initiated investigations into the Municipality's actions in the matter as well as the efforts undertaken by the six defendants to remove and dispose of their individual waste from the incineration facility. On October 3, 2014, the Municipal prosecutor announced that the investigation remained ongoing and outlined the terms of a proposed Term of Reference (a document that establishes the minimum elements to be addressed in the preparation of an Environmental Impact Assessment), under which the companies would be liable to withdraw the waste and remediate the area. On March 5, 2015, we presented our response to the prosecutor's proposed Term of Reference, arguing that the proposed terms were overly general in nature and expressing our interest in discussing alternatives to address the matter. The prosecutor agreed to consider our request to engage a technical consultant to conduct an environmental diagnostic of the contaminated area. On May 29, 2015, we, in conjunction with the other defendant companies, submitted a draft cooperation agreement to the prosecutor, which outlined the proposed terms and conditions for the engagement of a technical consultant to conduct the environmental diagnostic. On August 19, 2016, the parties and the prosecutor agreed to engage the services of a third-party consultant to conduct a limited environmental assessment of the site. The site assessment was conducted during June 2017, and a written report summarizing the results of the assessment was provided to the parties and the prosecutor in November 2017. The report noted that waste is still present on the site and that further (Phase II) environmental assessments are needed before a plan to manage that remaining waste can be prepared. On April 1, 2019, the defendants met with the Prosecutor to discuss the conclusions set forth in the written report. Following that discussion, on April 10, 2019, the Prosecutor issued a procedural order requesting that the defendants prepare and submit a technical proposal outlining the steps needed to conduct the additional Phase II environmental assessments. The defendants presented the technical proposal to the Prosecutor on October 21, 2019. On March 3, 2020, the Prosecutor notified the defendants that he submitted the proposal to the Ministry of the Environment for its review and consideration by the Prosecutor. On July 15, 2020, the Prosecutor recommended certain amendments to the proposal for the Phase II testing. On September 28, 2020, the parties and the Prosecutor agreed to the final terms and conditions concerning the cooperation agreement with respect to the Phase II testing. Due to the ongoing issues presented by the COVID-19 pandemic, the parties have been unable to secure a start date for the Phase II testing and anticipate that it will begin later this year.

Lascadoil Contamination in Animal Feed

An investigation by the U.S. Food and Drug Administration (FDA) and the Michigan Department of Agriculture into the alleged contamination of the feed supply of certain turkey and hog feed mills in Michigan led to the recall of certain batches of soy oil (intended for use as an animal feed additive) that had originated with Shur-Green Farms LLC, a producer of soy oil, and that had been contaminated with lascadoil, an industrial by-product of certain Zoetis manufacturing processes. The contaminated feed is believed to have caused the deaths of approximately 50,000 turkeys and the contamination (but not death) of at least 20,000 hogs in August 2014. The investigation posited that Shur-Green inadvertently contaminated soy oil with lascadoil which it purchased from Zoetis for use as a bio-fuel ingredient, and then sold the contaminated soy oil to fat recycling vendors, who in turn unknowingly sold to feed mills for use in animal feed.

During the course of its investigation, the FDA identified the process used to manufacture Zoetis' Avatec® (lasalocid sodium) and Bovatec® (lasalocid sodium) products as the possible source of the lascadoil, since lascadoil contains small amounts of lasalocid, the active ingredient found in both products. Zoetis sold the industrial lascadoil byproduct to Shur-Green, through its broker, Heritage Intreractive Services, LLC. Under the terms of the sale agreement, the lascadoil could only be incinerated or resold for use in biofuel, and the agreement expressly prohibited the reselling of lascadoil for use as a component in food. The FDA inspected the Zoetis site where Avatec and Bovatec are manufactured, and found no evidence that Zoetis was involved in the contamination of the animal feed.

On March 10, 2015, plaintiffs Restaurant Recycling, LLC (Restaurant Recycling) and Superior Feed Ingredients, LLC (Superior), both of whom are in the fat recycling business, filed a complaint in the Seventeenth Circuit Court for the State of Michigan against Shur-Green Farms alleging negligence and breach of warranty claims arising from their purchase of soy oil allegedly contaminated with lascadoil. Plaintiffs resold the allegedly contaminated soy oil to turkey feed mills for use in feed ingredient. Plaintiffs also named Zoetis as a defendant in the complaint alleging that Zoetis failed to properly manufacture its products and breached an implied warranty that the soy oil was fit for use at turkey and hog mills. Zoetis was served with the complaint on June 3, 2015, and we filed our answer, denying all allegations, on July 15, 2015. On August 10, 2015, several of the turkey feed mills filed a joint complaint against Restaurant Recycling, Superior, Shur-Green Farms and others, alleging claims for negligence, misrepresentation, and breach of warranty, arising out of their alleged purchase and use of the contaminated soy oil. The complaint raises only one

count against Zoetis for negligence. We filed an answer to the complaint on November 2, 2015, denying the allegation. On May 16, 2016, two additional turkey producers filed a complaint in the Seventeenth Circuit Court for the State of Michigan against the company, Restaurant Recycling, Superior, Shur-Green Farms and others, alleging claims for negligence and breach of warranties. We filed an answer to the complaint on June 20, 2016, denying the allegations. The Court has consolidated all three cases in Michigan for purposes of discovery and disposition. On July 28, 2017, we filed a motion for summary disposition on the grounds that no genuine issues of material fact exist and that Zoetis is entitled to judgment as a matter of law. On October 19, 2017, the Court granted our motion and dismissed all claims against Zoetis. On October 31, 2017, the plaintiffs filed motions for reconsideration of the Court's decision granting summary disposition. The Court denied all such motions on December 6, 2017, for the same reasons cited in the Court's original decision. On December 27, 2017, the plaintiffs filed a request with the Michigan Court of Appeals seeking an interlocutory (or interim) appeal of the lower Court's decision, which we opposed on January 17, 2018. On July 5, 2018, the Court of Appeals denied the plaintiffs' request for an interlocutory appeal. The case was remanded back to the lower Court, where it was scheduled to proceed to trial by jury. We have been advised that the remaining parties have reached an agreement to settle the dispute, and on June 24, 2020, the remaining parties jointly stipulated to the dismissal of all remaining claims. On July 13, 2020, Plaintiffs filed a claim of appeal with Michigan Court of Appeals seeking reversal of the lower Court's decision granting Zoetis' motion for summary disposition. Plaintiffs' filed their appeal brief on October 29, 2020, and we filed our reply brief on December 3, 2020. The Court of Appeals heard oral argument on December 7, 2021, and we currently await its decision.

Belgium Excess Profit Tax Regime

On February 14, 2019, the General Court of the European Union (General Court) annulled the January 11, 2016 decision of the European Commission (EC) that selective tax advantages granted by Belgium under its "excess profit" tax scheme constitute illegal state aid. As a result of the 2016 decision, the company recorded a net tax charge of approximately $35 million in the first half of 2016. On May 8, 2019, the EC filed an appeal to the decision of the General Court. On September 16, 2019, the EC opened separate in-depth investigations to assess whether Belgium excess profit rulings granted to 39 multinational companies, including Zoetis, constituted state aid for those companies. On September 16, 2021, the European Court of Justice upheld the EC's decision that the Belgium excess profit ruling system is considered an aid scheme and referred the case back to the General Court to rule on open questions. The company has not reflected any potential benefits in its consolidated financial statements as of December 31, 2021 as a result of the 2019 annulment. We will continue to monitor the developments of the appeal and its ultimate resolution.

Alpharma

The EC published a decision on alleged competition law infringements by several human health pharmaceutical companies on June 19, 2013. One of the involved legal entities is Alpharma LLC (previously having the name Zoetis Products LLC). Alpharma LLC's involvement is solely related to its human health activities prior to Pfizer's acquisition of King/Alpharma. Zoetis paid a fine in the amount of euro 11 million (approximately $14 million) and was reimbursed in full by Pfizer in accordance with the Global Separation Agreement between Pfizer and Zoetis, which provides that Pfizer is obligated to indemnify Zoetis for any liabilities arising out of claims not related to its animal health assets. We filed an appeal of the decision on September 6, 2013 to the General Court of the European Union. On September 8, 2016, the General Court upheld the decision of the European Commission. On November 25, 2016, we filed an appeal to the Court of Justice of the European Union. On January 24, 2019, the Court heard oral argument on the merits of the appeal. On June 4, 2020, the Advocate General issued his non-binding opinion, which largely confirmed the decision of the General Court. On March 25, 2021, the Court of Justice affirmed the decision of the General Court. Since the penalty has already been paid, no further action is needed, and the proceedings involving the EC are now concluded.

We anticipate that claims from publicly-funded healthcare systems and health insurance companies seeking compensation for losses allegedly resulting from the competition-infringement finding will be filed before the Competition Appeal Tribunal as follow-on claims. We anticipate that proceedings involving such claims will commence later this year. In accordance with the Global Separation Agreement, Pfizer would be obligated to indemnify Zoetis for any liabilities arising out of such follow-on claims.

B. Guarantees and Indemnifications

In the ordinary course of business and in connection with the sale of assets and businesses, we indemnify our counterparties against certain liabilities that may arise in connection with the transaction or related to activities prior to the transaction. These indemnifications typically pertain to environmental, tax, employee and/or product-related matters and patent-infringement claims. If the indemnified party were to make a successful claim pursuant to the terms of the indemnification, we would be required to reimburse the loss. These indemnifications are generally subject to threshold amounts, specified claim periods and other restrictions and limitations. Historically, we have not paid significant amounts under these provisions and, as of December 31, 2021, recorded amounts for the estimated fair value of these indemnifications were not significant.

C. Purchase Commitments

As of December 31, 2021, we have agreements totaling $279 million to purchase goods and services that are enforceable and legally binding and include amounts relating to contract manufacturing, information technology services and potential milestone payments deemed reasonably likely to occur. Payments for these obligations are expected to be approximately $161 million in 2022 and $118 million thereafter.

19. Segment Information

A. Segment Information

We manage our operations through two geographic regions. Each operating segment has responsibility for its commercial activities. Within each of these operating segments, we offer a diversified product portfolio, including vaccines, parasiticides, anti-infectives, medicated feed additives, animal health diagnostics and other pharmaceuticals, for both companion animal and livestock customers.

In 2021, certain costs associated with information technology that specifically support our global manufacturing operations, which were previously reported in Other unallocated, are now reported in Corporate. In addition, in the first quarter of 2021, the company realigned certain management responsibilities. These changes did not impact the determination of our operating segments, however they resulted in the reallocation of certain costs between segments. These changes primarily include the following: (i) certain diagnostics costs, which were previously reported in Corporate, are

now reported in our U.S. results; and (ii) certain other miscellaneous costs, which were previously reported in our U.S. results, are now reported in Corporate.

Operating Segments

Our operating segments are the U.S. and International. Our chief operating decision maker uses the revenue and earnings of the two operating segments, among other factors, for performance evaluation and resource allocation.

Other Costs and Business Activities

Certain costs are not allocated to our operating segment results, such as costs associated with the following:

- *Other business activities*, includes our CSS contract manufacturing results, our human health business, and expenses associated with our dedicated veterinary medicine research and development organization, research alliances, U.S. regulatory affairs and other operations focused on the development of our products. Other R&D-related costs associated with non-U.S. market and regulatory activities are generally included in the international commercial segment.
- *Corporate*, includes platform functions such as information technology, facilities, legal, finance, human resources, business development, certain diagnostic costs and communications, among others. These costs also include compensation costs and other miscellaneous operating expenses not charged to our operating segments, as well as interest income and expense.
- Certain transactions and events such as (i) *Purchase accounting adjustments*, where we incur expenses associated with the amortization of fair value adjustments to inventory, intangible assets and property, plant and equipment; (ii) *Acquisition-related activities*, where we incur costs associated with acquiring and integrating newly acquired businesses, such as transaction costs and integration costs; and (iii) *Certain significant items*, which comprise substantive, unusual items that, either as a result of their nature or size, would not be expected to occur as part of our normal business on a regular basis, such as restructuring charges and implementation costs associated with our cost-reduction/ productivity initiatives that are not associated with an acquisition, certain asset impairment charges, certain legal and commercial settlements and the impact of divestiture-related gains and losses.
- *Other unallocated* includes (i) certain overhead expenses associated with our global manufacturing operations not charged to our operating segments; (ii) certain costs associated with finance that specifically support our global manufacturing operations; (iii) certain supply chain and global logistics costs; and (iv) procurement costs.

Segment Assets

We manage our assets on a total company basis, not by operating segment. Therefore, our chief operating decision maker does not regularly review any asset information by operating segment and, accordingly, we do not report asset information by operating segment. Total assets were approximately $13.9 billion and $13.6 billion at December 31, 2021 and 2020, respectively.

Selected Statement of Income Information

	Earnings			Depreciation and Amortization[a]		
	Year Ended December 31,			Year Ended December 31,		
(MILLIONS OF DOLLARS)	**2021**	2020	2019	**2021**	2020	2019
U.S.						
Revenue	**$ 4,042**	$ 3,557	$ 3,203			
Cost of Sales	**788**	709	655			
Gross Profit	**3,254**	2,848	2,548			
Gross Margin	**80.5 %**	80.1 %	79.6 %			
Operating Expenses	**681**	602	543			
Other (income)/deductions-net	**4**	7	—			
U.S. Earnings	**2,569**	2,239	2,005	**$ 54**	$ 55	$ 44
International						
Revenue[b]	**3,652**	3,035	2,972			
Cost of Sales	**1,106**	971	925			
Gross Profit	**2,546**	2,064	2,047			
Gross Margin	**69.7 %**	68.0 %	68.9 %			
Operating Expenses	**602**	510	560			
Other (income)/deductions-net	**(4)**	7	—			
International Earnings	**1,948**	1,547	1,487	**74**	56	53
Total operating segments	**4,517**	3,786	3,492	**128**	111	97
Other business activities	**(406)**	(372)	(348)	**28**	27	24
Reconciling Items:						
Corporate	**(1,052)**	(879)	(755)	**115**	101	69
Purchase accounting adjustments	**(175)**	(198)	(234)	**175**	199	219
Acquisition-related costs	**(12)**	(18)	(43)	**—**	—	—
Certain significant items[c]	**(73)**	(43)	(67)	**—**	—	—
Other unallocated	**(311)**	(280)	(244)	**2**	3	3
Total Earnings[d]	**$ 2,488**	$ 1,996	$ 1,801	**$ 448**	$ 441	$ 412

[a] Certain production facilities are shared. Depreciation and amortization is allocated to the reportable operating segments based on estimates of where the benefits of the related assets are realized.

[b] Revenue denominated in euros was $814 million in 2021, $718 million in 2020 and $742 million in 2019.

[c] For 2021, certain significant items primarily included certain asset impairment charges of $46 million, as well as employee termination costs associated with our international operations and other costs associated with cost-reduction and productivity initiatives of $21 million.

For 2020, certain significant items primarily included certain asset impairment charges of $37 million and CEO transition-related costs of $16 million, partially offset by a net gain resulting from a cash payment received pursuant to an agreement related to the 2016 sale of certain U.S. manufacturing sites of $18 million.

For 2019, certain significant items primarily includes: (i) a change in estimate related to inventory costing of $69 million, (ii) CEO transition-related costs of $10 million, (iii) consulting fees, product transfer costs, employee termination costs and exit costs related to cost-reduction and productivity initiatives of $7 million, and (iv) income of $20 million resulting from a cash payment received pursuant to an agreement related to the 2016 sale of certain U.S. manufacturing sites.

[d] Defined as income before provision for taxes on income.

B. Geographic Information

Property, plant and equipment, less accumulated depreciation, by geographic region follow:

	As of December 31,	
(MILLIONS OF DOLLARS)	**2021**	2020
U.S.	**$ 1,638**	$ 1,486
International	**784**	716
Property, plant and equipment, less accumulated depreciation	**$ 2,422**	$ 2,202

Zoetis Inc. and Subsidiaries
Schedule II—Valuation and Qualifying Accounts

(MILLIONS OF DOLLARS)	Balance, Beginning of Period	Additions	Deductions	Balance, End of Period
Year Ended December 31, 2021				
Allowance for doubtful accounts	**$ 20**	**$ 1**	**$ (4)**	**$ 17**
Year Ended December 31, 2020				
Allowance for doubtful accounts	$ 21	$ 3	$ (4)	$ 20
Year Ended December 31, 2019				
Allowance for doubtful accounts	$ 24	$ 3	$ (6)	$ 21

Item 9. Changes in and Disagreements With Accountants on Accounting and Financial Disclosure.

None.

Item 9A. Controls and Procedures

Disclosure Controls and Procedures

An evaluation was carried out under the supervision and with the participation of the company's management, including our Chief Executive Officer and Chief Financial Officer, of the effectiveness of the design and operation of our disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) under the Securities Exchange Act of 1934). Based upon that evaluation as of December 31, 2021, the company's Chief Executive Officer and Chief Financial Officer concluded that the company's disclosure controls and procedures are effective at a reasonable level of assurance in alerting them in a timely manner to material information required to be disclosed in our periodic reports filed with the SEC.

Management's Report on Internal Control over Financial Reporting

Management is responsible for establishing and maintaining adequate internal control over financial reporting, as such term is defined under Rule 13a-15(f) and 15d-15(f) of the Securities Exchange Act of 1934. Under the supervision and with the participation of management, including the company's Chief Executive Officer and Chief Financial Officer, we conducted an evaluation of the effectiveness of our internal control over financial reporting based on the framework in *Internal Control - Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission. Based on our evaluation under the framework in *Internal Control - Integrated Framework*, our management concluded that our internal control over financial reporting was effective as of December 31, 2021. The effectiveness of our internal control over financial reporting as of December 31, 2021, has been audited by KPMG LLP, an independent registered public accounting firm, as stated in its report included herein.

Changes in Internal Control over Financial Reporting

During our most recent fiscal quarter, there has not been any change in our internal control over financial reporting (as such term is defined in Rules 13a-15(f) and 15d-15(f) under the Securities Exchange Act of 1934) that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

Item 9B. Other Information.

None.

Item 9C. Disclosure Regarding Foreign Jurisdictions that Prevent Inspections.

None.

PART III

Item 10. Directors, Executive Officers and Corporate Governance.

Information about our directors is incorporated by reference from the discussion under the heading *Item 1-Election of Directors* in our 2022 Proxy Statement. Information regarding our executive officers is presented in Part I, Item 1 of this report under the heading *Information about our Executive Officers*. Information about compliance with Section 16(a) of the Exchange Act is incorporated by reference from the discussion under the heading *Delinquent Section 16(a) Reports* in our 2022 Proxy Statement. Information about the Zoetis Code of Conduct governing our employees, including our Chief Executive Officer, Chief Financial Officer and Principal Accounting Officer and Controller, and the Code of Business Conduct and Ethics for members of our Board of Directors, is incorporated by reference from the discussions under the heading *Corporate Governance at Zoetis* in our 2022 Proxy Statement. Information regarding the procedures by which our stockholders may recommend nominees to our Board of Directors is incorporated by reference from the discussion under the heading *Corporate Governance at Zoetis* in our 2022 Proxy Statement. Information about our Audit Committee, including the members of the Committee, and our Audit Committee financial experts, is incorporated by reference from the discussion under the heading *Corporate Governance at Zoetis* in our 2022 Proxy Statement.

Item 11. Executive Compensation.

Information about director compensation is incorporated by reference from the discussion under the heading *Corporate Governance at Zoetis* in our 2022 Proxy Statement. Information about executive compensation is incorporated by reference from the discussion under the heading *Executive Compensation* in our 2022 Proxy Statement.

Item 12. Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters.

Information required by this item is incorporated by reference from the discussion under the heading *Ownership of Our Common Stock* in our 2022 Proxy Statement.

Item 13. Certain Relationships and Related Transactions, and Director Independence.

Information about certain relationships and transactions with related parties and our policies and procedures in relation to such transactions is incorporated by reference from the discussion under the heading *Transactions with Related Persons* in our 2022 Proxy Statement. Information about director independence is incorporated by reference from the discussion under the heading *Corporate Governance at Zoetis-Corporate Governance Principles and Practices-Director Independence* in our 2022 Proxy Statement.

Item 14. Principal Accountant Fees and Services.

Our independent registered public accounting firm is KPMG LLP, Short Hills, NJ, Auditor Firm ID: 185.

Information about the fees for professional services rendered by our independent registered public accounting firm in 2021 and 2020 is incorporated by reference from the discussion under the heading *Item 4—Ratification of Appointment of KPMG as our Independent Registered Public Accounting Firm for 2022* in our 2022 Proxy Statement. Our Audit Committee's policy on pre-approval of audit and permissible non-audit services of our independent registered public accounting firm is incorporated by reference from the discussion under the heading *Item 4—Ratification of Appointment of KPMG as our Independent Registered Public Accounting Firm for 2022* in our 2022 Proxy Statement.

PART IV

Item 15. Exhibit and Financial Statement Schedules.

The following entire exhibits are included:

(1) The financial statements and notes to financial statements are filed as part of this report in Item 8. Financial Statements and Supplementary Data.

(2) The financial statement schedule is listed in the Index to Financial Statements.

(3) The exhibits are listed in the Index to Exhibits.

Item 16. Form 10-K Summary.

None.

EXHIBITS

The exhibits listed below and designated with a † are filed with this report. The exhibits listed below and not so designated are incorporated by reference to the documents following the descriptions of the exhibits.

Exhibit 2.1	Agreement and Plan of Merger, dated as of May 15, 2018, by and among Zoetis Inc., Zeus Merger Sub, Inc. and Abaxis, Inc. (incorporated by reference to Exhibit 2.1 to Zoetis Inc.'s Current Report on Form 8-K filed on May 16, 2018 (File No. 001-35797))
Exhibit 3.1	Restated Certificate of Incorporation of the Registrant (incorporated by reference to Exhibit 3.1 to Zoetis Inc.'s Quarterly Report on Form 10-Q filed on November 10, 2014 (File No. 001-35797))
Exhibit 3.2	By-laws of the Registrant, amended and restated as of February 19, 2016 (incorporated by reference to Exhibit 3.2 to Zoetis Inc.’s 2015 Annual Report on Form 10-K filed on February 24, 2016 (File No. 001-35797))
Exhibit 4.1	Specimen Common Stock Certificate†
Exhibit 4.2	Indenture, dated as of January 28, 2013, between Zoetis Inc. and Deutsche Bank Trust Company Americas, as trustee (incorporated by reference to Zoetis Inc.'s registration statement on Form S-1 (File No. 333-183254))
Exhibit 4.3	First Supplemental Indenture, dated as of January 28, 2013, between Zoetis Inc. and Deutsche Bank Trust Company Americas, as trustee (incorporated by reference to Exhibit 4.3 of Zoetis Inc.'s registration statement on Form S-1 (File No. 333-183254))
Exhibit 4.4	Second Supplemental Indenture, dated November 13, 2015, between Zoetis Inc. and Deutsche Bank Trust Company Americas, as trustee (incorporated by reference to Exhibit 4.2 to Zoetis Inc.’s Current Report on Form 8-K filed on November 13, 2015 (File No. 001-35797))
Exhibit 4.5	Third Supplemental Indenture, dated September 12, 2017, between Zoetis Inc. and Deutsche Bank Trust Company Americas, as trustee (incorporated by reference to Exhibit 4.2 to Zoetis Inc.’s Current Report on Form 8-K filed on September 12, 2017 (File No. 001-35797))
Exhibit 4.6	Fourth Supplemental Indenture, dated August 20, 2018, between Zoetis Inc. and Deutsche Bank Trust Company Americas, as trustee (incorporated by reference to Exhibit 4.2 to Zoetis Inc.’s Current Report on Form 8-K filed on August 20, 2018 (File No. 001-35797))
Exhibit 4.7	Fifth Supplemental Indenture, dated May 12, 2020, between Zoetis Inc. and Deutsche Bank Trust Company Americas, as trustee (incorporated by reference to Exhibit 4.2 to Zoetis Inc.'s Current Report on Form 8-K filed on May 12, 2020 (File No. 001-35797))
Exhibit 4.8	Form of 3.250% Senior Notes due 2023 (incorporated by reference to Exhibit 4.3 of Zoetis Inc.'s registration statement on Form S-1 (File No. 333-183254))
Exhibit 4.9	Form of 4.500% Senior Notes due 2025 (incorporated by reference to Exhibit 4.2 to Zoetis Inc.’s Current Report on Form 8-K filed on November 13, 2015 (File No. 001-35797))
Exhibit 4.10	Form of 4.700% Senior Notes due 2043 (incorporated by reference to Exhibit 4.3 of Zoetis Inc.'s registration statement on Form S-1 (File No. 333-183254))
Exhibit 4.11	Form of 3.000% Senior Notes due 2027 (incorporated by reference to Exhibit 4.2 to Zoetis Inc.’s Current Report on Form 8-K filed on September 12, 2017 (File No. 001-35797))
Exhibit 4.12	Form of 3.950% Senior Notes due 2027 (incorporated by reference to Exhibit 4.2 to Zoetis Inc.’s Current Report on Form 8-K filed on September 12, 2017 (File No. 001-35797))
Exhibit 4.13	Form of 3.900% Senior Notes due 2028 (incorporated by reference to Exhibit 4.2 to Zoetis Inc.’s Current Report on Form 8-K filed on August 20, 2018 (File No. 001-35797))
Exhibit 4.14	Form of 4.450% Senior Notes due 2048 (incorporated by reference to Exhibit 4.2 to Zoetis Inc.’s Current Report on Form 8-K filed on August 20, 2018 (File No. 001-35797))
Exhibit 4.15	Form of 2.000% Senior Notes due 2030 (incorporated by reference to Exhibit 4.2 to Zoetis Inc.’s Current Report on Form 8-K filed on May 12, 2020 (File No. 001-35797))
Exhibit 4.16	Form of 3.000% Senior Notes due 2050 (incorporated by reference to Exhibit 4.2 to Zoetis Inc.’s Current Report on Form 8-K filed on May 12, 2020 (File No. 001-35797))
Exhibit 4.17	Description of the Registrant’s Securities†

Exhibit 10.1	Global Separation Agreement, dated February 6, 2013, by and between Zoetis Inc. and Pfizer Inc. (incorporated by reference to Exhibit 10.1 to Zoetis Inc.'s 2012 Annual Report on Form 10-K filed on March 28, 2013 (File No. 001-35797))
Exhibit 10.2	Tax Matters Agreement, dated February 6, 2013, by and between Zoetis Inc. and Pfizer Inc. (incorporated by reference to Exhibit 10.3 to Zoetis Inc.'s 2012 Annual Report on Form 10-K filed on March 28, 2013 (File No. 001-35797))
Exhibit 10.3	Research and Development Collaboration and License Agreement, dated February 6, 2013, by and between Zoetis Inc. and Pfizer Inc. (incorporated by reference to Exhibit 10.4 to Zoetis Inc.'s 2012 Annual Report on Form 10-K filed on March 28, 2013 (File No. 001-35797))
Exhibit 10.4	Pfizer Inc. 2004 Stock Plan, as Amended and Restated (incorporated by reference to Exhibit 10.6 of Zoetis Inc.'s registration statement on Form S-1 (File No. 333-183254))*
Exhibit 10.5	Patent and Know-How License Agreement (Zoetis as licensor), dated February 6, 2013, by and between Zoetis Inc. and Pfizer Inc. (incorporated by reference to Exhibit 10.8 to Zoetis Inc.'s 2012 Annual Report on Form 10-K filed on March 28, 2013 (File No. 001-35797))
Exhibit 10.6	Patent and Know-How License Agreement (Pfizer as licensor), dated February 6, 2013, by and between Zoetis Inc. and Pfizer Inc. (incorporated by reference to Exhibit 10.9 to Zoetis Inc.'s 2012 Annual Report on Form 10-K filed on March 28, 2013 (File No. 001-35797))
Exhibit 10.7	Trademark and Copyright License Agreement, dated February 6, 2013, by and between Zoetis Inc. and Pfizer Inc. (incorporated by reference to Exhibit 10.10 to Zoetis Inc.'s 2012 Annual Report on Form 10-K filed on March 28, 2013 (File No. 001-35797))
Exhibit 10.8	Environmental Matters Agreement, dated February 6, 2013, by and between Zoetis Inc. and Pfizer Inc. (incorporated by reference to Exhibit 10.13 to Zoetis Inc.'s 2012 Annual Report on Form 10-K filed on March 28, 2013) (File No. 001-35797))
Exhibit 10.9	Zoetis Inc. 2013 Equity and Incentive Plan (incorporated by reference to Exhibit 10.16 to Zoetis Inc.'s 2012 Annual Report on Form 10-K filed on March 28, 2013 (File No. 001-35797))*
Exhibit 10.10	Sale of Business Severance Plan (incorporated by reference to Exhibit 10.17 to Zoetis Inc.'s 2012 Annual Report on Form 10-K filed on March 28, 2013 (File No. 001-35797))*
Exhibit 10.11	Revolving Credit Agreement, dated as of December 21, 2016, among Zoetis Inc., the lenders party thereto and JPMorgan Chase Bank, N.A., as administrative agent (incorporated by reference to Exhibit 10.1 of Zoetis Inc.'s Current Report on Form 8-K filed on December 21, 2016 (File No. 001-35797))
Exhibit 10.11.1	Extension Agreement to Revolving Credit Agreement, dated as of December 21, 2017, among Zoetis Inc., the lenders party thereto and JPMorgan Chase Bank, N.A., as administrative agent (incorporated by reference to Exhibit 10.16.1 to Zoetis Inc.'s 2017 Annual Report on Form 10-K filed on February 15, 2018 (File No. 001-35797))
Exhibit 10.11.2	Extension Agreement to Revolving Credit Agreement, dated as of December 21, 2018, among Zoetis Inc., the lenders party thereto and JPMorgan Chase Bank, N.A., as administrative agent (incorporated by reference to Exhibit 10.11.2 to Zoetis Inc.'s 2020 Annual Report on Form 10-K filed on February 16, 2021 (File No. 001-35797))
Exhibit 10.12	Form of Indemnification Agreement for directors and officers (incorporated by reference to Exhibit 10.19 of Zoetis Inc's registration statement on Form S-1 (File No. 333-183254))
Exhibit 10.13	Form of Restricted Stock Unit Award agreement (incorporated by reference to Exhibit 10.21 to Zoetis Inc.'s 2012 Annual Report on Form 10-K filed on March 28, 2013 (File No. 001-35797))*
Exhibit 10.14	Form of Stock Option Award agreement (incorporated by reference to Exhibit 10.22 to Zoetis Inc.'s 2012 Annual Report on Form 10-K filed on March 28, 2013 (File No. 001-35797))*
Exhibit 10.15	Form of Non-Employee Director Deferred Stock Unit Award agreement (incorporated by reference to Exhibit 10.23 on Form 10-K filed on March 28, 2013 (File No. 001-35797))*
Exhibit 10.16	Form of Cash Award agreement (incorporated by reference to Exhibit 10.24 to Zoetis Inc.'s 2012 Annual Report on Form 10-K filed on March 28, 2013 (File No. 001-35797))*
Exhibit 10.17	Form of Performance Restricted Stock Unit Award Agreement, effective as of February 27, 2015 (incorporated by reference to Exhibit 99.1 to Zoetis Inc.'s Current Report on Form 8-K filed on March 4, 2015 (File No. 001-35797))*
Exhibit 10.18	Form of Restricted Stock Unit Award Agreement, effective as of February 27, 2015 (incorporated by reference to Exhibit 99.2 to Zoetis Inc.'s Current Report on Form 8-K filed on March 4, 2015 (File No. 001-35797))*
Exhibit 10.19	Form of Stock Option Award Agreement, effective as of February 27, 2015 (incorporated by reference to Exhibit 99.3 to Zoetis Inc.'s Current Report on Form 8-K filed on March 4, 2015 (File No. 001-35797))*

Exhibit 10.20	Form of Cash Award Agreement, effective as of February 27, 2015 (incorporated by reference to Exhibit 99.4 to Zoetis Inc.'s Current Report on Form 8-K filed on March 4, 2015 (File No. 001-35797))*
Exhibit 10.21	Zoetis Amended and Restated Non-Employee Director Deferred Compensation Plan (incorporated by reference to Exhibit 10.1 to Zoetis Inc.'s Quarterly Report on Form 10-Q filed on November 1, 2018 (File No. 001-35797))*
Exhibit 10.22	Zoetis Executive Severance Plan (incorporated by reference to Exhibit 10.1 to Zoetis Inc.'s Quarterly Report on Form 10-Q filed on August 14, 2013 (File No. 001-35797))*
Exhibit 10.23	Zoetis Supplemental Savings Plan, as amended and restated, effective September 15, 2014 (incorporated by reference to Exhibit 10.4 to Zoetis Inc.'s Quarterly Report on Form 10-Q filed on November 10, 2014 (File No. 001-35797))*
Exhibit 10.24	Amendment No. 1 to Zoetis Supplemental Savings Plan effective December 21, 2020 (incorporated by reference to Exhibit 10.24 to Zoetis Inc.'s 2020 Annual Report on Form 10-K filed on February 16, 2021 (File No. 001-35797))*
Exhibit 10.25	Zoetis Equity Deferral Plan, effective November 1, 2014 (incorporated by reference to Exhibit 10.5 to Zoetis Inc.'s Quarterly Report on Form 10-Q filed on November 10, 2014 (File No. 001-35797))*
Exhibit 10.26	Amendment No. 1 to Zoetis Equity Deferral Plan effective December 21, 2020 (incorporated by reference to Exhibit 10.26 to Zoetis Inc.'s 2020 Annual Report on Form 10-K filed on February 16, 2021 (File No. 001-35797))*
Exhibit 10.27	Letter Agreement dated as of October 2, 2019, by and between Juan Ramón Alaix and Zoetis Inc. (incorporated by reference to Exhibit 10.1 to Zoetis Inc.'s Current Report on Form 8-K filed on October 3, 2019 (File No. 001-35797))
Exhibit 10.28	Letter Agreement dated as of December 9, 2019, by and between Clinton A. Lewis, Jr. and Zoetis Inc. (incorporated by reference to Exhibit 10.1 to Zoetis Inc.'s Current Report on Form 8-K filed on December 12, 2019 (File No. 001-35797))
Exhibit 10.29	Offer Letter, dated as of May 6, 2021, by and between Wetteny Joseph and Zoetis Inc. (incorporated by reference to Exhibit 10.1 to Zoetis Inc.'s Current Report on Form 8-K filed on May 11, 2021 (File No. 001-35797))*
Exhibit 10.30	Amendment No. 2 to Zoetis Supplemental Savings Plan effective May 15, 2021 (incorporated by reference to Exhibit 10.1 to Zoetis Inc.'s Quarterly Report on Form 10-Q filed on August 5, 2021 (File No. 001-35797))*
Exhibit 21.1	Subsidiaries of the Registrant †
Exhibit 23.1	Consent of KPMG LLP †
Exhibit 24.1	Power of Attorney (included as part of signature page) †
Exhibit 31.1	Certification by the Chief Executive Officer Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002 †
Exhibit 31.2	Certification by the Chief Financial Officer Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002 †
Exhibit 32.1	Certification by the Chief Executive Officer Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 ††
Exhibit 32.2	Certification by the Chief Financial Officer Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 ††
EX-101.INS	Inline XBRL INSTANCE DOCUMENT
EX-101.SCH	Inline XBRL TAXONOMY EXTENSION SCHEMA DOCUMENT
EX-101.CAL	Inline XBRL TAXONOMY EXTENSION CALCULATION LINKBASE DOCUMENT
EX-101.LAB	Inline XBRL TAXONOMY EXTENSION LABEL LINKBASE DOCUMENT
EX-101.PRE	Inline XBRL TAXONOMY EXTENSION PRESENTATION LINKBASE DOCUMENT
EX-101.DEF	Inline XBRL TAXONOMY EXTENSION DEFINITION LINKBASE DOCUMENT
EX-104	Cover Page Interactive Data File (formatted as Inline XBRL and contained in Exhibit 101)

† Filed herewith

†† Furnished herewith

* Management contracts or compensatory plans or arrangements

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

Zoetis Inc.

Dated: February 15, 2022

By: /S/ KRISTIN C. PECK

Kristin C. Peck

Chief Executive Officer and Director

We, the undersigned directors and officers of Zoetis Inc., hereby severally constitute Kristin C. Peck and Heidi C. Chen, and each of them singly, our true and lawful attorneys with full power to them and each of them to sign for us, in our names in the capacities indicated below, any and all amendments to this Annual Report on Form 10-K filed with the Securities and Exchange Commission.

Under the requirements of the Securities Exchange Act of 1934, this report was signed by the following persons on behalf of the Registrant and in the capacities and on the date indicated.

Name	Title	Date
/S/ KRISTIN C. PECK Kristin C. Peck	Chief Executive Officer and Director (Principal Executive Officer)	February 15, 2022
/S/ WETTENY JOSEPH Wetteny Joseph	Executive Vice President and Chief Financial Officer (Principal Financial Officer and Principal Accounting Officer)	February 15, 2022
/S/ MICHAEL B. MCCALLISTER Michael B. McCallister	Chairman and Director	February 15, 2022
/S/ PAUL M. BISARO Paul M. Bisaro	Director	February 15, 2022
/S/ FRANK A. D'AMELIO Frank A. D'Amelio	Director	February 15, 2022
/S/ SANJAY KHOSLA Sanjay Khosla	Director	February 15, 2022
/S/ ANTOINETTE R. LEATHERBERRY Antoinette R. Leatherberry	Director	February 15, 2022
/S/ GREGORY NORDEN Gregory Norden	Director	February 15, 2022
/S/ LOUISE M. PARENT Louise M. Parent	Director	February 15, 2022
/S/ WILLIE M. REED Willie M. Reed	Director	February 15, 2022
/S/ LINDA RHODES Linda Rhodes	Director	February 15, 2022
/S/ ROBERT W. SCULLY Robert W. Scully	Director	February 15, 2022

Board of Directors

Michael B. McCallister
Non-Executive Chairman of the Board, Former Chairman of the Board and Chief Executive Officer, Humana Inc.

Paul M. Bisaro
Former Executive Chairman, Amneal Pharmaceuticals, Inc.

Frank A. D'Amelio
Executive Vice President and Chief Financial Officer, Pfizer Inc.

Sanjay Khosla
Former Executive Vice President and President, Developing Markets, Mondelez International, Inc.

Antoinette (Tonie) R. Leatherberry
Former Principal, Deloitte

Gregory Norden
Former Chief Financial Officer, Wyeth, LLC

Louise M. Parent
Former Executive Vice President and General Counsel, American Express Company

Kristin C. Peck
Chief Executive Officer Zoetis Inc.

Dr. Willie M. Reed
Dean of the College of Veterinary Medicine, Purdue University

Dr. Linda Rhodes
Former Chief Scientific Officer and Chief Executive Officer, Aratana Therapeutics, Inc.

Robert W. Scully
Former Member of the Office of the Chairman, Morgan Stanley

Executive Officers

Kristin C. Peck
Chief Executive Officer

Timothy J. Bettington
Executive Vice President and President, U.S. Operations and Global Customer Experience

Heidi C. Chen
Executive Vice President, General Counsel and Corporate Secretary, Lead of Human Health Diagnostics

Glenn David
Executive Vice President and Group President, International Operations, Aquaculture, BioDevices and Pet Insurance

Jeannette Ferran Astorga
Executive Vice President, Corporate Affairs, Communications and Chief Sustainability Officer

Wetteny Joseph
Executive Vice President and Chief Financial Officer

Roxanne Lagano
Executive Vice President, Chief Human Resources Officer and Global Operations

Wafaa Mamilli
Executive Vice President and Chief Information and Digital Officer

Abhay Nayak
Executive Vice President, Head of Strategy, Accelerated Growth Businesses and Commercial Development

Robert J. Polzer
Executive Vice President and President, Research and Development

Roman Trawicki
Executive Vice President and President, Global Manufacturing and Supply

Shareholder Information

Zoetis Global Headquarters
10 Sylvan Way
Parsippany, NJ 07054
1 (973) 822-7000

Stock Listing
Zoetis common stock is listed on the New York Stock Exchange under the ticker symbol ZTS.

Annual Meeting of Shareholders
The Zoetis Annual Meeting of Shareholders will be held on May 19, 2022, 8:00 a.m. ET only online via webcast at (www.virtualshareholdermeeting.com/ZTS2022).

Transfer Agent
Questions and communications regarding transfer of stock, dividends, cost-basis information, and address changes should be directed to our transfer agent and registrar, Computershare Trust Company, N.A., as follows:

Shareholder correspondence should be mailed to:
Computershare Investor Services
P.O. Box 505000
Louisville, KY 40233-5000

Overnight correspondence should be mailed to:
Computershare
462 South 4th Street, Suite 1600
Louisville, KY 40202

Telephone:
Within the U.S. and Canada:
1 (877) 373-6374
Outside the U.S. and Canada:
1 (781) 575-2879

Website:
www.computershare.com/investor

Corporate Governance
Copies of our 2021 Annual Report on Form 10-K, Quarterly Reports on Form 10-Q, and Current Reports on Form 8-K filed with Securities and Exchange Commission, 2022 Proxy Statement, and this Annual Report are available online at investor.zoetis.com.

In addition, shareholders can view our Corporate Governance Principles; Director Qualification Standards; Code of Business Conduct and Ethics for Directors; Charters of the Audit Committee, Human Resources Committee, Corporate Governance and Sustainability Committee, and Quality and Innovation Committee; and other corporate governance materials in the corporate governance section of our website at www.zoetis.com.

Copies of our SEC filings and corporate governance documents are available to shareholders without charge upon written request to the Corporate Secretary at our global headquarters.

Zoetis on the Web
You can find more information about Zoetis, including financial results, press releases, career opportunities, news on Zoetis products and services, and other activities, at our website www.zoetis.com.

Real-time information about Zoetis can be found on our Facebook and Twitter pages (www.facebook.com/zoetis and www.twitter.com/zoetis), on our YouTube channel (www.youtube.com/ZoetisInc), and on LinkedIn (www.linkedin.com/company/zoetis).

Shareholder Services
If you have a question for us and cannot find an answer on our website, please write to us at Zoetis Shareholder Services, 10 Sylvan Way, Parsippany, NJ 07054, or email us at shareholderservices@zoetis.com.

Forward–Looking Statements
Please refer to our 2021 Form 10-K for a description of the substantial risks and uncertainties related to the forward-looking statements included in this Annual Report. Our Form 10-K is available on our website at investor.zoetis.com/sec-filings and on the Securities and Exchange Commission's website at www.sec.gov.

Non–Gaap Financial Information
We use non-GAAP financial measures, such as adjusted net income, adjusted diluted earnings per share, adjusted EBIT margin and operational results (which exclude the impact of foreign exchange), to assess and analyze our operational results and trends and to make financial and operational decisions. We believe these non-GAAP financial measures are also useful to investors because they provide greater transparency regarding our operating performance. The non-GAAP financial measures included herein should not be considered alternatives to measurements required by GAAP, such as net income, operating income, and earnings per share, and should not be considered measures of liquidity. These non-GAAP financial measures are unlikely to be comparable with non-GAAP information provided by other companies. Reconciliation of non-GAAP financial measures and GAAP financial measures are included in the tables accompanying our earnings release and in the related presentation posted on our website at www.zoetis.com.

Design: Ideas On Purpose, New York

investor.zoetis.com/annual-reports