

## ■ German balance of payments in 2018

*In 2018, the German economy's current account surplus decreased by  $\frac{3}{4}$  percentage point to 7¼% of nominal gross domestic product (GDP). This was due to a sharp decline in the goods trade surplus, whereas developments in the other sub-accounts tended to push up the surplus. For instance, the slowdown in global trade growth hampered Germany's export performance, while goods imports rose sharply on the back of favourable domestic economic conditions. Furthermore, the steep rise in the price of internationally traded commodities diminished the goods trade surplus, as in the previous year. In terms of domestic saving and investment decisions, an increase in private investment against the backdrop of the fairly high aggregate capacity utilisation in 2018 was one of the main factors dampening Germany's current account surplus. Meanwhile, national saving as a percentage of GDP continued to increase during the reporting year.*

*As in previous years, some of these savings flowed abroad as net capital exports. At €225½ billion, however, this figure was significantly lower than in 2017. The gradual reduction of the monthly purchase volumes under the Eurosystem's expanded asset purchase programme (APP) also led to changes in portfolio investment. For example, foreign investors sold fewer German debt securities than in the years before; portfolio shifts by German investors in favour of foreign securities were also less pronounced. The Bundesbank's TARGET2 claims, which have been strongly influenced by the APP since 2015, increased only moderately in 2018. Commercial banks' external liabilities declined over the past year, having risen in 2016 and 2017 – in some instances as a counterpart to the Bundesbank's rising TARGET2 claims. In contrast to the global decline in direct investment flows, German enterprises continued to significantly expand their direct investment operations last year. On the other hand, Germany was also a sought-after destination for foreign direct investment (FDI). Euro area countries were the main partners for FDI in both directions.*

## Current account

### Underlying trends in the current account

*Decline in current account surplus for third consecutive year*

Germany's current account surplus went down by €15½ billion to €246½ billion in 2018. In relation to nominal GDP, it fell by ¾ percentage point to 7¼%. As a result, after declining for three years, this put it significantly lower than its peak of 8½% of GDP in 2015.<sup>1</sup> As things stand, the current account balance will probably continue to decline until 2020.<sup>2</sup> Even so, it is likely that the threshold of 6% of GDP set by the European Commission as part of the pro-

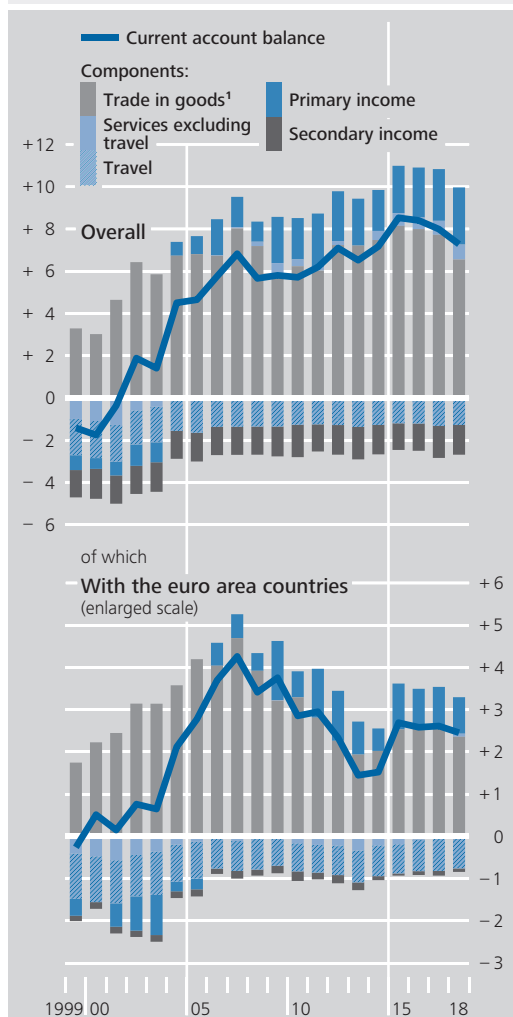
cedure for preventing and correcting macroeconomic imbalances will continue to be surpassed.<sup>3</sup>

The decline in the current account balance masks divergent developments in its sub-items. On the one hand, the surplus in the goods account decreased. This was due to both price and volume effects. On the other hand, developments in the other sub-accounts tended to boost the surplus. For instance, the services account recorded a slightly smaller deficit. Moreover, the primary income surplus rose because the year-on-year increase in Germany's net external assets and the improved yield differential more than offset the dampening effect of the further drop in the yield level of foreign assets held by domestic investors. Finally, the deficit in the secondary income balance receded from the high level it had reached in the previous year as a result of one-off effects.

*Decline in the goods trade surplus a key factor; surplus boosted by other sub-accounts*

#### Germany's current account

As a percentage of GDP



<sup>1</sup> Special trade according to the official foreign trade statistics, including supplementary trade items, with freight and insurance costs also being deducted from imports.

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Given the slow recovery of the global economy, German enterprises faced less favourable global economic conditions in 2018. In particular, global industrial output and the pace of world trade slowed markedly. On top of this, German exporters were confronted with an unfavourable regional export demand situation, meaning that, viewed together, growth in their sales markets in the advanced economies and the emerging economies even lagged behind growth in global trade during the reporting year. Export activity was also hampered by the further appreciation of the euro, whose nominal effective exchange rate against the currencies of the euro area's 38 most important trading partners (the EER-38 group) in 2018 was up

*Global economic conditions less favourable*

<sup>1</sup> For more information on the driving forces behind German net exports, see also the box on pp. 19 ff.

<sup>2</sup> See Deutsche Bundesbank, Outlook for the German economy – macroeconomic projections for 2019 and 2020 and an outlook for 2021, Monthly Report, December 2018, pp. 15-31.

<sup>3</sup> In the in-depth review as part of the 2019 European Semester, the European Commission classified Germany as once again having macroeconomic imbalances. See European Commission, Country Report Germany 2019 including an in-depth review on the prevention and correction of macroeconomic imbalances, Brussels, 27 February 2019.

## The drivers of German net exports from the perspective of a DSGE model

Microfounded dynamic stochastic general equilibrium (DSGE) models have become one of the established standard instruments of macroeconomic analysis.<sup>1</sup> Within this model framework, macroeconomic developments are the outcome of the individual behaviour of economic agents. These agents are assumed to make optimal decisions and to not make systematic errors when forming expectations.

In a DSGE model developed by the Bundesbank which covers a number of economic regions, it is possible to analyse Germany's international trade with other euro area countries and with countries from the rest of the world, which are assumed to have an independent monetary policy.<sup>2</sup> With regard to the analysis of net exports (i.e. the balance of trade in goods and services), two core elements of this type of model are of importance. The first is households' utility maximising decisions between current and future consumption, taking into account expected income and interest rates. According to this, households expecting their income situation to worsen in the future would, for example, already limit their current consumption, and this would tend to increase net exports. The second is that enterprises' investment decisions, which are also the outcome of an optimisation problem in the model, play a role in the development of net exports. This is because, from a macroeconomic perspective, net export surpluses can, for instance, reflect the reluctance of households and enterprises to consume or invest.

In the model, optimal consumption or investment decisions are adjusted if unexpected developments (shocks) occur. For

example, unexpected and persistently lower productivity growth could lead to a reduction in current private consumption, which tends to increase net exports. Using the estimated DSGE model, past cyclical fluctuations of German net exports can be attributed to the contributions of the underlying economic shocks.<sup>3</sup>

One thing the model does is cover shocks that originate in the German economy. These shocks relate to the fields of technology, savings, investment, public spending and wages. However, it also identifies the contributions of monetary policy shocks in the euro area, as well as those from combined shocks in the rest of the euro area and the rest of the world. This breakdown makes it possible to gauge the importance

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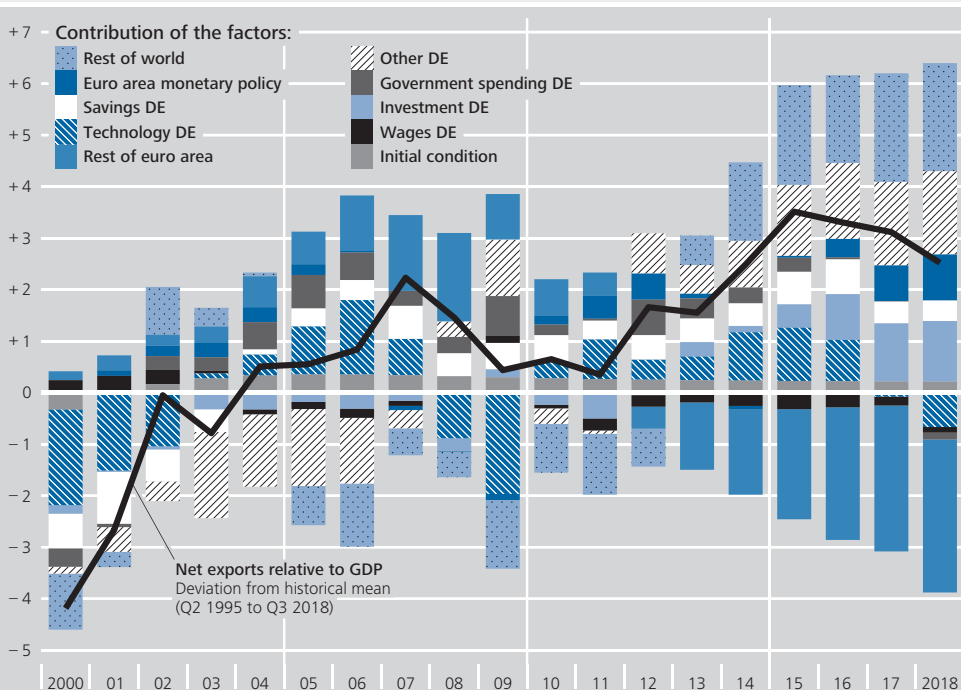
<sup>1</sup> See, for example, L. Christiano, M. Eichenbaum and M. Trabandt (2018), On DSGE models, *Journal of Economic Perspectives*, Vol. 32, pp. 113-140; and Deutsche Bundesbank, Development and application of DSGE models for the German economy, *Monthly Report*, July 2008, pp. 31-46.

<sup>2</sup> For a detailed description of the model, see M. Hoffmann, M. Kliem, M. Krause, S. Moyer and R. Sauer, Rebalancing the euro area: Is wage adjustment in Germany the answer?, in preparation for publication as a Deutsche Bundesbank Discussion Paper. For a similar study of the German current account balance, see R. Kollmann, M. Ratto, W. Roeger, J. in't Veld and L. Vogel (2015), What drives the German current account? And how does it affect other EU Member States?, *Economic Policy*, Vol. 30, pp. 47-93.

<sup>3</sup> These contributions include the initial impact of the shocks as well as potential follow-on effects in subsequent periods. The shock decomposition of net exports, which were the main reason for the increase in the current account surplus in the period since 2000, was carried out relative to gross domestic product (GDP). The other components of the current account balance are primary and secondary income. In addition, the ratio of net exports was mean-adjusted prior to the model estimation. The results therefore relate to fluctuations around the mean ratio of German net exports in the estimation period, which stretches from the second quarter of 1995 to the third quarter of 2018 and thus does not yet include changes as part of the 2018 annual revision.

### Model-based shock decomposition of German net exports

In percentage points, annual data<sup>1</sup>



<sup>1</sup> The annual data are based on the arithmetic mean of the quarterly ratios. The 2018 data relate to the first three quarters.  
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of domestic and foreign factors in the development of German net exports.<sup>4</sup>

Between 1995 and 2015, German net exports increased from ½% to 7½% of GDP, with the bulk of this increase being concentrated in two periods of time. The first was from the beginning of the 2000s until the onset of the financial crisis of 2007/2008; the second covers the period since the start of the sovereign debt crisis in the euro area in 2011 until 2015.

According to the model results, the increase in the ratio of net exports in the 2000 to 2007 period was, as far as domestic determinants are concerned, for the most part attributable to additional savings, declining government spending, as well as the increasingly positive contributions of technological improvements. Among the external factors, developments in the rest of the euro area, which stimulated German net

exports, were a major factor in the latter's increase. In this context, a decrease in savings and additional government spending were among the important factors.

The further increase in the ratio of net exports in the period from 2011 to 2015 was related to a substantial additional build-up of economy-wide domestic savings and improvements in the use of production technologies. In addition, according to the model results, muted domestic investment and, to some extent, subdued government spending also contributed to this develop-

<sup>4</sup> The path of the endogenous model variables is also influenced by the distance of the variables from the corresponding equilibrium values at the beginning of the observation period. In the historical shock decomposition, this is taken into account by the contribution of the initial condition.

ment.<sup>5</sup> Other developments in Germany (Other DE), including changes in the price mark-up of tradable goods as well as to the share of tradable goods in overall consumption, also contributed to the increase in the surplus. The extraordinarily accommodative euro area monetary policy in recent years appears to have led to a slight increase in the surplus, probably also as a result of the induced depreciation of the euro exchange rate. Developments in the rest of the world also increased the surplus on balance. As in Germany, changes to the share of tradable goods in overall consumption as well as risk premium shocks were of importance here. By contrast, since the sovereign debt crisis, developments in the rest of the euro area have increasingly dampened German net exports. These include comparatively weak investment activity, higher savings and lower government spending. In addition, particularly subdued wage growth in Germany – even before 2011 – seems to have played almost no role in the increase in net exports.

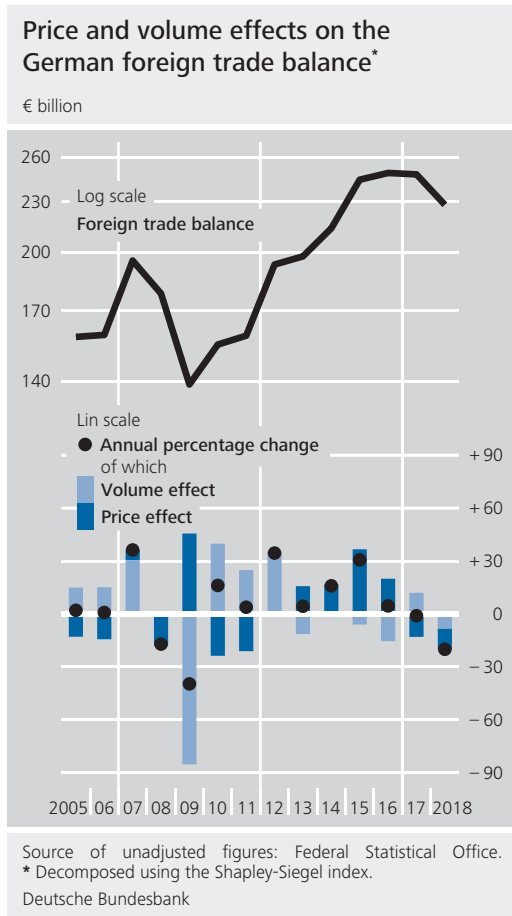
Overall, the results presented support the hypothesis that the large and persistent surplus of German net exports is attributable to several factors. The accumulation of savings in Germany is one of the factors that has contributed to an increasing surplus over a prolonged period of time. This finding is consistent with the increase in economy-wide savings, which is attributable to a significant extent to non-financial corporations.<sup>6</sup> Although weak domestic investment and low government spending also tended to increase the surplus, their quantitative effects were smaller. Moreover, according to the analyses, a considerable part of the dynamics of German net exports is attributable to external factors. However, this development reflects, at times, partly offsetting contributions stemming from the

rest of the euro area and the rest of the world over large stretches of the post-2000 period.

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<sup>5</sup> The results do not allow a distinction to be made between public and private investment. Furthermore, in light of the strong population growth, the finding that the dynamics of domestic investment have been comparatively strong since the first half of 2017 may have also been masked in the shock decomposition due to the per capita perspective chosen. See, for example, Deutsche Bundesbank, *The German economy*, Monthly Report, November 2018, pp. 44-53.

<sup>6</sup> For more information, see pp. 24 ff. and Deutsche Bundesbank, *The savings of non-financial corporations in Germany*, Monthly Report, March 2018, pp. 20-22.



the growth in the volume of imports lagged slightly behind the figures recorded in the previous years, in line with the slackening pace of domestic growth. The increase in the price of goods imports, which was relatively strong compared to that of exports, meant that import growth outpaced export growth to an even greater degree in nominal terms than in real terms. As a result, the foreign trade balance decreased significantly in the reporting year. In purely mathematical terms, volume effects accounted for roughly two-fifths of the decline, and price effects for three-fifths.

In regional terms, the current account balance vis-à-vis other euro area countries fell by ¼ percentage point to 2½% of GDP. The decline was mainly due to a smaller surplus in the goods account, which overshadowed the reduced deficit in services trade. The current account balance vis-à-vis non-euro area countries dropped by ½ percentage point to 4¾% of GDP. This was mainly the result of a smaller surplus in the goods account, whose decline in comparison with the previous year significantly exceeded the improvement in the primary income balance.

*Reduced surplus vis-à-vis euro area and non-euro area countries*

by an average of just over 5% on the year. The euro mainly appreciated against the US dollar and the Swiss franc, but also against the renminbi and the yen. Germany's price competitiveness deteriorated somewhat as a result. Price factors also tended to dampen economic activity in Germany. For instance, the price of crude oil, in particular, rose very sharply. A barrel of Brent crude oil cost an average of US\$71 in 2018 – just under one-third more than in the previous year.

*Price and volume effects dampened Germany's foreign trade surplus*

Besides the less favourable global economic environment, in the second half of the year, problems in the automotive industry stemming from the introduction of a new EU-wide emissions testing procedure for new motor vehicle registrations weakened Germany's export performance.<sup>4</sup> Although nominal goods exports expanded significantly overall, growth was below average compared to the previous years. Imports benefited from domestic economic conditions, which remained positive, although

Looking at the components of aggregate net lending/net borrowing, the fall in Germany's current account surplus relative to GDP was due to an increase in private investment in the context of fairly high aggregate capacity utilisation in 2018. This was mainly because business investment remained brisk and private residential investment increased again. By contrast, national saving as a percentage of GDP continued to grow in 2018, driven, in particular, by high levels of public sector saving. Looking at the balances of the individual sectors, the decrease in net lending by non-financial corporations played a major role in the decline in the current account balance. Saving by non-financial corporations, which had risen strongly

*Increase in investment activity; aggregate savings on the rise*

<sup>4</sup> See Deutsche Bundesbank, The weakness of German motor vehicle production in the second half of 2018, Monthly Report, February 2019, pp. 47-48.

between the early 2000s and 2015, dipped slightly again in 2018 (see also the box on pp. 24 ff.). General government net lending increased considerably last year owing to sharp rises in social contributions and, above all, tax. Although significant in absolute terms, net lending by households remained broadly unchanged.

## Goods flows and balance of trade

*Foreign trade more subdued*

German foreign trade activity was considerably more subdued in 2018 than in the year before. The slowdown in global trade, which had been extremely lively the previous year, had a particularly dampening influence on export activity. This was compounded by an unfavourable structure in terms of regions and product ranges, as well as the further appreciation of the euro. In price-adjusted terms, goods exports in 2018 virtually failed to surpass their level at the end of 2017. On an annual average, they nonetheless recorded an increase of 1¾% because exports had expanded considerably in the course of 2017. With regard to imports, foreign producers benefited from the ongoing buoyant domestic demand in Germany in the reporting year. Demand for machinery and equipment, which has a high import content, gained further momentum, which was particularly beneficial to manufacturers abroad. This partly offset the dampening effect on the demand for foreign goods that stemmed from the loss of momentum in German exports, which also have a relatively high import content. At 3% in price-adjusted terms, imports of goods rose distinctly more sharply than exports. Imports increased even more strongly in nominal terms, at 5¾%. The difference between the value of imports and exports, the latter of which went up by 3%, narrowed mainly as a result of the increase in the prices of energy products. On balance, the foreign trade surplus fell significantly by €20 billion to €228 billion in 2018.

## Savings and investment in the German economy

As a percentage of GDP

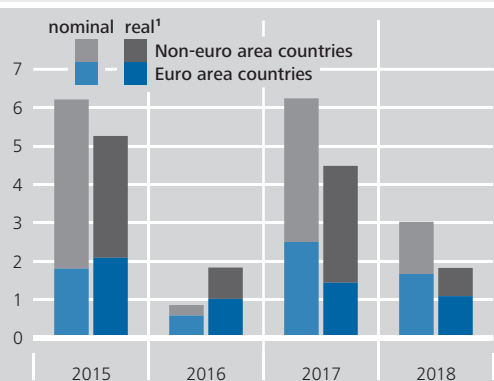


**1** Including consumption of fixed capital. **2** One-off effect caused mainly by assumption of Treuhand debt by general government. **3** One-off effect of auction of UMTS licences.

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## German exports by region

Contribution to annual average year-on-year change in total exports, in percentage points



Source of unadjusted figures: Federal Statistical Office. **1** Adjusted for regional export prices; 2015 = 100, calculated using the respective nominal share of total exports in the previous year.

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## On the corporate payout ratio in Germany

Increased savings of non-financial corporations played a major role in driving Germany's current account surplus to today's high level.<sup>1</sup> One key factor in this development in purely arithmetical terms, besides the increase in corporate profitability, has been the lower share of profits distributed to corporations' shareholders.<sup>2</sup> The aggregate payout ratio of non-financial corporations – measured as distributed income paid relative to net profits – has been on the decline since the beginning of the millennium.<sup>3</sup> Coming to roughly 95% in 2001, this ratio has since dwindled by around 20 percentage points to 75% on average for the 2014-18 period, according to data reported in Germany's national accounts.

At the beginning of the last decade, the payout ratio in Germany was far higher than in the other countries of the euro area or European Union. However, neither these economic areas nor Japan, the United Kingdom or the United States have seen the average payout ratio decline significantly on balance. This would suggest that, to some extent, the strong contribution which the declining payout ratio of German enterprises has made to the rise in corporate savings over recent years also reflects a normalisation of sorts by international standards.<sup>4</sup>

Disaggregated data on the distributions of earnings by German enterprises based on the Bundesbank's corporate balance sheet statistics suggest that the decline in the payout ratio, rather than being confined to any particular size class, legal form or economic sector, has been a widespread development across Germany's corporate sector. While the decline has shown only minor differences in magnitude across firm characteristics, large enterprises and stock corpor-

ations generally had lower payout ratios than the other firm types. A comparison of the manufacturing and services sectors, on the other hand, showed no noteworthy differences in terms of the level of the payout ratio or the magnitude of its decline.

Besides descriptive analyses, it is also possible to use econometric estimates to identify which factors have been driving the decline in the payout ratio. These estimates subject common theories on the decline in the corporate payout ratio in Germany – including those suggested in the academic literature – to an initial assessment using suitable datasets and methods in each case.

### Enterprises looking to deleverage

One possible theory for the decline in the payout ratio is deleveraging by German enterprises. These had relatively high leverage ratios by international standards at the end of the 1990s and have since made lasting

<sup>1</sup> See Deutsche Bundesbank, The German economy's current account surplus, Annual Report 2013, pp. 39-60.

<sup>2</sup> See Deutsche Bundesbank, The savings of non-financial corporations in Germany, Monthly Report, March 2018, pp. 20-22.

<sup>3</sup> Net profits based on national accounts data were calculated in line with the net income/net loss for the financial year figures reported in corporations' income statements – that is to say, as net savings plus distributed income paid. The results look much the same if the payout ratio is modified such that net distributed income (i.e. distributed income paid less distributed income received) is used in the numerator or corporate profits (i.e. profits before taxes and net transfers) are used in the denominator.

<sup>4</sup> In many advanced economies, non-financial enterprises' savings relative to their gross value added have risen strongly since the 1990s. See P. Chen, L. Karabarbounis and B. Neiman (2017), The global rise of corporate saving, *Journal of Monetary Economics* 89(C), pp. 1-19.

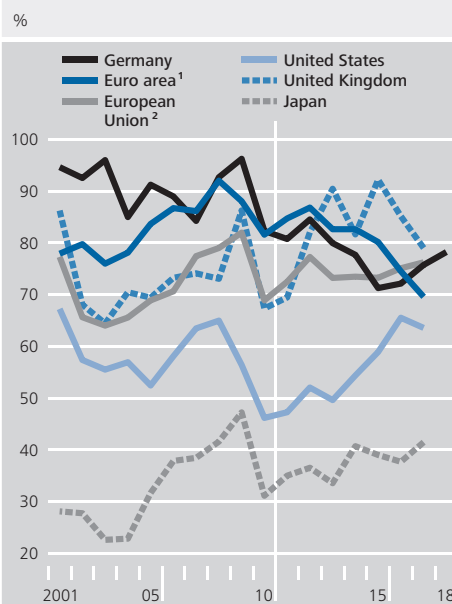


improvements to their equity capital base.<sup>5</sup> To test this theory, relatively highly leveraged enterprises are compared with enterprises whose leverage ratios are on the low side in order to explore how their respective payout ratios have evolved since 2001 relative to the pre-2001 period; this assessment is based on individual data from German corporate balance sheets.<sup>6</sup> If this approach finds that the payout ratio diverges more strongly as of 2001, it could be put down to the role played by corporate leverage. The econometric results support this theory, since the payout ratio of firms with relatively low equity ratios, and high levels of bank debt and long-term liabilities showed a particularly steep and statistically significant decline.

#### Cut in corporate tax rates in 2000-01

The corporate tax reform in 2000 and 2001 lowered corporate income tax to a uniform rate of 25%, down from pre-reform rates of 40% on retained earnings and 30% on distributed profits. Following the reform, it tended to be more attractive, in taxation terms, to retain profits as a means of funding new investment than to pay out profits and raise fresh equity capital. Furthermore, tax cuts tend, in theory, to diminish the tax benefits of debt financing.<sup>7</sup> Thus, firms which had a high effective marginal tax rate prior to this reform might have reduced their payout ratio after the reform by more than other firms.<sup>8</sup> According to the results of the same empirical approach as before, but with firms now being distinguished by their effective tax rate, the effects of the tax reform do indeed point in the expected direction. This approach finds no evidence of a statistically significant influence, however.<sup>9</sup>

Non-financial corporations' payout ratios\*



Sources: Bureau of Economic Analysis, Eurostat, Cabinet Office of the Government of Japan, Federal Statistical Office and Bundesbank calculations. \* Distributed income of corporations paid in relation to net profits (net savings plus distributed income of corporations paid). <sup>1</sup> Excluding Germany. <sup>2</sup> Excluding Germany and the United Kingdom.  
 Deutsche Bundesbank

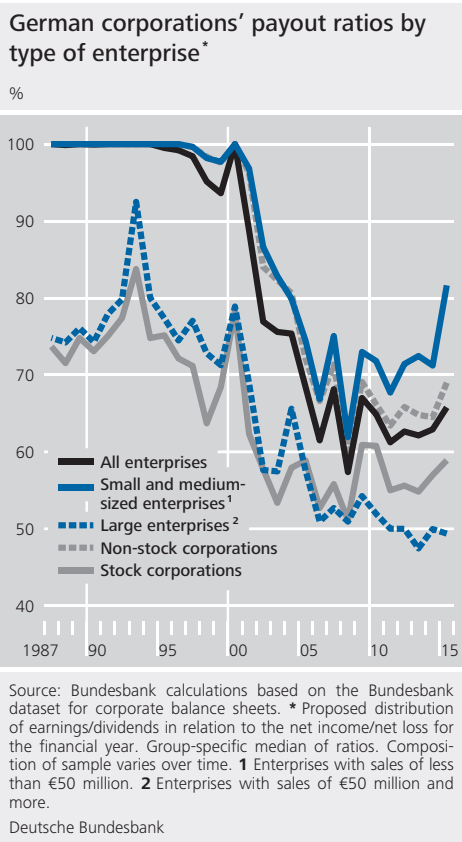
<sup>5</sup> See Deutsche Bundesbank, Capital base of non-financial enterprises in Germany sustainably strengthened, Monthly Report, December 2013, pp. 44-46; and Deutsche Bundesbank, Trends in the financing structures of German non-financial corporations as reflected in the corporate financial statement statistics, Monthly Report, July 2018, pp. 57-67.

<sup>6</sup> Balanced samples of firms were taken for the 1998-2005 period based on a difference-in-differences approach. The firm-specific payout ratio was regressed on a dummy variable for the period as of 2001 as well as on an interaction term composed of this dummy variable and the mean of the data for selected firm characteristics in the pre-2001 period. The estimated equation also includes fixed effects at the firm level.

<sup>7</sup> See F. Modigliani and M. H. Miller (1963), Corporate income taxes and the cost of capital: A correction, American Economic Review, Vol. 53, pp. 433-443; and M. Faccio and J. Xu (2015), Taxes and capital structure, Journal of Financial and Quantitative Analysis, Vol. 50, pp. 277-300.

<sup>8</sup> See D. Givoly, C. Hayn, A.R. Ofer and O. Sarig (1992), Taxes and capital structure: Evidence from firms' response to the Tax Reform Act of 1986, The Review of Financial Studies, Vol. 5, pp. 331-355.

<sup>9</sup> One factor that might have a bearing here is that the firm-specific effective marginal tax rate used in the calculations is only roughly approximated using the relation of taxes paid to profits. There is also the difficulty of conceptually distinguishing between the effects of the corporate tax reform and those of deleveraging, if highly leveraged firms also tend to have higher marginal tax rates. See D. Givoly, C. Hayn, A.R. Ofer and O. Sarig (1992), op. cit.



### Financing intangible assets

Intangible assets have become increasingly important on corporate balance sheets over the past few decades, to the detriment of tangible assets. Given that intangible assets tend to be pledged far less often than traditional capital goods as collateral for loans, the relatively high level of capital needed to finance them could also be reflected in increased corporate savings.<sup>10</sup> However, based on the empirical approach – but this time with firms being grouped by their share of intangible assets to total assets – there is no indication that the increasing share of intangible assets has been instrumental in the drop in the corporate payout ratio.

### Dividend smoothing

According to the empirical academic literature, firms believe that it is very important

to keep their payouts stable.<sup>11</sup> This would suggest that when a firm records rising profits, it will be hesitant to increase its payout level, with the result that its payout ratio will drop temporarily. The smoothing theory can be tested using another empirical model according to which changes in a firm's dividend payouts can be traced back partially to its profit level and partially to the dividends paid out in the prior period.<sup>12</sup> According to this model, the role which smoothing considerations play in dividend payouts is evident from a comparison of the dividend payouts computed by the model with those in a hypothetical scenario in which only current profits are a factor. Since the model finds that the payout ratios are similar in both cases, it appears that the intended smoothing of dividend payouts has not contributed a great deal to the decline in the corporate payout ratio in Germany.<sup>13</sup>

### Substitution with share buybacks

For listed companies, share buybacks are another way of distributing profits to their shareholders.<sup>14</sup> For the United States, there is evidence to suggest that corporate share buybacks have been used to substitute divi-

<sup>10</sup> See A. Falato, D. Kadyrzhanova and J. Sim (2013), Rising intangible capital, shrinking debt capacity, and the US corporate savings glut, Finance and Economics Discussion Series 2013-67, Board of Governors of the Federal Reserve System.

<sup>11</sup> See J. Lintner (1956), Distribution of incomes of corporations among dividends, retained earnings, and taxes, American Economic Review, Vol. 46, pp. 97-113; and M.T. Leary and R. Michaely (2011), Determinants of dividend smoothing: Empirical evidence, The Review of Financial Studies, Vol. 24, pp. 3197-3249.

<sup>12</sup> See J. Lintner (1956), op. cit.

<sup>13</sup> The calculations do point to the existence of smoothing considerations, but their contribution to the evolution of the payout ratio is extremely small, given its minimal importance for the average firm and profit growth at the firm level.

<sup>14</sup> Reducing the number of outstanding shares available in the open market directly increases an enterprise's key measures of profitability (per share) and should, at least theoretically, push up its share price over time, with the result that, in principle, shareholders stand to benefit from share buybacks in the form of rising share prices.

dend payments, at least in part, since the 1980s.<sup>15</sup> To gauge how much share buybacks have contributed to the decline in the payout ratio in Germany, it is possible to calculate a payout ratio adjusted for share buybacks.<sup>16</sup> While there have been some years in which this ratio was considerably higher than the standard measure, the differences were immaterial on average for the 1998-2017 period. Arguably, then, share buybacks did not contribute to the trend decline in the payout ratio in Germany.

### Conclusion

In conclusion, out of the five hypotheses investigated in this box, just one – the deleveraging theory – is identified as having a statistically significant and quantitatively important influence on the decline in the payout ratio. Given that debt levels in Germany's non-financial corporate sector are

now relatively low by international standards, there is little reason for enterprises to reduce their payout ratios any further.<sup>17</sup> Now that enterprises are very soundly capitalised, it would certainly be plausible for them to further increase the share of profits they distribute in the future (as the national accounts data have been indicating since 2015).<sup>18</sup>

<sup>15</sup> See G. Grullon and R. Michaely (2002), Dividends, share repurchases, and the substitution hypothesis, *Journal of Finance*, Vol. 57, pp. 1649-1684; and D.J. Skinner (2008), The evolving relation between earnings, dividends, and stock repurchases, *Journal of Financial Economics*, Vol. 87, pp. 582-609.

<sup>16</sup> Corporate share buybacks are not reported in the sectoral accounts of the national accounts.

<sup>17</sup> See Deutsche Bundesbank, Recent developments in the indebtedness of the private non-financial sector in selected euro-area countries, *Monthly Report*, January 2017, pp. 41-58.

<sup>18</sup> Recent developments in the capitalisation of non-financial corporations in Germany are outlined in Deutsche Bundesbank, German enterprises' profitability and financing in 2017, *Monthly Report*, December 2018, pp. 33-46.

*Weaker rise in price-adjusted exports by region*

In regional terms, year-on-year growth in the value of exports to the most important target countries and sales regions was generally less buoyant on average in 2018 than in 2017. This was also the case in price-adjusted terms, according to which exports to the euro area increased by 3% and to countries outside of the euro area by 1¼%. Viewed over the course of the year, the relatively weak performance of price adjusted regional exports in 2018 becomes clearer. Although exports to euro area countries in 2018 rose by 1¾% until the final quarter in nominal terms compared to the last quarter of 2017, in price-adjusted terms, they exceeded this level by just ¼%. Exports to non-euro area countries grew by a nominal 1¼% over the same period; however, at last count, they were nonetheless ½% lower than in the fourth quarter of 2017 after adjustment for developments in sales prices.

Turning to nominal exports to EU countries, the annual average figures showed a particular de-

cline in exports to the United Kingdom. Product range effects, the slowdown in growth in the United Kingdom, and the significant appreciation of the euro against the British pound in the years before probably had a dampening effect here. Exports to France were also slightly down on the year, with the decline in other transport equipment also playing a role.<sup>5</sup> By contrast, exporters maintained the successful performance they had achieved in the Netherlands and Italy in 2017. The increase in revenue from German exports to central and eastern European countries outside the euro area was higher than average, as in previous years.

The increase in the value of exports to countries outside the EU was also more subdued on

*Loss of momentum in exports to EU countries ...*

*... and to non-EU countries*

<sup>5</sup> Ships and boats, railway locomotives and rolling stock, as well as aircraft and spacecraft, in particular – especially for the bilateral trade flows of the countries involved in the joint European manufacturing arrangement – play a major role in Germany's foreign trade in other transport equipment.

## Foreign trade by region

%

Country/ group of countries	Per- cent- age share	Annual percentage change			
		2018	2016	2017	2018
<b>Exports</b>					
Euro area	37.4	1.6	6.8	4.5	
Other EU countries	21.7	2.3	5.4	2.7	
of which:					
United Kingdom	6.2	- 3.5	- 0.6	- 4.0	
Central and eastern European EU countries <sup>1</sup>	12.0	5.2	9.1	6.6	
Switzerland	4.1	2.2	7.5	0.3	
Russia	2.0	- 0.6	19.7	0.6	
United States	8.6	- 6.1	4.7	1.5	
Japan	1.6	7.9	6.8	4.6	
Newly industrialised economies in Asia <sup>2</sup>	3.0	1.4	1.8	0.6	
China	7.1	6.7	13.3	8.1	
South and east Asian emerging market economies <sup>3</sup>	2.5	1.4	9.9	13.0	
OPEC <sup>4</sup>	1.8	- 7.2	- 12.0	- 15.9	
All countries	100.0	0.9	6.2	3.0	
<b>Imports</b>					
Euro area	37.2	0.6	5.5	6.9	
Other EU countries	20.0	3.1	7.7	5.2	
of which:					
United Kingdom	3.4	- 7.2	3.3	0.4	
Central and eastern European EU countries <sup>1</sup>	14.0	6.8	9.4	6.6	
Switzerland	4.2	4.3	4.1	0.4	
Russia	3.3	- 12.0	18.5	14.7	
United States	5.9	- 3.7	6.8	4.3	
Japan	2.2	8.6	4.7	3.4	
Newly industrialised economies in Asia <sup>2</sup>	2.8	- 0.9	23.3	6.1	
China	9.7	2.4	8.1	4.3	
South and east Asian emerging market economies <sup>3</sup>	3.8	4.4	11.5	2.1	
OPEC <sup>4</sup>	1.0	- 19.0	43.4	20.1	
All countries	100.0	0.6	8.0	5.7	

<sup>1</sup> Bulgaria, Croatia, Czech Republic, Hungary, Poland, Romania.  
<sup>2</sup> Hong Kong, Singapore, South Korea, Taiwan. <sup>3</sup> India, Indonesia, Malaysia, Philippines, Thailand, Vietnam. <sup>4</sup> Territorial definition as at date of publication.

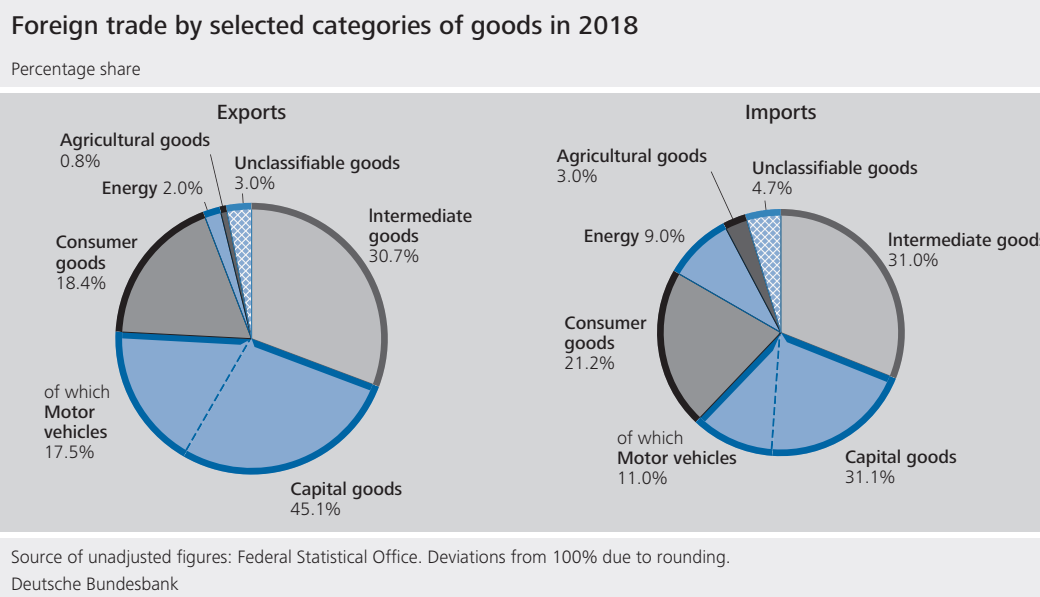
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the whole on average in 2018 compared to 2017. Even so, broken down by sales region, developments were fairly heterogeneous. After increasing sharply the year before, exports to the United States recorded a moderate rise; the appreciation of the euro against the US dollar is also likely to have played a role here. In addition, exports to other major destinations outside the EU expanded only slightly. Exports to Russia, too, were only marginally higher than in the previous year, in which they had risen extraordinarily sharply. Furthermore, exports to the OPEC countries showed a further decline. Exports to Asia, on the other hand, recorded comparatively strong growth. Sales to China rose sharply, although the slower pace of economic activity there probably had an impact on German exporters. Export revenue in the South and East Asian emerging market economies expanded sharply again. Foreign business with Japan was also fairly positive.

The slower pace of global trade in goods affected German manufacturers to varying degrees. In price-adjusted terms, foreign trade in consumer goods was just as brisk as in 2017. The very sharp increase in sales of pharmaceutical products probably also contributed to this. Although Germany's exports of intermediate goods and major categories of capital goods also expanded, their rate of growth was distinctly lower than in the previous year due to weakening upward momentum in global industrial activity. Exports of computers, electronic and optical products as well as electrical equipment registered strong gains. In addition, exports of machinery rose comparatively sharply. By contrast, there was a clear decline in exports of motor vehicles and motor vehicle parts. Among other reasons, this was probably due to the difficulties encountered by the German automotive sector with regard to the new EU-wide emissions tests.<sup>6</sup> This is likely to have been compounded by dampening effects from the demand side, especially in key markets for

*Demand for wide range of export products, but motor vehicle exports in decline*

<sup>6</sup> See Deutsche Bundesbank, Monthly Report, February 2019, op. cit.



the German automotive industry. For instance, there was a significant drop in exports of motor vehicles to the United States, as in the previous year.

facturers in the euro area's partner countries saw revenue from their business with Germany expand to a significant degree, outstripping the previous year's performance. The pick-up in import demand from Germany benefited the major suppliers – with Italy and the Netherlands recording the largest increase overall – as well as the majority of smaller trading partners, which also significantly stepped up their deliveries. Furthermore, imports from central and eastern European EU countries went up relatively sharply, continuing the trend from the previous years. By contrast, imports from the United Kingdom were only slightly higher than their level in the previous year, when they had increased strongly. Major suppliers outside the EU also generated higher export revenues with Germany. However, the increases were generally lower than in the previous year.

*Need for wide range of imports*

Buoyant domestic demand in Germany meant there was demand for a wide range of products from foreign manufacturers. Imports of consumer goods continued to record lively growth. Imports of traditional capital goods such as machinery expanded considerably in the wake of the strong increase in demand for machinery and equipment in Germany. Computers, electronic and optical products as well as electrical equipment were also in high demand. By contrast, imports of motor vehicles and motor vehicle parts showed below average growth. This could have been due, among other things, to a certain degree of temporary spending restraint on the part of domestic buyers and, indirectly, the decline in motor vehicle exports. Producers of intermediate goods recorded very strong growth in revenue from exports to Germany. Moreover, the value of energy imports rose extremely sharply. However, this was essentially due to the increase in the prices of these products.

### Invisible current transactions

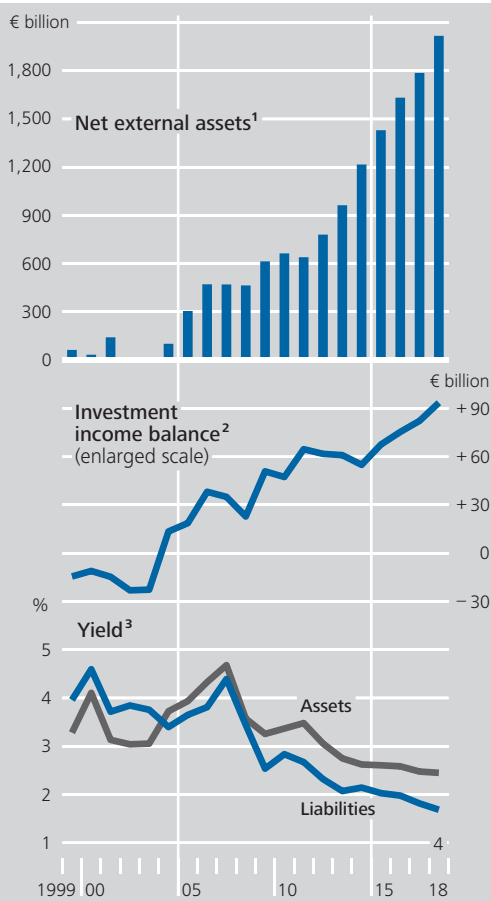
From Germany's perspective, cross-border trade in services continued to post a deficit. Interestingly, the pace of growth in both imports and exports of services was very moderate compared to the strong performance of recent years. In contrast to both preceding years, the deficit decreased distinctly in 2018. During the reporting period, demand for ser-

*Reduced deficit in services account ...*

*Rise in imports of goods broadly based in regional terms*

From a regional perspective, imports from other EU countries as well as from countries outside the EU went up sharply in 2018. Manu-

### Key indicators of the cross-border investment income balance



**1** Direct, portfolio and other investment and reserve assets. Excluding financial derivatives. According to international investment position. **2** According to balance of payments. **3** Yields shown in terms of cross-border investment income/expenditure as a percentage of the annual average levels of foreign assets and liabilities. **4** For the IIP as at the end of 2018 Q3.

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Trade in services was brisker in 2018 than in the year before, particularly in services that tend to be knowledge-based, such as communication and IT services and the use of intellectual property, but also in the transport sector. These three sub-accounts significantly helped to improve the services account balance overall. By contrast, other business services, which include research and development, professional, technical and commercial services as well as management consulting services, showed very little momentum on the revenue and the expenditure side alike. Over the last decade, these services had shown very sharp growth in some cases as a result of the increasingly international division of labour in the services sector, too. The same applies to cross-border fees for financial and insurance services.

*Above-average growth in knowledge-based services and transport sector*

The largest item in the services sector in absolute terms is cross-border travel, which recorded a deficit of €43½ billion. Sharp increases in residents' income over the past few years saw travel expenditure go up by almost one-tenth in 2017. This high level was exceeded by only a small margin in 2018. There was barely any change in terms of travel destinations. Since Germany became somewhat more attractive as a travel destination for non-residents, the deficit remained virtually unchanged on the year.

*Little change in travel services*

vices provided by non-residents came to €19½ billion more than demand for services in Germany by non-residents.

*... because revenue vis-à-vis the euro area increased*

The decline in the deficit in the year under review was solely due to the increased revenue from trade in services with other euro area countries, against which Germany's services account traditionally shows a deficit. Business-related sectors and sectors oriented to economic activity, such as manufacturing, transport, communication and IT services, played a major role in this. By contrast, Germany recorded a slightly lower surplus in the services balance vis-à-vis non-euro area countries.

The primary income received by Germany from the rest of the world, which comprises compensation of employees, investment income and other primary income, exceeded payments in this item to the rest of the world by €91½ billion last year. As cross-border flows in compensation of employees and in other primary income offset each other to result in small balances as in previous years, net revenue from international investment was the main source of primary income. According to provisional calculations, this went up by €11 billion to €93½ billion in the reporting year, having already risen sharply in the three years before

*Considerable rise in the investment income surplus*

that.<sup>7</sup> Although income to residents from their investments abroad rose only slightly, payments to non-resident investors and lenders – particularly in the area of portfolio investment – fell perceptibly year on year. At the same time, the yield level for both assets and liabilities declined further.<sup>8</sup> However, because the decline in holdings of foreign assets by residents was smaller than that for liabilities, the yield differential widened to the advantage of German investors. Together with the further increase in net external assets, this contributed to the higher investment income surplus.

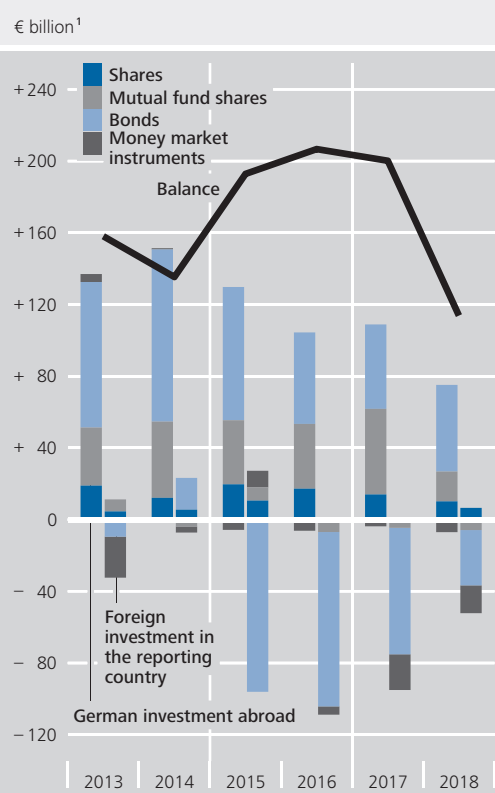
*Partial absence of one-off effects reduced deficit in secondary income balance*

The cross-border secondary income balance recorded a deficit of €47½ billion in 2018. This was lower than the deficit in 2017, which was strongly affected by one-off effects from private unilateral transfers to the rest of the world. Compared with 2016, in which there were no such one-off effects, the deficit in secondary income rose by almost €7 billion in the reporting year. Around one-third of this increase was attributable to the secondary income balance in the general government sector, mainly as a result of higher expenditure abroad. This was caused by the hike in Germany's contributions to the EU budget, which are based on gross national income. Two-thirds of the increase stemmed from the private sector, with one-off effects from private unilateral transfers to the rest of the world persisting in 2018, too, in some cases. The rise in the number of personal transfers – in this case, remittances – over the last two years also goes some way towards explaining the increase in private transfers to the rest of the world.

## ■ Financial transactions

In 2018, Germany's current account surplus was offset by net capital exports in the amount of €225½ billion, a drop of €57½ billion from the previous year's level, with all financial transactions segments recording net outflows of funds to the rest of the world.

### Portfolio investment in Germany



<sup>1</sup> Increase: +, decrease: –.  
 Deutsche Bundesbank

## Portfolio investment

Portfolio investment generated net capital exports of €113 billion in 2018, compared with 196½ billion one year earlier. This substantially lower figure was caused, on the one hand, by reduced demand for foreign securities on the part of German investors and, on the other hand, by less divestment of German portfolio assets on the part of foreign investors than in 2017. The decline in demand for foreign securities may have been shaped by the expectations of market participants with regard to global growth, which were gradually reined in over

*Continued capital exports recorded in portfolio investment*

<sup>7</sup> Final figures for direct investment income are not available until two years after they have been received and the reports they are based on have been examined – currently, this means up to and including 2016.

<sup>8</sup> See Deutsche Bundesbank, Effects on the cross-border investment income balance: asset accumulation, portfolio shifts and changes in yields, Monthly Report, March 2015, pp. 81-85; T.A. Knetsch and A.J. Nagengast, On the dynamics of the investment income balance, Deutsche Bundesbank Discussion Paper No 21/2016.

## Major items of the balance of payments

€ billion

Item	2016 <sup>r</sup>	2017 <sup>r</sup>	2018 <sup>r</sup>
I Current account	+ 265.5	+ 261.9	+ 246.4
1 Goods <sup>1</sup>	+ 252.6	+ 253.1	+ 221.9
Exports (fob)	1,178.6	1,256.3	1,292.8
Imports (fob)	926.0	1,003.2	1,070.9
Memo item:			
Foreign trade <sup>2</sup>	+ 248.9	+ 247.9	+ 227.9
Exports (fob)	1,203.8	1,279.0	1,317.7
Imports (cif)	954.9	1,031.0	1,089.8
2 Services <sup>3</sup>	- 21.0	- 21.9	- 19.6
of which:			
Travel	- 38.2	- 43.6	- 43.4
3 Primary income	+ 74.7	+ 80.3	+ 91.7
of which:			
Investment income	+ 75.4	+ 82.3	+ 93.5
4 Secondary income	- 40.9	- 49.6	- 47.6
II Capital account	+ 2.1	- 1.9	+ 1.9
III Financial account balance <sup>4</sup>	+ 259.7	+ 282.9	+ 225.6
1 Direct investment	+ 43.2	+ 48.7	+ 43.5
2 Portfolio investment	+ 199.0	+ 196.6	+ 113.1
3 Financial derivatives <sup>5</sup>	+ 29.1	+ 11.6	+ 23.3
4 Other investment <sup>6</sup>	- 13.2	+ 27.3	+ 45.4
5 Reserve assets	+ 1.7	- 1.3	+ 0.4
IV Errors and omissions <sup>7</sup>	- 7.9	+ 23.0	- 22.6

1 Excluding freight and insurance costs of foreign trade. 2 Special trade according to the official foreign trade statistics (source: Federal Statistical Office). 3 Including freight and insurance costs of foreign trade. 4 Increase in net external position: + / decrease in net external position: -. 5 Balance of transactions arising from options and financial futures contracts as well as employee stock options. 6 Includes in particular loans and trade credits as well as currency and deposits. 7 Statistical errors and omissions, resulting from the difference between the balance on the financial account and the balances on the current account and the capital account.

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the course of last year. Geopolitical risks may also have played a role in German investors' decision to invest less strongly in foreign paper. These risks encompassed, for instance, the trade dispute between the United States and China as well as the ongoing uncertainty surrounding Brexit.

Last year saw domestic investors acquire a net €68 billion worth of foreign securities, putting net purchases well below their level one year earlier. While in 2017 German investors continued to chiefly focus on buying mutual fund shares, in 2018 their main focus of investment was interest-bearing instruments. Despite this, they acquired bonds worth €44½ billion, keeping demand only slightly above the previous year's level. Euro-denominated bonds were subject to greater demand from domestic investors, a development which, among other factors, may have been attributable to the wider yield spread of long-term government bonds of individual euro area member states over Bunds. Thanks to the higher yields on offer, these bonds are likely to have become more attractive to investors, notwithstanding the additional risks they can entail. Conversely, German investors sold foreign currency bonds in the amount of €3 billion in 2018, having purchased foreign currency bonds for €18½ billion just one year previously. Moreover, German investors shed foreign money market paper to the tune of €4½ billion from their portfolios after already having started to dispense with such short-term paper just one year before, owing to the widespread low short-term interest rates that have led to less than attractive returns.

*German investors' chiefly interested in euro-denominated bonds*

Foreign shares continued to be popular with German investors in 2018. However, at €9½ billion, net purchases were down on the previous year. After two years of posting significant gains, the international stock markets saw share prices plummet in some cases in the past year, prompting investors to exercise restraint with regard to equities.



In 2018, German investors also stepped up their indirect investment in securities, buying €18½ billion worth of them through foreign investment funds. Nevertheless, they acquired far fewer mutual fund shares than in 2017. Mutual fund shares were purchased mainly from Luxembourg and Ireland, where a large proportion of the companies that sell funds in Germany are based. From these locations, they invest funds on a worldwide basis, for which reason no regional classification of the actual target countries is possible.

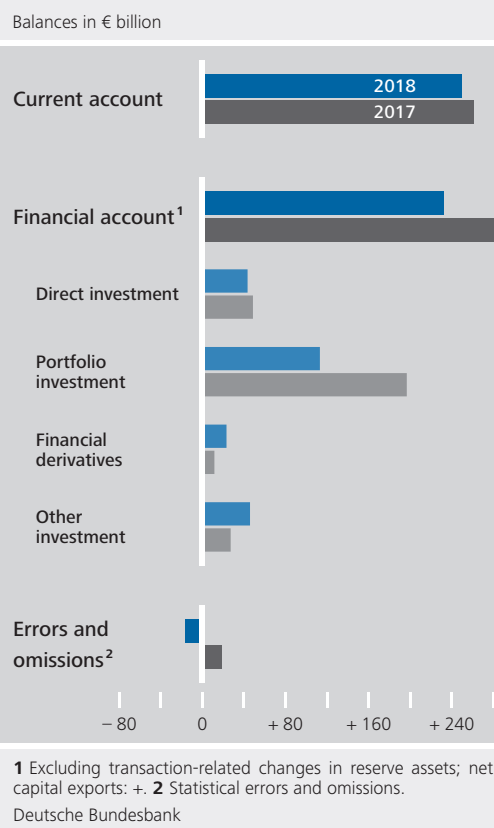
*Foreign investors part with fewer public sector debt securities*

As regards financial flows in the opposite direction, at a level of €45 billion, foreign investors parted with far fewer German securities net in 2018 than in 2017. This was true, inter alia, for public sector bonds, where such sales by foreign investors amounted to €51 billion in 2018. This was well below the previous year's level. In this context, the gradual reduction of the volume of assets purchased under the APP is likely to have played a pivotal role. At the beginning of 2018, the Eurosystem initially scaled back its monthly asset purchases from a prior rate of €60 billion net to €30 billion, before trimming them again to €15 billion as of the fourth quarter onward. Accordingly, the Bundesbank's own purchases of assets, which, to a significant extent, were concluded with foreign counterparties, also contracted.

*Bank bonds in demand abroad*

In contrast to public sector bonds, interest-bearing securities issued by private entities domiciled in Germany met with positive demand from foreign investors. This meant that there was a reversal from the situation in 2017 on the back of a strong demand for bank bonds. While foreign investors in that year had continued to unload German bonds from their portfolios, in 2018 they availed themselves of securities of this kind for €6½ billion, also purchasing domestic money market paper totalling €2 billion. Foreign investors, meanwhile, divested themselves of bonds issued by German firms to the tune of €3½ billion.

### Major items of the German balance of payments



With respect to shares, purchases by foreign investors in 2018 resulted in inflows of €6½ billion, as opposed to the previous year's result when non-resident investors sold German shares for €½ billion. In the main, domestic shares were bought by investors based outside the euro area. By contrast, non-residents dispensed with German mutual fund shares totalling €6 billion. This continued the trend of the previous year that had seen non-resident investors redeeming mutual fund shares for €2 billion.

Financial derivatives, which are aggregated to form a single item in the balance of payments, recorded net capital exports of €23½ billion in 2018. As a result, the balance widened substantially in year-on-year terms.<sup>9</sup> Around four-

*Financial derivatives activity leads to outflows*

<sup>9</sup> Since 2012, financial derivatives trading has mostly delivered net negative cross-border payment flows, a large proportion of which have been linked to interest rate swaps concluded by domestic credit institutions to hedge fixed-income securities against interest rate risk.

## Financial account

€ billion

Item	2016 <sup>r</sup>	2017 <sup>r</sup>	2018 <sup>r</sup>
Financial account balance <sup>1</sup>	+ 259.7	+ 282.9	+ 225.6
1 Direct investment	+ 43.2	+ 48.7	+ 43.5
Domestic investment abroad <sup>2</sup>	+ 99.2	+ 123.1	+ 132.7
Foreign investment in the reporting country <sup>2</sup>	+ 56.0	+ 74.4	+ 89.2
2 Portfolio investment	+ 199.0	+ 196.6	+ 113.1
Domestic investment in foreign securities <sup>2</sup>	+ 97.0	+ 106.5	+ 68.1
Shares <sup>3</sup>	+ 17.0	+ 14.2	+ 9.4
Investment fund shares <sup>4</sup>	+ 37.7	+ 50.1	+ 18.7
Long-term debt securities <sup>5</sup>	+ 48.5	+ 44.2	+ 44.6
Short-term debt securities <sup>6</sup>	- 6.2	- 2.0	- 4.6
Foreign investment in domestic securities <sup>2</sup>	- 102.0	- 90.2	- 45.0
Shares <sup>3</sup>	- 0.2	- 0.7	+ 6.6
Investment fund shares	- 6.9	- 2.0	- 5.8
Long-term debt securities <sup>5</sup>	- 95.3	- 70.4	- 47.6
Short-term debt securities <sup>6</sup>	+ 0.5	- 17.0	+ 1.8
3 Financial derivatives <sup>7</sup>	+ 29.1	+ 11.6	+ 23.3
4 Other investment <sup>8</sup>	- 13.2	+ 27.3	+ 45.4
Monetary financial institutions <sup>9</sup>	- 68.2	- 38.5	+ 85.8
Long-term	+ 39.1	+ 12.1	+ 13.0
Short-term	- 107.3	- 50.6	+ 72.9
Enterprises and households <sup>10</sup>	- 8.9	- 18.5	+ 11.2
Long-term	- 3.3	- 10.9	+ 2.2
Short-term	- 5.5	- 7.6	+ 9.0
General government	+ 4.3	+ 4.7	- 11.7
Long-term	- 2.7	- 0.7	- 1.8
Short-term	+ 7.0	+ 5.4	- 9.9
Bundesbank	+ 59.6	+ 79.5	- 40.0
5 Reserve assets	+ 1.7	- 1.3	+ 0.4

1 Increase in net external position: + / decrease in net external position: -. 2 Increase: +. 3 Including participation certificates. 4 Including reinvestment of earnings. 5 Long-term: original maturity of more than one year or unlimited. 6 Short-term: original maturity of up to one year. 7 Balance of transactions arising from options and financial futures contracts as well as employee stock options. 8 Includes in particular loans and trade credits as well as currency and deposits. 9 Excluding the Bundesbank. 10 Includes the following sectors: financial corporations (excluding monetary financial institutions) as well as non-financial corporations, households and non-profit institutions serving households.

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fifths of the recorded capital outflows were accounted for by futures transactions, with options generating the remaining one-fifth. Cross-border forward and futures contracts relating to electricity and gas, which are also recorded under financial derivatives, resulted in net capital imports totalling €½ billion. Monetary financial institutions constituted the majority of the domestic counterparties engaging in internationally traded financial derivatives.

## Foreign direct investment

Global direct investment flows declined in 2018 for a third year in succession. This deterioration was triggered by a number of factors, including the worsening trade dispute between the United States and China, uncertainty about the specific aspects of the United Kingdom's withdrawal from the EU, as well as the reform of the taxation rules for US enterprises with affiliates located abroad. Tax reforms in the USA caused much of that country's direct investment capital abroad to be repatriated, which, in and of itself, had the effect of diminishing net direct investment flows. The return flows recorded of late represented previous years' profits generated abroad that had not been distributed but instead reinvested in foreign branches, thus enabling parent companies located in the United States to evade taxation.

*Decline in global direct investment*

The capital flows heading to the United States as a result of the repatriation of reinvested earnings overshadowed other developments in the arena of global direct investment in 2018. Corporate acquisitions and mergers went up by 19% in terms of value in 2018. The number of proclaimed start-ups of commercial affiliates located abroad, known as greenfield investments, increased by as much as 29%.

All in all, the United Nations Conference on Trade and Development (UNCTAD) estimated that global direct investment transactions in

2018 had sunk by around 19% to a figure of US\$1.2 trillion.<sup>10</sup>

*Germany: Increase in foreign direct investment (FDI) in both directions*

In contrast to the downward trend witnessed in direct investment in other advanced economies, international capital links with German involvement expanded once more. In this context, German enterprises significantly increased their foreign investment, with large scale direct investment in Germany occurring in parallel to this.

Overall, German net capital exports from direct investment in 2018 came to €43½ billion, compared with €48½ billion over the preceding 12 months. This result stemmed from German FDI abroad, which rose by €9½ billion to €132½ billion to reach an all-time high. Domestic companies boosted their equity capital abroad particularly sharply (€140 billion),<sup>11</sup> and a sizeable role was played by cross-border mergers and acquisitions.<sup>12</sup>

By contrast, German enterprises saw inflows of funds amounting to €7½ billion via intra-group credit transactions. This reflected the fact that foreign affiliates had been redeeming financial credits granted to them by their German parent company.

*Distribution remains the key factor driving direct investment*

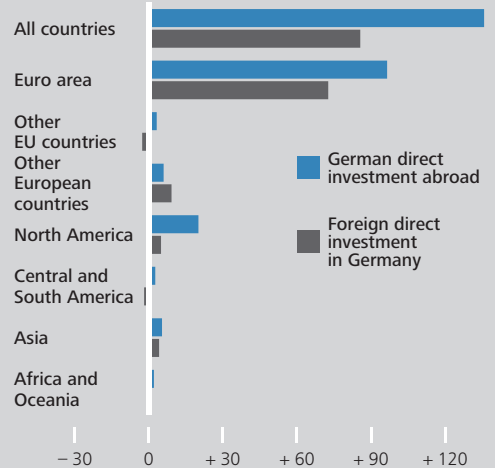
Direct investment relationships, which tend to take a more long-term perspective, can be motivated by a variety of factors. This is demonstrated by the annual survey of the Association of German Chambers of Commerce and Industry (DIHK) regarding its member enterprises operating in the manufacturing sector, which, as the survey shows, have exhibited great consistency in terms of their strategic objectives in recent years. In the second quarter of 2018, once again just under half of all enterprises cited the setting up or expansion of sales and customer services as their main reason for investing abroad, followed by foreign production sites in order to access markets and cost-cutting potential.<sup>13</sup>

## Direct investment

€ billion<sup>1</sup>



## By region (2018)



<sup>1</sup> Increase: +, decrease: -.  
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<sup>10</sup> See UNCTAD, Global Investment Trends Monitor No 31, January 2019; and UNCTAD, Global Investment Trends Monitor No 29, Special Edition: Tax reforms in the United States: Implications for International Investment, February 2018.

<sup>11</sup> This includes reinvested earnings to the tune of €31½ billion. For information on the possible impact of reinvested earnings on savings made by domestic enterprises, see also the box on pp. 36 ff.

<sup>12</sup> According to the Thomson Reuters database, €74 billion were used to finance takeovers of companies domiciled abroad and previously under foreign ownership with a stake of at least 10% after the transaction. The time at which mergers and acquisitions are captured in the balance of payments can, however, differ from that recorded by Thomson Reuters, with the result that the reported figures are not directly comparable.

<sup>13</sup> See DIHK, Foreign investments in manufacturing industry, spring 2018.

## The relationship between domestic corporate savings and foreign direct investment, as well as the role of reinvested earnings

For years now, “Germans” have been saving more than they invest. This savings surplus is reflected in net capital exports. A sectoral analysis shows that non-financial corporations play an important role with regard to savings surpluses in Germany, although the positive net lending/net borrowing position has been declining slightly since 2016.<sup>1</sup> Back in 2001, the difference between savings and investment was still negative for non-financial corporations. From then until 2016, this net lending/net borrowing position rose relatively steadily. In this context, not just funding opportunities via capital markets (e.g. through the issuance of equities and bonds) were important but also the low interest rate environment. It is in this connection that the role played by foreign direct investment in corporate savings is also discussed.<sup>2</sup> This article examines the extent to which a potential relationship exists between German foreign direct investment and the net lending/net borrowing position of domestic enterprises, and the question of what factors affect domestic parent companies’ reinvested earnings with foreign affiliates. Unlike domestic fixed asset formation, investment abroad does not have a direct impact on the domestic savings-investment gap (net lending/net borrowing). However, foreign direct investment enterprises usually generate profits that are also reflected in the parent company’s profits reported in Germany, irrespective of whether they are distributed to the parent company or are retained by the affiliate.<sup>3</sup> The part of the corporate profits that is not distributed but reinvested represents the savings generated by that company. At the same time, the retained earnings of a foreign affiliate increase direct

investment abroad. Hence, an indirect relationship may come about between foreign direct investment and the savings by the German parent company.

Yet looking at the relationship between foreign direct investment and corporate savings purely in accounting terms does not go far enough. This approach only indicates ex post that a relationship may potentially exist – but not necessarily. Since it may be assumed that international enterprises are characterised by strategic corporate planning, however, there may also be economic reasons for the idea that the (planned) corporate savings might be affected by intended foreign direct investment. For example, it is conceivable that enterprises save more specifically because they would like to engage in foreign direct investment.

This hypothesis can be assessed econometrically in a number of ways. A Bundesbank estimate with macroeconomic variables initially provides no indication of a systematic correlation between German direct investment abroad and domestic corporate savings. However, this does not rule out the possibility that such a correlation might exist at the enterprise level. On aggregate, it is possible that, at the macro level, a sys-

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<sup>1</sup> See Deutsche Bundesbank, German balance of payments in 2017, Monthly Report, March 2018, p. 20.

<sup>2</sup> See Project Group Joint Economic Forecast, Joint Economic Forecast Autumn 2017. Upturn remains robust – amid mounting tensions, pp. 65 ff.

<sup>3</sup> In 2018, the foreign affiliates of German enterprises generated earnings totalling an estimated €92.5 billion. Of this amount, the foreign affiliates retained €31.5 billion and distributed the remainder to the parent companies. By comparison, the savings of non-financial corporations in Germany came to €101.6 billion in 2018.

tematic correlation can no longer be observed owing to the heterogeneity of corporate decisions, a small number of observations, or other disruptive factors. At the micro level, the Bundesbank's corporate balance sheet statistics (*Unternehmensbilanzstatistik*, or Ustan) enable an estimate of individual enterprises' corporate savings. A possible and readily available measure of corporate savings is the change in the equity ratio.<sup>4</sup> A methodologically more accurate alternative can also be to calculate savings in the form of retained profits.<sup>5</sup> In this case, however, the information needed for the calculation is available only to a limited extent.<sup>6</sup> Both measures are considered below.

The datasets on which the estimate is based are the Microdatabase Direct investment (MiDi) and Ustan. For this, the dataset from the research paper by Goldbach et al. (2019) is used.<sup>7</sup> The time period covers the years 2000 to 2013. Propensity score matching is used to identify two groups of enterprises that are similar with regard to various enterprise-specific traits. There is only one major difference: whereas one group set up a new foreign affiliate in one year (group with new foreign affiliates), the other did not (control group). This method can be deployed to isolate the effect of the (new) foreign direct investment.<sup>8</sup> Subsequently, a check is carried out to ascertain whether there is a significant difference in the change in the equity ratio of the two groups (as a measure of the corporate savings).

The estimation results demonstrate that the changes in the two groups are not significantly different from each other (see the above table). Alternatively, the corporate savings for the years 2007 to 2013 are calculated on the basis of the annual surpluses and distributed dividends (relative to equity). Here, too, the estimation results show no

### Estimate of corporate savings at the micro level<sup>o</sup>

Item	Average effect of a new foreign affiliate	Observations (group of new foreign affiliates)	Observations (control group)
$\Delta$ Equity ratio <sub>it</sub>	- 0.002 (0.002)	2,511	143,574
Profit for the financial year less dividend payments relative to equity capital <sub>it</sub>	- 0.013 (0.315)	1,650	98,101

<sup>o</sup> \*\*\* Significant at the 1% level, \*\* significant at the 5% level and \* significant at the 10% level. Standard errors are calculated using weighted regressions which take into account year fixed effects. Moreover, the estimate controls for per capita income at the county level in the period t-1. Robust standard errors in parentheses.

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significant difference. Thus, there is no indication at the enterprise level either that the establishment (or acquisition) of a foreign affiliate would entail an increase in corporate savings.

A further estimate examines which country-specific factors affect the amount of re-

<sup>4</sup> The equity ratio can change, however, irrespective of the enterprise's savings. For example, the issuance of new shares increases the capital of an enterprise, but it does not constitute a saving. In addition, the equity ratio is also affected by the denominator (sum of equity and liabilities). Foreign direct investment can lead to an expansion of liabilities, thereby increasing total assets.

<sup>5</sup> See J. Gruber and S. Kamin (2015), The corporate saving glut in the aftermath of the global financial crisis, International Finance Discussion Papers, No 1150.

<sup>6</sup> The dividend payments are available for only some of the enterprises. Based on them, payout ratios can be determined on an annual basis which are then assumed for all enterprises. The observed measure thus varies between the individual enterprises only in terms of the annual surpluses, while the calculated share of retained earnings may also change over time.

<sup>7</sup> See S. Goldbach, A.J. Nagengast, E. Steinmüller and G. Wamser (2019), The effect of investing abroad on investment at home: on the role of technology, tax savings and internal capital markets, Journal of International Economics, Vol. 166, pp. 58-73.

<sup>8</sup> An expansion of existing foreign direct investment relationships is explicitly disregarded here on account of potential endogeneity problems.

### Foreign determinants for the ratio of reinvested earnings (RE) to foreign direct investment (FDI) stocks<sup>o</sup>

Item	RE <sub>ct</sub> /FDI <sub>ct</sub>
Real economic growth <sub>ct</sub>	0.003*** (0.001)
Tax rate <sub>ct</sub>	-0.002 (0.002)
Log GDP per capita <sub>ct</sub>	0.009 (0.069)
Inflation <sub>ct</sub>	-0.001 (0.002)
Financing conditions <sub>ct</sub>	-0.001 (0.001)
Log labour force <sub>ct</sub>	0.046 (0.097)
Government debt <sub>ct</sub>	0.001 (0.001)
Chinn-Ifo index <sub>ct</sub>	-0.008 (0.049)
Observations	1,321
R <sup>2</sup>	0.204

<sup>o</sup> \*\*\* Significant at the 1% level, \*\* significant at the 5% level and \* significant at the 10% level. Regressions take into account year and country fixed effects. Robust (clustered over countries) standard errors in parentheses.

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invested earnings at a foreign affiliate. The reinvested earnings are measured relative to the stock of direct investment in order to take size effects into account. Information, taken from the balance of payments statistics, on dividends paid out by foreign affiliates to their domestic parent companies is linked to the balance sheet data from the MiDi database. The combined data are available for the years 1999 to 2015.

The following variables of the partner country serve as potential macroeconomic determinants: real economic growth, the nominal tax rate (tax rate), the log real gross domestic product (GDP) per capita (per capita GDP), the inflation rate (inflation), private credit relative to nominal GDP (financing conditions), the log labour force (labour), public debt relative to GDP (public debt) and the freedom/restriction of capital movements (Chinn-Ito index). In addition,

time and country fixed effects are included in the estimation.

Only the real economic growth of the partner country has a significant (positive) impact on reinvested earnings (see the adjacent table). Domestic enterprises evidently tend to expand their presence in rapidly growing economies by injecting equity capital in the form of retained earnings; the favourable economic situation in these countries puts them in a better position to do so. All other macroeconomic variables, on the other hand, have no significant impact on the reinvested earnings. It follows from this that country-specific factors, apart from a country's economic and growth prospects, have very little impact on the amount of reinvested earnings on the ground. However, this does not rule out the possibility that they affect enterprises' investment decisions on the whole.

*Most investment  
destined for the  
euro area*

Of the preferred target regions, the euro area was able to strengthen its position, according to the survey, as evidenced by the figures on direct investment included in the balance of payments. Together, the other member states of the euro area accounted for just under two-thirds of domestic enterprises' direct investment. Around three-quarters of German foreign investment in the euro area was focused on the financial centres of the Netherlands, Ireland and Luxembourg.<sup>14</sup> Meanwhile, the United Kingdom lost its 2017 standing as the main destination for German direct investment among other EU countries and found itself facing capital withdrawals. As outlined above, this may be a product of the uncertainty emanating from the UK's planned Brexit. Outside Europe, the United States proved to be a major target country.

*Holding  
companies  
especially active*

Those German enterprises that ramped up their equity capital abroad came from various branches of industry. Constituting more than one-third of the total, providers of professional and technical services were responsible for the lion's share, with holding companies occupying a prominent position here. Just under one-third of the equity capital<sup>15</sup> was attributable to enterprises from the area of financial and insurance services, and the same amount again was attributable to the manufacturing sector. In the case of the latter, manufacturers of pharmaceutical products, as well as of transport equipment played an instrumental role.

*Capital inflows  
in the form of  
intra-group  
credit  
transactions*

Foreign companies stepped up their provision of fresh direct investment funds to associated enterprises domiciled in Germany, channelling net inflows of €89 billion to them. This represented an increase of €15 billion compared with the previous year. As for capital inflows, intra-group lending (€76 billion) continued to dominate proceedings and, once again, the driving force in this regard came from foreign subsidiaries granting financial credits to their German parent companies. These totalled €68 billion, thus achieving a new record high. These reverse flows are often the result of capital

market business involving German enterprises' financing subsidiaries, whereby securities are issued abroad and the proceeds are forwarded to the parent companies in Germany. German groups evidently took extensive advantage of the favourable market conditions in the last year as a way of absorbing funds. Moreover, foreign owners also boosted the equity capital they provided to German branches by €13½ billion.

In terms of country of origin, euro area firms represented the largest component in 2018, at around 85%, with more than half of all direct investment inflows to Germany coming from the Netherlands. Dutch-based financial subsidiaries, in particular, provided their German parent companies with capital. In 2018, these reverse flows also played a decisive role with respect to capital inflows deriving from Ireland and the United States. Further significant capital inflows originated in Switzerland, where, first and foremost, affiliated companies granted loans to their German sister companies. By contrast, Chinese enterprises did not play an important role as investors in Germany in 2018. In previous years they had, for the most part, made investments in foreign countries other than Germany, despite having executed some high-profile acquisitions on German turf.

*Most inward  
direct  
investment  
originated in  
the Netherlands*

## Other investment

Other investment, comprising financial and trade credits (where these do not constitute a part of direct investment) as well as bank deposits and other assets, resulted in net capital exports of €45½ billion in 2018, up from €27½ billion in 2017.

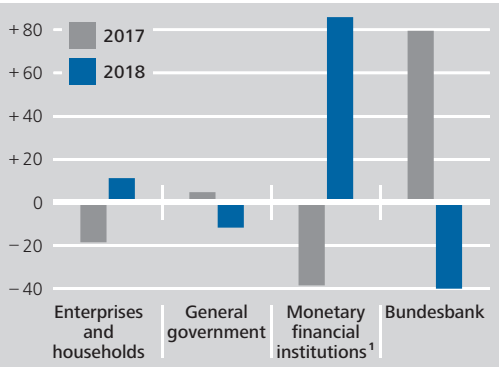
*Net capital  
exports in other  
investment*

<sup>14</sup> The aforementioned countries are major holding locations for internationally active enterprises. As the balance of payments only captures the immediate counterparties of cross-border transactions, it is not possible to identify where the transferred funds are ultimately invested.

<sup>15</sup> Reinvested earnings cannot be assigned to individual economic sectors and were therefore not taken into account when making this calculation. By the same token, the shares only relate to classifiable net transfers.

### Other investment\* broken down by sector

Balances in € billion

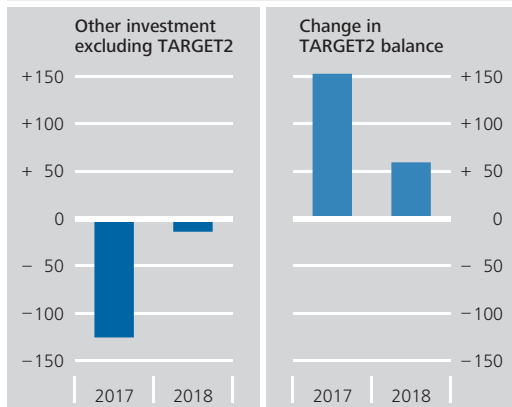


\* Includes in particular loans and trade credits as well as currency and deposits; net capital exports: +. <sup>1</sup> Excluding the Bundesbank.

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### TARGET2 and other investment excluding TARGET2\*

€ billion



\* Net capital exports: +.

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*Capital outflows from commercial banks*

A decisive role was played by outflows of funds from monetary financial institutions (MFIs) (€86 billion). On the one hand, they upped their lending to foreign counterparties, with a large portion of this taking the form of long-term financial credits to foreign enterprises and households. On the other hand, they boosted their deposits with foreign banks – primarily with group-affiliated institutions. At the same time, their cross-border liabilities contracted, not least because foreign group-affiliated institutions reduced their short-term deposits with German banks.

*Bundesbank sees inflows*

Contrasting with the above, the Bundesbank posted net inflows of funds in the amount of €40 billion, largely on account of a sharp increase in the Bundesbank's external liabilities (€97 billion). Here, monetary authorities and commercial banks domiciled outside the euro area, in particular, chose to boost their deposits. In the case of monetary authorities, this item includes, for example, all deposits received by the Bundesbank from non-euro area central banks as part of the range of central bank services it offers.

As for commercial banks, the APP is likely to have played a key role: Sales of securities by foreign investors to other Eurosystem central banks are often effected via Germany. This activity causes liquidity to flow to Germany, where it then partly remains, taking the form of deposits parked at the Bundesbank.<sup>16</sup> A number of commercial banks domiciled in the European Economic Area (EEA), but not, however, in the EU, maintain an account at the Bundesbank. These accounts are included in the external position of the Bundesbank.

*Rise in TARGET2 claims smaller than in 2017*

On the back of the APP, the Bundesbank's TARGET2 claims vis-à-vis the European Central Bank also rose. However, at €59 billion, this increase remained well below the figure recorded in 2017 (€153 billion). This lower value is in line with a gradual reduction in the volume of securities purchases in the course of 2018.<sup>17</sup> Last year, the Bundesbank's liabilities vis-à-vis the ECB arising from the allocation of euro banknotes within the Eurosystem went up by €42 billion. Hence, the Bundesbank's net claims vis-à-vis the ECB arising from the two balance sheet items rose only relatively moderately by €17½ billion.

<sup>16</sup> See also Deutsche Bundesbank, TARGET2 balances – mirroring developments in financial markets, Monthly Report, December 2017, pp. 75 f.; Deutsche Bundesbank, The increase in Germany's TARGET2 claims, Monthly Report, March 2016, pp. 30 f.; Deutsche Bundesbank, The impact of Eurosystem securities purchases on the TARGET2 balances, Monthly Report, March 2016, pp. 53 ff.

<sup>17</sup> See Deutsche Bundesbank, The German TARGET2 claims in the course of 2018, Annual Report 2018, pp. 16-17.



*Non-banks  
attract net  
capital imports*

Non-banks attracted modest net inflows of funds from abroad over the past year (€½ billion), reflecting the net inflows accruing to general government (€11½ billion). Above all, the latter reduced its deposits held abroad and scaled back its cross-border lending. By contrast, enterprises and households experienced outflows of funds (€11 billion). In particular, they augmented their overnight deposits held at foreign commercial banks.

### **Reserve assets**

*Slight increase in  
reserve assets*

Driven by transactions, the Bundesbank's reserve assets increased by €½ billion in 2018.

This increase was attributable to Germany's higher reserve position with the International Monetary Fund (IMF).

The international reserve holdings are also influenced by balance sheet adjustments which, in compliance with internationally agreed accounting standards, are not recognised in the balance of payments. The revaluation also generated an increase in 2018 (€6 billion), due in large part to rising gold prices and the higher valuation of the securities owing to exchange rate changes. All in all, the year 2018 saw the carrying amount of Germany's reserve assets climb by €6½ billion to €173 billion as at 31 December 2018.