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2020 European Semester: Assessment of progress on structural reforms, prevention and correction of macroeconomic imbalances, and results of in-depth reviews under Regulation (EU) No 1176/2011

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EXECUTIVE SUMMARY

While the Dutch economy remains resilient overall, subdued medium-term growth prospects underscore the importance of sustaining the reform momentum ([1]). There are long-term challenges in the housing market, labour market and pension system that still need to be addressed in full. While the government has taken policy measures to improve the housing supply and to reduce high household debt, significant incentives to incur debt remain. Expansionary fiscal policy and nominal (non-inflation adjusted) wage and employment growth support household disposable income growth and contribute to external rebalancing. Tackling labour market segmentation remains a challenge despite recent measures. The government and social partners have reached agreement on a major pension reform. In addition, further investments in R&D, human capital and climate and energy measures are needed to boost long-run productivity growth and address the transition to a low-carbon economy. Tackling these challenges would further support the resilience of the Dutch economy and reduce risks from imbalances.

Domestic demand is the sole driver of a moderating economic expansion. In 2019, GDP increased by 1.7% amidst weaker external demand. In 2020 and 2021, growth is projected to moderate to 1.3% in both years. In conjunction with a lower tax burden on labour income and declining inflation, household disposable income is expected to see the largest improvement in years. By extension, private consumption should still support economic activity in 2020. Fiscal policy will also support growth, as tax relief for households and increasing public expenditure leading to a lower fiscal surplus of around 0.5% of GDP in 2020. Government debt has declined to below 50% of GDP in 2019 and will continue to decline in the coming years, indicating that public finances are in good shape. At the same time, the projected increase in public expenditure as a result of ageing points to medium risks for the long-term sustainability of public finances.

Despite a tight and well-performing labour market in general, wage growth is still modest compared to fundamentals. The unemployment rate reached its lowest level since 2008 and labour force participation increased. Employment gains are expected to remain positive, but will be weaker in the coming years. Permanent contracts account for the bulk of recent employment gains, which seems to reflect current labour market tightness, rather than a reduction in labour market segmentation. The persistence of a high degree of segmentation could offer a partial explanation for somewhat lagging wage developments, and remains a source of vulnerability in the face of any adverse economic shocks.

Investment is set to slow amidst weaker business confidence and substantial policy uncertainty linked to a ruling by the Council of State on nitrogen emissions. Investment continued to support growth in 2019, with the investment rate broadly in line with the euro area average at 21% of GDP. The share of public investment is expected to increase to 3.5% of GDP, significantly below pre-crisis levels but well above the euro area average. Business investment is set to slow in conjunction with weaker business confidence, increased trade related uncertainty and weaker external demand. Risks to the investment outlook are relatively high given the uncertainty over construction and infrastructure investment as a result of the nitrogen ruling. The restrictions on issuing new permits around Natura 2000 protected areas implied by the ruling are likely to translate into weaker construction investment in 2020, despite ongoing housing shortages and measures to mitigate its adverse effects.

The Netherlands has made some progress in addressing the 2019 country-specific recommendations.

There has been **some progress** in the following areas:

- Taking measures to reduce the debt bias for households and distortions in the housing

([1]) This report assesses the Netherlands' economy in light of the European Commission's Annual Sustainable Growth Strategy published on 17 December 2019. In this document, the Commission sets out a new strategy on how to address not only the short-term economic challenges but also the economy's longer-term challenges. This new economic agenda of competitive sustainability rests on four dimensions: environmental sustainability, productivity gains, fairness and macroeconomic stability. At the same time, the Commission published the Alert Mechanism Report (AMR) that initiated the eighth round of the macroeconomic imbalance procedure. The AMR found that the Netherlands warranted an in-depth review, which is presented in this report.

market, including by helping to develop the private rental sector.

- Implementing policies to increase household disposable income, including by strengthening the conditions that support wage growth.
- Addressing features of the tax system that may facilitate aggressive tax planning.
- Reforming the second pillar of the pension system.
- Strengthening life-long learning and upgrading skills.
- Supporting and upward trend in investment.
- Focusing investment-related economic policy on renewable energy, energy efficiency and greenhouse gas emissions reduction.
- Focusing investment-related economic policy on addressing transport bottlenecks.

There has been **limited progress** in the following areas:

- Reducing the incentives for the self-employed without employees and promoting adequate social protection for the self-employed.
- Tackling bogus self-employment.
- Focusing investment-related economic policy on R&D in particular in the private sector.

The Netherlands performs very well on most indicators of the Social Scoreboard supporting the European Pillar of Social Rights. It has a good record overall in terms of labour market performance and social situation. Per capita real gross disposable income of households continued to rise, with income inequality below the EU average. The Netherlands is among the top performers, with a low level of poverty.

On progress towards its national targets under the Europe 2020 strategy, the Netherlands has achieved its targets on the employment rate, early school leaving and higher education. While the target for reducing national greenhouse gas emissions in the non-Emissions Trading System (ETS) sectors is expected to be met, this is unlikely for energy savings. The target of 14% for renewable energy consumption in 2020 is expected to be out of reach. Although the Netherlands is a frontrunner in decarbonising its transport sector, the use of renewable energy in transport is below the EU average. While the Netherlands has taken measures to increase R&D spending, a substantial further effort is needed to reach 2.5% of GDP.

As a high-income country, the Netherlands ranks as one of the top performers among EU member states on several Sustainable Development Goals (SDGs), such as eliminating poverty (SDG 1) and reducing inequalities (SDG 10). The only area in which it scores lower than most – albeit with a positive trend – is climate action (SDG 13). ([2])

The main findings of the in-depth review contained in this report and the related policy challenges are as follows:

- **Mortgage interest deductibility continues to fuel household debt.** Private debt is well above macroeconomic imbalance procedure thresholds. Corporate debt is largely linked to intra-group borrowing by multinationals and poses limited macroeconomic risks. High household debt makes households vulnerable to shocks with macroeconomic repercussions. Although the ratio of household debt to GDP has been falling, it is still twice the euro area average. Household debt largely consists of mortgage debt and is fuelled by generous tax relief on mortgage interest payments. Despite the reduction in mortgage interest deductibility, debt-financed home ownership remains heavily subsidised.
- **Subsidies to owner-occupied housing and social housing lead to an underdeveloped private rental market.** The (rent-controlled)

([2]) Within the scope of its legal basis, the European Semester can help drive national economic and employment policies towards the achievement of the United Nations Sustainable Development Goals (SDGs) by monitoring progress and ensuring closer coordination of national efforts. The present report contains reinforced analysis and monitoring on the SDGs. A new annex (Annex E) presents a statistical assessment of trends in relation to SDGs in the Netherlands during the past five years, based on Eurostat's EU SDG indicator set.

social housing sector is large compared to other Member States. The private rental market is the only non-subsidised housing sector and remains underdeveloped. The lack of a well-functioning middle segment on the rental market encourages households to enter the owner-occupancy market early, leading to high debt-to-income ratios and potential financial vulnerability issues.

- **The second pillar pension system plays a key role in generating a high savings rate, especially in combination with high mortgage debt.** While the pension system performs well on pension adequacy and fiscal sustainability, it has drawbacks in terms of intergenerational fairness, transparency and flexibility. Moreover, second pillar pension contributions are an important driver of compulsory savings for households, and can affect household consumption in a pro-cyclical way. Households combine substantial housing and pension wealth with high mortgage debt. However, the former are highly illiquid and unevenly distributed across generations. This makes households vulnerable to economic shocks and reinforces the pro-cyclical dynamics of household finances. Effective implementation of the planned pension reform could address key challenges in the second-pillar system.

- **The current account continues to show a marked surplus.** The Netherlands has had a current account surplus of over 7% of GDP on average over the past two decades. All institutional sectors remain in surplus, which led to the current account surplus rising to 11.2% of GDP in 2018. Non-financial corporations are the most important structural driver of the savings surplus. This is in part linked to the large presence of multinationals in the Netherlands, but small and medium-sized enterprises are also a significant contributor. The latter appears driven in part by tax incentives and other structural factors discouraging the distribution of retained earnings. The household sector's savings surplus is largely the result of high compulsory savings, including via the pension system, combined with pressure to reduce mortgage debt. The government sector was running large deficits during the crisis and in its aftermath. Since 2017, it has turned net lender, although this is set to fade given the current expansionary fiscal stance. In the coming years, the current account surplus is expected to decline somewhat as import growth outpaces export growth, reflecting a weakening external environment combined with relatively robust domestic demand.

- **Boosting domestic investment has small but positive international spillover effects.** Simulations in this report show that a structural increase in public investment in the Netherlands would reduce the Dutch current account surplus and would also have a positive impact on economic growth in other euro area countries.

Other key structural issues analysed in this report, which point to particular challenges facing the Dutch economy, are the following:

- **The labour market performed well across the board, but challenges involving labour market segmentation as well as integration of people with a non-EU background remain, in particular women.** Employment reached a record high and unemployment remains close to historic lows. An increasingly tight labour market has recently provided incentives for employers to offer more open-ended contracts. However, the share of flexible employment and the number of self-employed without employees remains high, and there are large differences in the working conditions and social protection under different employment contracts and work arrangements. In addition, there is still a large untapped labour pool linked to the high number of women in part-time employment and people with a non-EU-born migrant background. Furthermore, the employment situation of those at the margins of the labour market remains challenging. This is partly linked to the remaining large performance gap between non-immigrants and pupils born abroad and the fact that native-born pupils with a migrant background only partially catch up.

- **Economic evidence suggests that the Netherlands' tax rules are used for aggressive tax planning.** Specifically, rules

such as the absence of withholding taxes are cause for concern. In addition to the implementation of European and internationally agreed initiatives, the Netherlands has taken some unilateral measures, notably by putting into place a new withholding tax on interest and royalty payments to low-tax countries as of 2021, however its effectiveness remains to be seen.

- **A more effective anti-money laundering framework is needed to combat the misuse of major financial institutions and legal structures for money laundering purposes.** The misalignment between the low reporting of unusual transactions by trust and company service providers and tax advisors and their high risk exposure calls for stricter supervision. Given the extensive presence of complex legal structures, the rapid establishment and well-functioning of the beneficial ownership register will be key to avoid misuse of such entities. Recent big money laundering cases involving Dutch financial institutions also show the need to strengthen supervision and enforcement.

- **Ambitious goals for tackling climate change challenges have been set.** The budgetary and macroeconomic impact of policy plans under the climate agreement is expected to be limited. The transition towards renewable energy usage has been slower than expected so far. Substantial investment in climate-focused R&D and innovation, as well as renewable energy production and related infrastructure, are needed to support long-term sustainability goals. The Commission's proposal for a Just Transition Mechanism under the next multi-annual financial framework for the period 2021-2027, includes a Just Transition Fund, a dedicated just transition scheme under InvestEU, and a new public sector loan facility with the EIB. It is designed to ensure that the transition towards EU climate neutrality is fair by helping the most affected regions in the Netherlands to address the social and economic consequences. Key priorities for support by the Just Transition Fund, set up as part of the Just Transition Mechanism, are identified in Annex D, building on the analysis of the transition challenges outlined in this report.

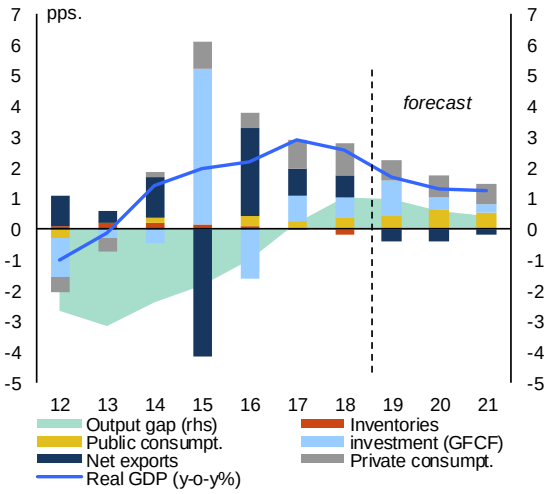
- **Investments in R&D, human capital, climate and energy measures can help support productivity growth and address other key societal challenges.** The Netherlands remains one of the most productive countries in the EU, but in common with most mature economies, it has experienced a notable slowdown in productivity growth. Targeted policy action, including investment in sectors with the strongest prospects to raise potential growth for the wider economy, can contribute to tackling the challenges presented by this global trend. In particular, investments in R&D as well as human capital – notably in training and upskilling and boosting digital skills – can help support long-run productivity growth and maintain a strong innovation capacity. Investment in initiatives to address climate change and promote the energy transition can make a key contribution to wider societal goals, including the need to ensure sustainable and resource-efficient economic growth. Furthermore, investment in new housing is needed to alleviate the current housing shortage.

1. ECONOMIC SITUATION AND OUTLOOK

GDP growth

In 2019, the economy entered its sixth consecutive year of expansion, but growth slowed as external demand weakened, which translated into subdued exports. At the same time, strong domestic demand helped sustain a healthy GDP growth rate of 1.7%. The largest growth contribution came from investment, which benefited from low capital cost, high profitability and overall supportive domestic demand, despite a more challenging environment (Graph 1.1). Private consumption was boosted by continued employment growth in a tight labour market.

Graph 1.1: **GDP growth and components**



Source: European Commission 2019 Autumn forecast

Growth is expected to stabilise at a lower level in 2020 and 2021 as domestic demand remains the sole driver of a more modest expansion. Private and public consumption are expected to be the main growth drivers, with private consumption set to benefit from an expected improvement in real wages. Public consumption will also contribute to domestic demand as it should increase by about 2.6% in real terms in 2020 and 2.1% in 2021, following a more expansionary fiscal stance. Export growth will grow at a slower rate than historically, and import growth should continue to outpace export growth this year and next on the back of solid domestic demand. Business confidence has declined as a result of increased trade related uncertainty over the course of 2019, and business investment is expected to slow in 2020 in tandem with more modest growth. Although solid in 2019, construction and infrastructure investment has become affected by policy uncertainty because of the nitrogen ruling of the Council of State (see Box 1.1). If unaddressed, this would lead to weaker construction investment. The output gap, which has been positive since 2017, should remain positive but start closing over the coming years.

Inflation

Consumer price inflation is set to decline after experiencing a peak in 2019. As measured by the harmonized index of consumer prices ([3]), inflation increased to 2.7% in 2019 due to higher indirect taxes (VAT and energy taxes). In 2020, inflation is expected to moderate to 1.4% as these indirect tax increases no longer impact inflation figures and weaker external demand in turn translates into an alleviation of inflationary pressures. At the same time, accelerating wage growth should exert upward pressure on prices, especially for services. A substantial lowering of energy related taxes for households will generate downward pressure on energy price inflation.

Consumption

Private consumption is set to remain buoyant in 2020 on the back of robust growth in disposable income. The labour market is expected to remain tight as employment gains remain positive despite the participation rate already being at a record high, translating into a further acceleration of nominal wage growth. In conjunction with a lower tax burden on labour income and dissipating inflation, household disposable income is expected to see a substantial improvement. By extension, private consumption should continue to support economic activity in 2020.

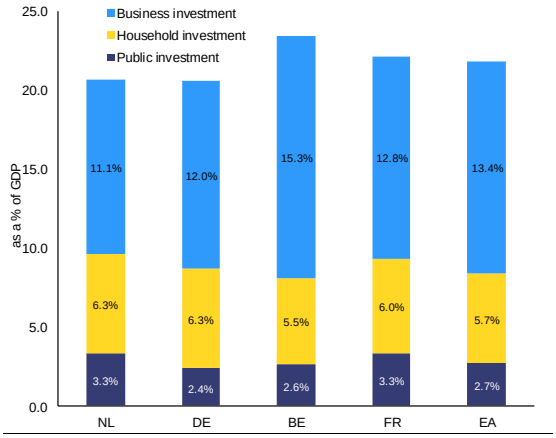
Investment

Investment continued its upward trend in 2019 and is now broadly in line with the euro area average (Graph 1.2). In 2018, public investment as a share of GDP (3.3% of GDP) was substantially

([3]) The Harmonized Index of Consumer Prices (HICP) is an indicator of inflation and price stability for the European Central Bank. All EU countries follow the same methodology.

higher than the euro area average (2.7%) and peer countries. According to the European Commission's 2019 Autumn Forecast, it is expected to increase to 3.5% in 2021. Household investment as a share of GDP is comparable to the euro area average. Business investment, which has historically been lower than the rest of the euro area, remains relatively low compared to the euro area average despite strong growth in recent years, in particular as a share of corporate savings (see Section 4.2.6). This could indicate scope for higher private investment, in particular in R&D (see Section 4.4.2). Further investment needs have been identified in R&D, upskilling- and reskilling of human capital and climate and energy to boost productivity growth and to maintain a strong innovation capacity (see Section 4.4.1).

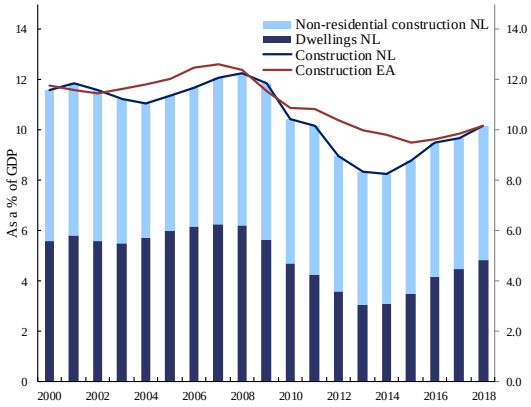
Graph 1.2: **Investment by sector, selected countries (2018)**



Source: European Commission (Eurostat)

For 2020, investment is set to slow amidst weaker business confidence and policy uncertainty linked to the nitrogen ruling. Trade related uncertainty as well as weaker external demand have led to lower business confidence and weaker investment dynamics since the second half of 2019. This in turn translates into a weaker for business investment growth in 2020 (CPB, 2019c). Household residential investment has seen on average double-digit increases in recent years (Graph 1.3), and construction investment remained supportive of growth in 2019 on the back of strong house price increases of around 6% in 2019 (see Section 4.2.4). However, over the course of the summer of 2019, the nitrogen ruling from the Council of State became a source of significant policy-induced uncertainty for construction and infrastructure, as it resulted in permits no longer being granted for such projects and led to de facto higher environmental standards for new constructions around Natura 2000 protected areas (Ministry of the Interior, 2019). The nitrogen ruling could translate into weaker construction investment in 2020 (see Box 1.1).

Graph 1.3: **Construction investment (2000-2018)**



Source: European Commission (Eurostat)

Labour market

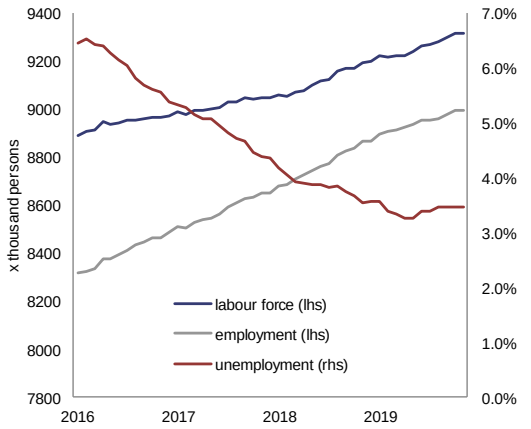
The unemployment rate bottomed out at its lowest level since 2001 as the labour market remains tight. The unemployment rate, which stood at 3.8% in 2018, fell to 3.4% in 2019. (Graph 1.4). Employment increased by 1.7% in 2019 and is also expected to remain marginally positive this year. Labour force participation (age 15-75) now stands at a relatively high 71.4%. Youth and long-term unemployment rates have also fallen compared to last year. However, some untapped potential remains as regards (part-time) employment of women, older workers, people with a migrant background and (partly) people with disabilities (see Section 4.3.1).

Box 1.1: **Nitrogen Ruling Implications**

The Dutch Programmatic Approach to Nitrogen ('*Programmatische Aanpak Stikstof*', PAS) is a policy framework from 2015, which aimed to reduce the deposition of reactive compounds of nitrogen ([1]) in Natura 2000 protected areas to prevent soil acidification and loss of biodiversity. PAS was used as the basis for granting construction and infrastructure permits in case of such emissions in anticipation of future reductions of nitrogen depositions. However, the Council of State ('*Raad van State*') annulled PAS as the basis for granting such permits on 29/5/2019 because of its incompatibility with Art 6 of Habitats Directive 92/43/EEC, as it failed to secure such future reductions ex ante. This subsequently led to a stop of new permits for projects around these protected areas, causing significant policy uncertainty for housing and infrastructure investment over the course of 2019. In part as a result of the nitrogen ruling, the number of granted building permits has dropped substantially, and some infrastructure projects are expected to experience substantial delays (Ministry of Infrastructure and Water Management, 2019). If unaddressed, the ruling could lead to an estimated cumulative reduction of 36 000 dwellings being realized up to 2024. Annual housing production in 2024 could drop to 65 000, as compared to baseline predictions of around 75 000 new dwellings a year (Ministry of the Interior, 2019; Koops and Manshanden, 2019). The government has therefore announced short-term measures that reduce emissions with the objective of improving the quality of the nature and re-enabling permit grants and the continuation of infrastructure and housing projects, although uncertainties remain (Ministry of Agriculture, Nature and Food Quality, 2019). As of yet, these measures concern: (i) a reduction of the day-time maximum speed on highways to 100 km/h; (ii) a voluntary buyout scheme for pig farmers; and (iii) a different composition of cattle feed. The government is considering structural measures for both permit grants as well as nature preservation.

([1]) Namely nitrates, ammonia, and various nitrogen oxides.

Graph 1.4: **Labour market developments**

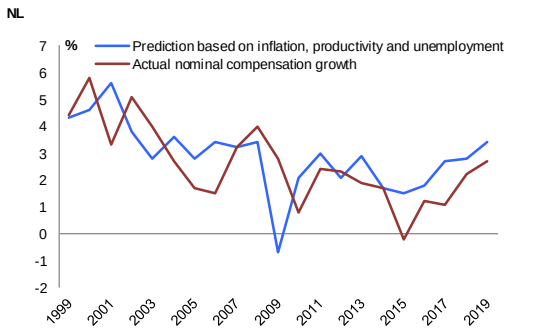


Source: Statistics Netherlands

Nominal wage growth accelerated further, but remains below what would be expected based on its relationship with fundamentals. With wage developments lagging the cycle, ongoing favourable labour market conditions are translating into an acceleration of nominal wage growth, as nominal compensation per head is expected to have increased by around 2.5% in 2019, compared to 1.7% in 2018. However, it remained roughly in line with the inflation rate, thus resulting in stagnating real compensation, and real wages therefore remained flat in 2019. For 2020 however, trade unions have also put forward substantial wage demands, and nominal wage growth per employee is expected to accelerate further to around 3%. A substantial increase in household disposable income is therefore expected for 2020 as nominal wage growth coincides with lower expected inflation and a reduction of the labour tax wedge (Ministry of Finance, 2019a) ([4]), supporting private consumption (see Section 4.3). However, nominal wage growth still seems to lag behind expected growth based on its historical relationship with inflation, productivity and unemployment developments (Graph 1.5). The relatively large share of temporary employees and self-employed could offer a partial explanation for this phenomenon (European Commission, 2019a).

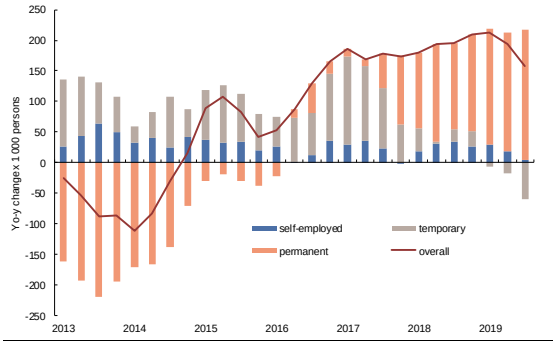
([4]) Measures for 2020 include raising the working tax credit (*arbeidskorting*) and the general tax credit (*algemene heffingskorting*), as well as a substantial reduction in the energy bill for households amongst others.

Graph 1.5: **Actual and predicted wage growth based on fundamentals**



Source: European Commission

Graph 1.6: **Employment growth by type (y-o-y change)**



Source: Statistics Netherlands

Permanent contracts account for the bulk of recent employment growth, but this seems to be a reflection of labour market tightness as labour market segmentation remains prevalent. Since 2018, job growth has increasingly consisted of permanent contracts (Graph 1.6). This has led to a modest decline in the combined incidence of self-employed and temporary employees in total employment from 39.0% in Q1 2018 to 37.9% in Q3 2019. Although some measures have recently been implemented to address labour market segmentation ([5]), distinct institutional factors that underlie the high combined incidence of flexible arrangements and self-employed without employees largely remain in place (Council of State, 2018). The decline therefore seems a reflection of current labour market tightness as opposed to being policy-induced , and its share is expected to remain high, also compared to other EU countries (see Section 4.3.1). The persistence of such a degree of labour market segmentation remains a source of vulnerability, as it could amplify shocks for certain groups in case of adverse economic developments (CPB, 2019b).

([5]) Most notably, these include a phased reduction of the self-employed tax allowance (*'Zelfstandigenaftrek'*) in incremental steps from €7 260 to €5 000 per self employed per annum over 10 years, as well as measures incorporated in the Balanced Labour Act (*'Wet Arbeidsmarkt in Balans'*). On the later, these include the introduction of minimum labour conditions applicable to employees working on a payroll basis; entitlement to the transition allowance as of day 1 of a contract; the introduction of limits to the use of zero hour contracts; and differentiation of unemployment contributions by type of contract instead of per sector. In the context of the framework agreement on pension reform, the government also aims to implement a mandatory disability insurance for the self-employed.

Public finances

After sizeable surpluses in 2018 and 2019, the 2020 fiscal stance is expansionary. In 2018, the general government headline surplus reached 1.5% of GDP following solid revenue growth, outpacing expenditure growth. In 2019, the surplus is expected to have remained around this level, with higher expenditure offset by revenue growth. In 2020 and 2021, the headline surplus is set to decline to around 0.5% as tax relief for households kicks-in. In structural terms, the surplus is projected to decline from 0.9% in 2018 to 0.2% in 2020 and 2021, pointing to an expansionary fiscal stance (see Section 4.1). The government also implemented budgetary measures aimed at reducing greenhouse gas emissions by 49% in 2030 compared to 1990 levels (see Section 4.5).

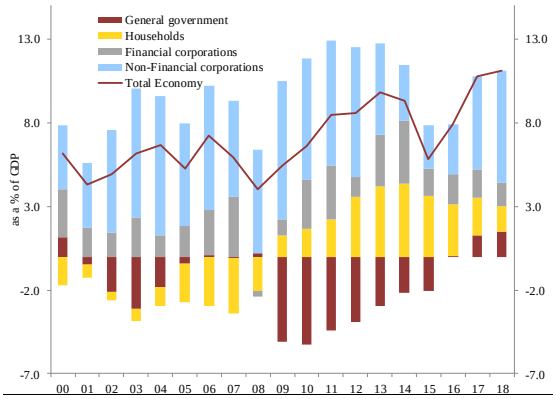
External Position

Having peaked at a record 11.2% of GDP in 2018, the current account surplus has started to decline but remains high. A persistent trade surplus in goods, averaging 9.9% of GDP over 2014-2018 of which around 3% pps. re-exports, has been the main driver of the current account surplus from a balance of payments perspective. In 2019, the current account surplus is expected to have declined somewhat as import growth outpaced export growth. For the coming years, the current account surplus is expected to remain high but decline further as robust domestic demand coincides with a weak external environment as well as declining natural gas extraction. Net primary income flows have had a limited impact on the current account on average over a multi-

year period, but remain a source of short-term volatility.

A large part of the savings surplus is attributable to the corporate sector, with net savings of 8.1% of GDP in 2018 (Graph 1.7)**.** Both large companies and small and medium sized enterprises (SMEs) make a substantial contribution to the aggregate savings surplus. SMEs account for a relatively stable 2-3% of GDP per annum, whereas large companies including multinationals account for the rest of the savings surplus and are responsible for the volatility in the savings behaviour of non-financial corporates (DNB, 2019a). Tax policy could play a role in explaining part of these high corporate savings (European Commission, 2019a). At the same time, however, note retained earnings of multinationals that are domiciled in the Netherlands are statistically attributed to the Dutch current account surplus, even though they are largely owned by foreigners (IMF, 2019b). Conversely, Dutch pension funds are large portfolio investors in foreign companies which have considerable non-distributed earnings that are not included in Dutch national accounts, even though the ultimate beneficial owners are Dutch employees participating in the capital-covered second-pillar pension scheme. Correcting for these effects would shift the surplus from corporations to households by an estimated 2-4% of GDP (Rojas-Romagosa et al., 2014; Section 4.2.6). However, the overall current account surplus would not change much following such a correction.

Graph 1.7: **Net lending by institutional sector**



Source: European Commission (Eurostat)

Household savings remain in surplus as they continue to experience deleveraging pressures. While household (mortgage) debt has continued to increase in nominal terms in recent years, the increase was limited to around 1% per year on average in 2015-2018 despite strong house price increases. On the back of robust real GDP growth, this has resulted in passive deleveraging, with household debt declining from 111% of GDP in 2015 to a still substantial 102% of GDP in 2018. The high stock of household debt, which mainly consists of mortgage debt, is largely driven by policy distortions in the housing market as well as prevailing tax incentives. Although a series of incremental measures have been taken in recent years to rein in mortgage debt growth ([6]), household (mortgage) debt is likely to remain elevated as substantial policy distortions remain in place (see Section 4.2.4).

Social dimension

Income inequality after taxes and transfers is relatively low and has remained stable over time. Moreover, the Social Scoreboard shows that the Netherlands has one of the lowest share of people at risk of poverty or social exclusion (see Section 4.3.1). As a result of the highly redistributive tax and benefit system, the disposable income of the top 20% after tax is only around 4 times that of the lowest 20% ([7]), well below the euro area average of 5.1. In the framework of Sustainable Development Goal 10 (reduced inequalities), income inequality has remained stable in terms of disposable income, while income inequality in gross income, before taxes and benefits, has increased substantially over the last 20 years. This points to increasing redistribution, which is also reflected in the fact that around 75% of the gross income of the lowest income quintile consists of benefits and allowances (Ministry of Finance, 2019c). Significant income differences persist between people with and without a migrant background, with no signs of improvement since 2003 (see Section 4.3.1).

([6]) These include the tightening of rules for loan-to-value and loan-to-income ratios, making interest-only mortgages ineligible for mortgage interest tax deductibility (MID), as well as an accelerated reduction MID in three equal steps from 49% to 37% by 2023.

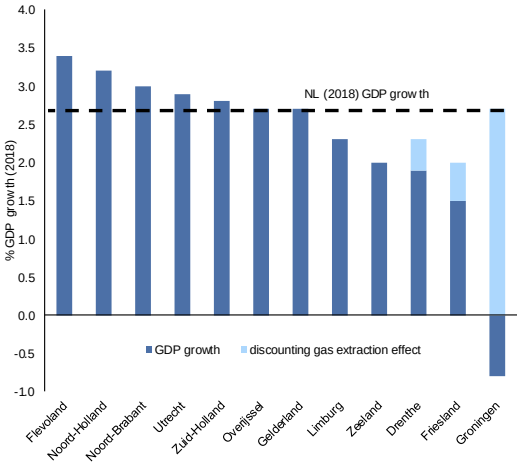
([7]) The S80/S20 income quintile share ratio shows the income share of the richest 20% of the population compared to the income share of the poorest 20% of the population for equivalised after-tax disposable income. The indicator is based on the EU-SILC (statistics on income, social inclusion and living conditions). Source: Eurostat.

Intergenerational differences and low liquid wealth at the lower end of the wealth distribution lead to high net wealth inequality. The top 10% of households own around 61% of total net wealth, while the bottom 20% of households have negative net wealth (Statistics Netherlands, 2018 data). High wealth inequality, , in combination with high household mortgage debt, may strengthen procyclicality in houshold spending with macro-economic implications, as witnessed during the financial crisis and following recession (Teulings and Zhang, 2019; European Commission, 2019a; see also Section 4.2.5).

Regional dimension

Regional differences in economic growth rates and household disposable income are limited. GDP per capita in purchasing power standards stood at 128% of the EU-average in 2018. In 2018, GDP growth varied from 3.4% on an annual basis in Flevoland, to -0.8% in Groningen. At first glance, this suggests substantial growth divergence between regions. This is largely attributable to the accelerated reduction of natural gas extraction in the area. With natural gas extraction in Groningen being phased-out, this observed divergence is likely to remain in the coming years. However, growth in Groningen excluding natural gas extraction was 2.7% in 2018, implying a much smaller difference in economic performance excluding gas extraction at the regional level compared to the rest of the economy (Graph 1.8). This smaller variation in regional growth rates is also reflected in relatively limited differences in regional household disposable income averages. These vary from 110% of the national average in Utrecht to 87% in Groningen. Regional differences do appear larger in other aspects such as access to finance, congestion, and shortages in specific labour market sections amongst others (see Sections 4.2.2-4.2.4).

Graph 1.8: **Regional GDP growth including and excluding natural gas extraction (2018)**



Source: Statistics Netherlands

Performance on sustainable development goals

Overall, the Netherlands performs well in achieving the Sustainable Development Goals. As a high-income country, it is one of the top performers among EU member states in several areas, including eliminating poverty (SDG 1), reduced inequalities (SDG 10), access to justice and trust in institutions (components within SDG 16) and global partnership and financial governance (SDG 17). The only area in which the Netherlands ranks comparatively poorly is climate action (SDG 13), linked to a low renewable energy share and high greenhouse gas intensity of energy consumption. However, most underlying indicators for this SDG have shown gradual progress over time. More generally, in terms of trends, the Netherlands has recorded stable or improving performance for most SDGs over the past 5 years. Progress has been particularly strong with regard to responsible consumption and production (SDG 12), clean water and sanitation (SDG 6), quality education (SDG 4) and affordable and clean energy (SDG 7). Performance has also risen further from an already high level (see above) on SDGs 9, 10 and 16.

Table 1.1: **Key economic and financial indicators**

Key economic and financial indicators - Netherlands

	2004-07	2008-12	2013-16	2017	2018	forecast 2019	2020	2021
Real GDP (y-o-y)	2.8	0.0	1.4	2.9	2.6	1.7	1.3	1.3
Potential growth (y-o-y)	1.8	0.9	0.9	1.6	1.8	1.8	1.7	1.4
Private consumption (y-o-y)	0.8	-0.4	0.6	2.1	2.3	.	.	.
Public consumption (y-o-y)	3.0	1.4	0.5	0.9	1.6	.	.	.
Gross fixed capital formation (y-o-y)	6.2	-4.1	3.5	4.2	3.2	.	.	.
Exports of goods and services (y-o-y)	6.6	2.0	4.0	6.5	3.7	.	.	.
Imports of goods and services (y-o-y)	6.8	1.1	4.3	6.2	3.3	.	.	.
Contribution to GDP growth:								
Domestic demand (y-o-y)	2.4	-0.7	1.0	2.0	2.1	.	.	.
Inventories (y-o-y)	0.0	0.0	0.2	0.0	-0.2	.	.	.
Net exports (y-o-y)	0.4	0.8	0.1	0.9	0.7	.	.	.
Contribution to potential GDP growth:								
Total Labour (hours) (y-o-y)	0.3	0.2	0.5	0.9	1.0	0.9	0.7	0.4
Capital accumulation (y-o-y)	0.7	0.5	0.3	0.5	0.5	0.6	0.6	0.6
Total factor productivity (y-o-y)	0.7	0.3	0.1	0.2	0.2	0.3	0.3	0.4
Output gap	-0.6	-1.3	-2.1	0.2	1.0	1.0	0.6	0.4
Unemployment rate	5.2	4.8	6.9	4.9	3.8	3.4	3.6	4.0
GDP deflator (y-o-y)	2.0	1.0	0.7	1.3	2.2	2.5	1.5	1.2
Harmonised index of consumer prices (HICP, y-o-y)	1.5	1.9	0.8	1.3	1.6	2.7	1.4	1.5
Nominal compensation per employee (y-o-y)	2.3	2.5	1.1	1.0	1.7	2.5	3.2	2.5
Labour productivity (real, person employed, y-o-y)	1.7	-0.1	1.0	0.7	0.1	.	.	.
Unit labour costs (ULC, whole economy, y-o-y)	0.6	2.4	0.3	0.3	1.8	2.6	2.5	1.5
Real unit labour costs (y-o-y)	-1.3	1.4	-0.4	-1.0	-0.4	0.1	1.0	0.3
Real effective exchange rate (ULC, y-o-y)	-0.3	0.3	-0.6	0.3	1.0	-0.7	0.0	-0.4
Real effective exchange rate (HICP, y-o-y)	-0.5	-0.8	0.1	0.6	1.4	0.5	-0.8	-0.3
Net savings rate of households (net saving as percentage of net disposable income)	2.6	6.4	9.6	8.8	8.4	.	.	.
Private credit flow, consolidated (% of GDP)	12.1	7.8	4.5	3.7	4.5	.	.	.
Private sector debt, consolidated (% of GDP)	228.6	244.0	261.7	249.1	241.6	.	.	.
of which household debt, consolidated (% of GDP)	106.5	115.9	111.7	106.0	102.4	.	.	.
of which non-financial corporate debt, consolidated (% of GDP)	122.1	128.1	150.0	143.1	139.3	.	.	.
Gross non-performing debt (% of total debt instruments and total loans and advances) (2)	.	2.4	2.6	1.9	1.7	.	.	.
Corporations, net lending (+) or net borrowing (-) (% of GDP)	9.2	9.0	6.2	7.3	8.1	6.7	6.8	6.5
Corporations, gross operating surplus (% of GDP)	27.3	27.7	27.5	27.0	26.8	26.4	26.1	26.1
Households, net lending (+) or net borrowing (-) (% of GDP)	-2.4	1.3	3.8	2.2	1.5	1.5	1.6	1.6
Deflated house price index (y-o-y)	2.4	-3.7	0.7	6.1	7.3	.	.	.
Residential investment (% of GDP)	6.0	4.8	3.4	4.5	4.8	.	.	.
Current account balance (% of GDP), balance of payments	7.7	7.2	8.1	10.8	10.9	9.5	8.6	8.2
Trade balance (% of GDP), balance of payments	8.5	8.4	9.7	10.8	10.7	.	.	.
Terms of trade of goods and services (y-o-y)	-0.1	-0.5	0.5	-0.2	-0.3	-0.1	0.0	0.0
Capital account balance (% of GDP)	-0.4	-0.3	-0.2	0.0	-0.1	.	.	.
Net international investment position (% of GDP)	-5.5	10.3	47.2	59.4	70.7	.	.	.
NENDI - NIIP excluding non-defaultable instruments (% of GDP) (1)	-64.3	-73.2	-50.0	-17.5	-14.0	.	.	.
IIP liabilities excluding non-defaultable instruments (% of GDP) (1)	326.3	387.0	415.5	371.9	356.0	.	.	.
Export performance vs. advanced countries (% change over 5 years)	6.9	0.3	-5.3	-1.3	-0.4	.	.	.
Export market share, goods and services (y-o-y)	-1.5	-2.7	0.1	1.3	1.7	0.8	-1.3	-1.8
Net FDI flows (% of GDP)	4.6	5.8	5.1	5.9	1.2	.	.	.
General government balance (% of GDP)	-0.6	-3.7	-1.8	1.3	1.5	1.5	0.5	0.4
Structural budget balance (% of GDP)	.	.	-0.7	0.7	0.9	0.7	0.2	0.2
General government gross debt (% of GDP)	47.1	59.7	65.5	56.9	52.4	48.9	47.1	45.6
Tax-to-GDP ratio (%) (3)	36.0	36.1	37.7	39.2	39.2	39.7	39.6	39.6
Tax rate for a single person earning the average wage (%) (4)	32.5	32.0	31.9	30.3	30.7	.	.	.
Tax rate for a single person earning 50% of the average wage (%) (4)	23.4	21.6	18.8	15.6	16.1	.	.	.

(1) NIIP excluding direct investment and portfolio equity shares.
(2) Domestic banking groups and stand-alone banks, EU and non-EU foreign-controlled subsidiaries and EU and non-EU foreign-controlled branches.
(3) The tax-to-GDP indicator includes imputed social contributions and hence differs from the tax-to-GDP indicator used in the section on taxation.
(4) Defined as the income tax on gross wage earnings plus the employee's social security contributions less universal cash benefits, expressed as a percentage of gross wage earnings
Source: Eurostat and ECB as of 4-2-2020, where available; European Commission for forecast figures (Winter forecast 2020 for real GDP and HICP, Autumn forecast 2019 otherwise)
Source:

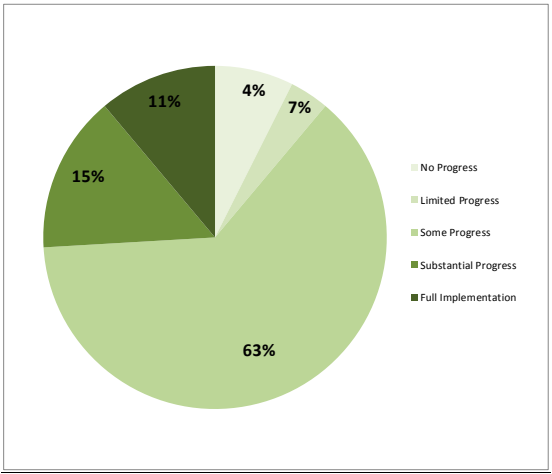
2. PROGRESS WITH COUNTRY-SPECIFIC RECOMMENDATIONS

Since the start of the European Semester in 2011, 89% of all country-specific recommendations addressed to the Netherlands have recorded at least 'some progress'. 11% of these CSRs recorded 'limited' or 'no progress' (Graph 2.1). Substantial progress has been made in recent years on public finances, including reform of the long-term care system and protection of expenditure in growth-friendly areas. Substantial progress and full implementation have also been achieved in several areas related to the labour market and pensions, such as raising the statutory retirement age and getting older workers back into work.

The Dutch authorities have implemented significant structural reforms to ensure the long-run sustainability of public finances since the first round of country-specific recommendations. In line with country-specific recommendations adopted in 2011 and 2012, the Netherlands had corrected its excessive deficit by 2013, while protecting public expenditures directly relevant for growth, such as spending on R&D, education and training. Following recommendations to improve the fiscal sustainability of public finances, the government implemented reforms in long-term care and pensions. In particular, it raised the statutory retirement age and linked it to life expectancy.

The government has taken steps to address high household debt and distortions in the housing market, but challenges remain. Dutch households have high mortgage debt levels (see subsection 4.2.3), driven by tax incentives as well as housing market distortions (see subsection 4.2.4). Since 2012, recommendations have been issued on the need for reforms in this area, in particular to adjust the favourable tax treatment of home ownership, refocus social housing and provide a more market-oriented price mechanism in the rental market. The government has acted upon those recommendations, in particular by tightening mortgage interest deductibility rules (including a requirement to repay mortgages within 30 years to qualify for mortgage interest deductibility) and by gradually reducing the applicable rate for the deduction. Policy measures have also been taken to make rent setting more flexible and to support the private rental housing supply. However, tax incentives for (mortgage-financed) home ownership remain generous, and the private rental sector is still underdeveloped.

Graph 2.1: **Overall multi-annual implementation of 2011-2019 CSRs to date**



* The overall assessment of the country-specific recommendations related to fiscal policy excludes compliance with the Stability and Growth Pact.
** 2011-2012: Different CSR assessment categories.
*** The multi-annual CSR assessment looks at the implementation since the CSRs were first adopted until the February 2020 Ccountry report.
Source: European Commission

The Netherlands has made some progress in addressing the 2019 country-specific recommendations (Table 2.1). Some progress has been made in addressing CSR 1, in particular on the housing market, pension reform, increasing household disposable income and addressing aggressive tax planning. However, challenges remain in each of these areas. Some progress has been made in addressing CSR 2, notably in strengthening life-long learning and upgrading skills. Moreover, some progress has also been made in addressing CSR 3 as the government is supporting overall investment as part of a broader fiscal expansion and has tackled various sector-specific investment needs, albeit to varying degrees.

Some progress has been made in each of the policy areas covered by CSR 1. To address high household debt, the applicable rate for mortgage interest tax deductibility is being reduced by 3 percentage points per year from 2020, to 37% in 2023. While this helps to address the debt bias for households, a substantial subsidy on debt-financed

home-ownership remains (see subsection 4.2.3). The Dutch authorities announced a package of housing market measures in September 2019, aimed primarily at boosting construction, including in the private rental sector; however, its impact remains uncertain (see subsection 4.2.4). On reforming the second pillar of the pension system, a framework agreement was reached between social partners and government, and its further finalisation is currently ongoing (see subsection 4.2.5). The government has introduced tax measures that support higher real disposable incomes of households (see subsection 4.1), and ongoing favourable labour market conditions are translating into an acceleration of nominal wage growth (see Section 1). On aggressive tax planning, the Netherlands introduced a conditional withholding tax on royalty and interest payments from 2021 (see subsection 4.1). However, its effectiveness in addressing aggressive tax planning remains to be seen.

On CSR 2, which focuses on issues related to self-employment as well as life-long learning and up-skilling, limited progress has been made. Limited progress has been made on reducing the incentives for the self-employed without employees and promoting adequate social protection for the self-employed. While a number of proposals have been announced to tackle issues in these areas (see Table 2.1 for an overview and subsection 4.3.1 for further details), most have not been adopted yet. Limited progress has been made on tackling bogus self-employment: while suspension of the enforcement of measures adopted to tackle bogus self-employment has been further extended until 2021, the criterion 'under the control and direction' ('*gezagsverhouding*') has been clarified as of January 2019. A draft questionnaire has also been developed to implement a web module that will qualify the working relationship of self-employed workers. In addition, some progress has been made on life-long learning and upgrading skills thanks to a new strategy that aims to create a genuine learning culture and give individuals more ownership of their training, including via individual training budgets (see subsection 4.3.2).

Some progress has been made on CSR 3, which calls for supporting investment with a particular focus on R&D, energy and climate, and transport infrastructure. In terms of supporting overall investment, the Dutch authorities are implementing a fiscal expansion (see subsection 4.1), including by boosting investment, and have passed legislation to launch Invest-NL, a national promotional institution with a mandate to support private-sector investment. However, there is still some scope to do more as the Netherlands has some remaining fiscal space. Limited progress has been made on R&D investment. Revised R&D figures show slow progress on private R&D intensity and a slight decline in public R&D intensity (see subsection 4.4.2). Total R&D intensity has stabilised at around 2.2%, but lags behind the national target of 2.5% for 2020 and the R&D intensity of co-leaders in innovation. Although new policy measures have been announced, their impact remains to be seen. Some progress has been made on energy and climate-related investment. The Netherlands has adopted a climate act setting greenhouse gas reduction targets for 2030 and 2050, as well as a climate agreement with a set of adopted and proposed policies for meeting the 2030 target, including an analysis of investment needs (see subsection 4.5). On investment to address transport bottlenecks, some progress has been made. The government agreement set out a clear path with measures to address the increasing traffic on the road, rail, water and in the air. However, room for further improvement remains.

Upon request from a Member State, the Commission can provide tailor-made expertise via the Structural Reform Support Programme to help design and implement growth-enhancing reforms. Since 2019, such support has been provided to the Netherlands in three policy areas: i) enhancement of policy evaluation systems; ii) improvement of SOLVIT service delivery to Dutch businesses; and iii) development of monitoring tools and quality assurance framework to strengthen the adult education system.

Table 2.1: **Assessment of 2019 CSR implementation (*)**

The Netherlands	**Overall assessment of progress with 2019 CSRs : some progress**
CSR 1: *Reduce the debt bias for households and the distortions in the housing market, including by supporting the development of the private rental sector. Ensure that the second pillar of the pension system is more transparent, inter-generationally fairer and more resilient to shocks. Implement policies to increase household disposable income, including by strengthening the conditions that support wage growth, while respecting the role of social partners. Address features of the tax system that may facilitate aggressive tax planning, in particular by means of outbound payments, notably by implementing the announced measures. (MIP relevant)*	The Netherlands has made **some progress** in addressing CSR 1: • **Some progress** has been made on the housing market, although mortgage interest deductibility will remain generous even after being reduced to a maximum applicable rate of 37% by 2023, and the rental sector remains underdeveloped. • **Some progress** has been made on reforming the second pillar of the pension system. A framework agreement addressing key challenges in the system was reached between social partners and government, and preparatory work for implementation is currently ongoing. • **Some progress** has been made on policies to increase household disposable income. The government has introduced tax measures that support higher disposable real incomes of households. Moreover, ongoing favourable labour market conditions are translating into an acceleration of nominal wage growth. • **Some progress** has been made on addressing aggressive tax planning. The Netherlands introduced a conditional withholding tax on royalty and interest payments, which will enter into force from 2021. However, its effectiveness in addressing aggressive tax planning remains to be seen.

(Continued on the next page)

Table (continued)

CSR 2: *Reduce the incentives for the self-employed without employees, while promoting adequate social protection for the self-employed, and tackle bogus self-employment. Strengthen comprehensive life-long learning and upgrade skills notably of those at the margins of the labour market and the inactive.*	The Netherlands has made **limited progress** in addressing CSR 2: • **Limited progress** has been made on reducing the incentives for the self-employed without employees. The government announced its intention to introduce a general minimum hourly rate of €16 for the self-employed without employees, in combination with an opt-out of payroll taxes and various other obligations for those self-employed charging an hourly rate of €75 or more. In addition, the tax deduction for self-employed workers will be gradually reduced from 2020. The government and social partners also agreed to introduce mandatory disability insurance for the self-employed and to assess possibilities to increase pension coverage for the self-employed on a voluntary basis. • **Limited progress** has been made on tackling bogus self-employment. Suspension of the enforcement of measures adopted to tackle bogus self-employment, initially planned until 2020, has been further extended until 2021. Nevertheless, the criterion 'under the control and direction' ('*gezagsverhouding'*) has been clarified as of January 2019. A draft questionnaire has also been developed to implement a web module that will qualify the working relationship of self-employed workers. • **Some progress** has been made in strengthening life-long learning and upgrading skills. The government presented a new strategy to create a genuine learning culture and give more ownership to individuals over their training. This includes promoting individual training budgets through the 'Stimulus for labour market participation' (*STAP / 'Stimulans Arbeidsmarktpositie'*) initiative, which replaces the tax deduction for educational expenses. A budget of €200 million per year will be allocated to it.

(Continued on the next page)

Table (continued)

CSR 3: *While respecting the medium-term budgetary objective, use fiscal and structural policies to support an upward trend in investment. Focus investment-related economic policy on research and development in particular in the private sector, on renewable energy, energy efficiency and greenhouse gas emissions reduction strategies and on addressing transport bottlenecks.*	The Netherlands has made **some progress** in addressing CSR 3: • **Some progress** has been made on supporting an upward trend in investment. The Dutch authorities are planning a fiscal expansion for 2020, including by increasing investment, and have passed legislation to launch Invest-NL, a national promotional institution with a mandate to support private-sector investment. However, there is still scope to boost public investment further as the Netherlands has some remaining fiscal space. • **Limited progress** has been made on investment in R&D. Revised R&D figures show slow progress on private R&D intensity and a slight decline in public R&D intensity. Total R&D intensity has stabilised, but lags behind the national target of 2.5% for 2020 and the R&D intensity of co-leaders in innovation. Although new policy measures have been announced, their impact remains to be seen. • **Some progress** has been made on investment in renewable energy, energy efficiency and in reducing greenhouse gas emissions. The Netherlands adopted a climate act setting greenhouse gas reduction targets for 2030 and 2050, as well as a climate agreement with a set of adopted and proposed policies for meeting the 2030 target, including an analysis of investment needs. However, some work still needs to be done to define an overarching and coherent climate investment agenda that addresses both public and private sectors. • **Some progress** has been made on addressing transport bottlenecks. The Government agreement set out a clear path with measures to address the increasing traffic on the road, rail, water and in the air. However, room for further improvement remains.

(*) This does not include an assessment of compliance with the Stability and Growth Pact.
The assessment of CSR 3 does not take into account the contribution of the EU 2021-2027 cohesion policy funds. The regulatory framework underpinning the programming of the 2021-2027 EU cohesion policy funds has not yet been adopted by the co-legislators, pending inter alia an agreement on the multiannual financial framework (MFF).
Source: European Commission

Box 2.2: **EU funds and programmes to address structural challenges and to foster growth and competitiveness in the Netherlands**

The Netherlands is benefiting from EU funds. The financial allocation from the EU Cohesion Policy funds([1]) for the Netherlands, including national co-financing, amounts to €2.4 billion in the current Multiannual Financial Framework, equivalent to around 0.05 % of the GDP annually. By the end of 2019, the total allocation planned was assigned to specific projects and €1.3 billion was reported as spent by the selected projects, showing a level of implementation well above the EU average([2]).

EU Cohesion Policy funding supports transition challenges in the Netherlands by promoting growth and employment via investments in innovation, climate transition, employment and labour mobility. Investments driven by funding from the European Regional Development Fund (ERDF) have already supported over 5,000 enterprises of which over 2,000 enterprises to introduce new products to the market. Almost 600 enterprises received support to cooperate with research institutions. Private investment matching the support for R&D and innovation projects has exceeded €425 million. Also, ERDF funding contributes to the development of innovative low-carbon technologies. Under the social inclusion objective the European Social Fund supported over 548,000 persons on their way to the labour market depending on their individual needs and financed dedicated traineeships that enabled offering a job to 62,000 participants that otherwise would have had very little chances on the labour market.

The EU also supports investment through the agricultural and fisheries funds, the Connecting Europe facility and Horizon 2020. Support from the European Agricultural Fund for Rural Development and the European Maritime and Fisheries Fund amounts to €1.27 billion €and €128 million €respectively (including the national co-financing for both). The Connecting Europe Facility allocated €508 million to 77 transport projects with a total investment value of €1.6 billion. Horizon 2020 provided €3.6 billion to boost innovation and research in the Netherlands, of which €697 million to SMEs.

EU funding contributes to mobilisation of private investment. By the end of 2018, European Structural and Investment Funds([3]) supported programmes mobilised additional capital by committing about €158 million in the form of loans, guarantees and equity, which is 4.8% of all decided allocations of these funds.

EU funds already invest on actions in line with the Sustainable Development Goals (SDGs). In the Netherlands, up to 98% of ESI Funds allocations are declared to support 9 out of the 17 SDGs.

([1]) European Regional Development Fund and European Social Fund.
([2]) https://cohesiondata.ec.europa.eu/countries/NL
([3]) European Regional Development Fund, Cohesion Fund, European Social Fund, European Agricultural Fund for Rural Development Fund and European Maritime and Fisheries Fund.

3. SUMMARY OF THE MAIN FINDINGS FROM THE MIP IN-DEPTH REVIEW

The 2020 Alert Mechanism Report concluded that a new in-depth review should be undertaken for the Netherlands to assess the persistence or unwinding of the imbalances observed (European Commission, 2019f). In spring 2019, the Netherlands was identified as having macroeconomic imbalances (European Commission, 2019b). The imbalances identified related in particular to the high level of private debt as well as the large current account surplus. This chapter summarises the findings of the analyses in the context of the macro-economic imbalance procedure (MIP) in-depth review that is contained in various sections in this report ([8]).

3.1. IMBALANCES AND THEIR GRAVITY

The current account balance increased further in 2018 to a high of 11.2% of GDP. The surplus is the highest in the euro area as a share of GDP. A persistently high trade surplus in goods is the main driver from a trade perspective. In 2018 the Netherlands contributed 0.7 percentage points to the euro area current account surplus, the second largest contribution after Germany (2.1 percentage points).

All domestic sectors are in surplus, with the corporate sector making the largest contribution to net lending. Both financial corporations and non-financial corporations are in surplus, with the latter being the main driver. Net lending by non-financial corporations amounted to 6.7% of GDP in 2018. Compared to the rest of the euro area, profitability and net property income are relatively high for Dutch firms, whereas domestic investments are lower. This is linked in part to the large presence of multinationals in the Netherlands, but small and medium-sized enterprises are also a significant contributor (see Section 4.2.6). Households have been recording surpluses since the crisis, amounting to 1.5% of GDP in 2018. The dip in the housing market following the crisis led to a decrease in residential investment, while at the same time boosting personal savings via deleveraging pressure linked to high household debt. Pension funds are also an important driver of household net lending due to relatively high second-pillar pension contributions (see subsection 4.2.5) which are largely invested abroad. The government sector recorded a headline surplus of 1.5% of GDP, driven by past consolidation measures and increasing tax revenues.

Private debt continued to decline in 2018, but remains high. It reached 242% of GDP in 2018, down from 252% the year before. Non-financial corporate debt accounted for 140% of GDP. However, around 60% of this debt is owed by multinationals. As multinationals' debt largely consists of intra-group debt, the macro-economic risks appear to be limited (see subsection 4.2.3).

Household debt largely consists of mortgage debt. The tax deductibility of mortgage interest payments incentivises households to take on mortgage debt. The household debt ratio declined to 102% of GDP in 2018 on the back of GDP growth that outpaced household debt growth. Although household debt continues to increase in nominal terms, growth remains much slower than before the crisis, at around 1-1.5% annually in recent years. Growing mortgage debt can be linked to strong house price rises. House price growth accelerated in 2018 to around 7% in real terms, exceeding the macro-economic imbalance procedure threshold. Overall, house price developments suggest a lagged supply response rather than overvaluation at national level (see subsection 4.2.4).

Potential spillovers to other EU countries are relatively moderate given the size of the Dutch economy. Table 3.1 shows that exports to the Netherlands constitute a relatively large share of GDP for Belgium (13%). From the Dutch perspective, Germany is the largest export destination, followed by the United Kingdom. On the financial side, Belgium, Cyprus, Ireland, Hungary, Luxembourg and Malta have a relatively high exposure to the Netherlands. Box 3.1 shows an analysis of the effects of a stylised public investment boost on GDP, indicating small but

([8]) Analyses relevant for the in-depth review can be found in the following sections: fiscal policy (Section 4.1), private indebtedness, house price developments, developments in the field of pensions (Section 4.2); wage developments (Section 4.3); saving and investment imbalances (Section 4.4). Box 3 discusses the potential effects of a stylised set of structural reforms.

Table 3.1: **Outward spill-over heat map for Netherlands**

	EU partner																												
	AT	BE	BG	HR	CY	CZ	DE	DK	EE	EL	ES	FI	FR	HU	IE	IT	LT	LU	LV	MT	NL	PL	PT	RO	SE	SI	SK	UK
Imports	1.3	13	1.2	0.3	0.4	3	2.8	1.9	2.3	0.9	1.2	2	1.2	3.2	3.4	0.8	2.7	5.7	1.4	0.2		2.5	1.6	0.8	2	1.7	2.5	1.8
Imports (in value added)	0.6	2.7	0.6	0.5	0.4	0.8	0.8	0.7	0.6	0.3	0.4	0.5	0.5	0.8	1.4	0.3	0.7	2.5	0.6	0.3		0.8	0.4	0.5	0.8	0.5	0.6	0.5
Financial liabilities	13.7	80.8	3.2	0.8	165.9	9.8	24.3	9.3	2.8	1.9	11.7	21.2	23.1	5.7	123.3	8.3	3.7	1450.2	3.0	77.9		1.9	20.0	1.4	16.2	3.8	6.2	36.1
Financial assets	26.8	58.8	11.0	9.0	141.1	17.2	19.2	10.7	7.3	13.2	20.7	20.3	19.5	45.2	110.0	8.4	5.0	954.0	1.9	64.6		9.7	23.5	12.0	15.3	2.7	14.7	39.4
Liabilities (to banks)	1.3	5					1.8			0.2	1.3	1.3	4.4		0.6	0.9						0.8			1.7			2.1
Bank claims	2.0				6.8		4.3	1.1		0.7	2.9	3.4	3.5		8.1	1.4		47.8		5.1		7.2	0.9	4.0	1.0			3.5

Note: cross-border figures for Netherlands, expressed as a % of the GDP of the partner country. The darkest shade of red corresponds to percentile 95 and the darkest shade of green to percentile 5. The percentiles were calculated for each variable based on the full available sample of bilateral exposures among EU countries. The blank spaces represent missing data. Data refer to: Imports - 2017, Imports (in value added) - 2015, Financial liabilities - 2017, Financial assets - 2017, Liabilities (to banks) - 2019-Q2, Bank Claims - 2019-Q2.
Source: IMF, OECD, TiVa, BIS and Commission services

positive spillover effects on the rest of the euro area.

3.2. EVOLUTION, PROSPECTS AND POLICY RESPONSES

The current account is set to fall gradually, but remains high. According to the European Commission's Autumn Forecast, the surplus is set to gradually decline from 11.2% in 2018 to 8.6% in 2021 as import growth is projected to outpace export growth. This reflects a weakening external environment combined with comparatively robust domestic demand. The latter is in turn linked to a pick-up in wage growth and an expansionary fiscal stance (see Section 1 and subsection 4.1). Declining natural gas exports following the phase-out of gas production in Groningen are also expected to weigh on the current account surplus.

Private debt is expected to remain high. Overall, still relatively robust nominal GDP growth combined with ongoing deleveraging pressures are projected to support the trend of passive deleveraging. However, in nominal terms household debt growth appears likely to pick up somewhat as a result of sharp house price rises in recent years (see subsection 4.2.3). The maximum applicable rate of mortgage interest deductibility is being reduced by 3 percentage points per year, from 49% in 2019 to 37% in 2023. While this lowers the debt bias for households, a substantial subsidy for mortgage borrowing remains. The government has also launched initiatives to boost new housing supply, including in the private rental sector, which would provide households with an alternative to taking on mortgage debt. However, with a share of 13% of the total housing stock in 2018 the private rental sector remains underdeveloped.

3.3. OVERALL ASSESSMENT

The Netherlands has recorded persistently large current account surpluses. The net lending position is largely driven by non-financial corporations, with relatively high savings and low domestic investments. Both large corporations, including multinationals, and small and medium-sized enterprises have substantial surpluses. Households also make a positive contribution, among other things due to high mandatory pension contributions. Household debt as a share of GDP is around 50 percentage points higher than the euro area average and well above the relevant benchmarks (see subsection 4.2.3), as tax incentives encourage households to take on mortgage debt. While household debt is coupled with substantial housing and pension assets, these assets are often illiquid, leaving households vulnerable to shocks.

The external surplus and the high private debt level are both expected to unwind only gradually. The current account balance is set to moderate slowly on the back of domestic demand and rising wages, also supported by the expansionary fiscal stance. However, the level is expected to remain well above the threshold. While household debt is decreasing as a share of GDP, it is growing in nominal terms, linked to sharp house price rises. Despite measures taken, strong incentives to take on mortgage debt remain, also against the background of an underdeveloped private rental market.

Table 3.2: **MIP assessment matrix(*)**

	Gravity of the challenge	Evolution and prospects	Policy response
	Imbalances (unsustainable trends, vulnerabilities and associated risks)		
Current account balance (see subsection 4.2.6)	In 2018, the current account surplus reached 11.2% of GDP, one of the highest in the euro area, and well above fundamentally warranted levels (around 4% of GDP, according to Commission current account 'norm' estimates). The Netherlands has been running a current account surplus over the last three decades. This implies a persistent gap between savings and investment, with possible adverse consequences for the allocation of resources and therefore growth and welfare. A breakdown by sector points to non-financial corporations as the largest contributor, with a surplus of 6.7% of GDP in 2018 (see subsection 4.2.6), although all domestic sectors are net savers. Compared to the euro area average, the high corporate surplus is driven by a relatively high operating surplus and net property income, as well as low domestic investment. The large presence of multinationals is a significant contributor to corporate savings, but small and medium-sized enterprises also have a significant surplus, which in part appears linked to fiscal incentives to retain earnings. The household balance turned positive during the crisis and accounts for much of the surplus widening since then. It reached 1.5% of GDP in 2018 and is likely boosted by relatively large mandatory pension savings. Private consumption is relatively low as a share of GDP.	After reaching a historic high of 11.2% of GDP in 2018, the current account surplus has declined somewhat in 2019 (to about 9.7% of GDP, based on the latest available quarterly data). The trade balance has remained persistently high in recent years on the back of buoyant global trade developments. The primary income balance is a source of short-term volatility and is largely responsible for the recent increase. Still solid growth in domestic demand and increasing wages in this phase of the business cycle, coupled with the ongoing fiscal stimulus, is expected to lead to a gradual reduction of the surplus. Nevertheless, a surplus position linked in part to structural reasons is expected to persist in future, among others linked to the presence of multinationals.	The government is implementing a sizeable fiscal stimulus package, which should boost domestic demand and therefore help external rebalancing. Increased spending is focused on the areas of education, research and innovation, security and infrastructure. So far, stimulus has not accommodated substantial external rebalancing. In June 2019, the social partners reached an agreement on principles for a significant reform of the pension system, but important details will still need to be decided upon, so implementation uncertainty remains. The implementation of measures in the area of corporate income taxation, including those to tackle aggressive tax planning, might affect cross-border income flows as well as headquarter location decisions for multinationals, with potential implications for corporate net saving. However, it remains to be seen to what extent this would affect the current account. Recent tax reforms for small and medium-sized companies (see subsection 4.2.6) could reduce incentives to retain earnings, although in practice they may shift part of smaller companies' savings surplus to the household sector rather than leading to an overall reduction.

(Continued on the next page)

Table (continued)

Private debt (see subsection 4.2.3)	The private debt level in the Netherlands continues to decline but is still very high, standing at 242% of GDP in 2018. Household debt declined to 102% of GDP in 2018 but still exceeds the euro area average by some 50 percentage points, and the fundamental benchmark by around 30 percentage points. It is driven by tax incentives and an underdeveloped rental market. While households have a high positive net asset position due to housing and pension wealth, they remain vulnerable to financial shocks since those assets are often illiquid and subject to market risk. Non-financial corporate (NFC) debt declined further to 139% of GDP in 2018 from over 150% in previous years (see Section 4.2.3). The high level of NFC debt is largely driven by intra-group debt of multinationals.	Passive deleveraging is expected to continue on the back of still quite robust real GDP growth and increasing inflation. Nominal household debt continues to grow, although the increase remained limited to around 1.3% per year on average in 2016-2018. Moderate debt flows combined with the housing market recovery have greatly reduced the share of underwater mortgages (see Section 4.2.4). Overall, private debt as a percentage of GDP is expected to gradually decline further, but remain elevated over the medium term.	The accelerated reduction in mortgage interest deductibility is being implemented, cutting the maximum applicable rate to 37% by 2023. Nonetheless, a substantial subsidy on debt-financed homeownership remains. Initiatives are being undertaken to improve the functioning of the private rental market, but the effect remains to be seen.

Conclusions from IDR analysis

- The current account balance is one of the highest in the euro area, peaking at 11% in 2018. The persistently high gap between savings and investment is significantly above norms implied by fundamentals and has possible adverse consequences for the allocation of resources and therefore growth and welfare. In addition, external rebalancing is important from the euro area perspective. Household debt, consisting mainly of mortgage debt, is high compared to the euro area average as well as relevant fundamental and macroprudential benchmarks. Tax incentives encourage households to take on mortgage debt, while the private rental market remains underdeveloped.
- A gradual reduction in the current account is expected in line with solid growth in domestic demand and increasing wages in this phase of the cycle. However, it is expected to remain high, also driven in part by structural features such as the pension system with implications for household consumption and disposable income and the presence of multinationals. Nominal household debt is increasing again as the housing market has recovered, but is outpaced by nominal GDP growth, resulting in passive deleveraging.
- Ongoing implementation of the fiscal stimulus package should support domestic demand and help external rebalancing. So far, fiscal stimulus has not contributed to substantial rebalancing of the external position. Although wage growth has started to pick up somewhat, it has remained relatively subdued in recent years given the cyclical position and low unemployment, limiting external rebalancing. The acceleration of the reduction in mortgage interest deductibility takes effect between 2020 and 2023, although a generous subsidy remains. An agreement on principles for a significant reform of the pension system has been reached between stakeholders, but important details still need to be decided upon, so implementation uncertainty remains.

(*) The first column summarises 'gravity' issues which aim at providing an order of magnitude of the level of imbalances. The second column reports findings concerning the 'evolution and prospects' of imbalances. The third column reports recent and planned relevant measures to address these. Findings are reported for each source of imbalance and adjustment issue. The final three paragraphs of the matrix summarise the overall challenges in terms of their gravity, developments and prospects, policy response.
Source: European Commission

Box 3.3: **Public investment and potential spillovers**

Following the 2019 country-specific recommendations on investment-related economic policy, the European Commission QUEST model is applied to simulate the domestic and cross-border impact of a public investment boost of 1% of GDP sustained for 10 years. The Netherlands maintains an expansionary fiscal stance, via both lower taxes on labour income and increased expenditure, including on investment (see subsection 4.1). These measures are likely to yield a positive impact on economic growth in the Netherlands. High trade openness of the Dutch economy suggests potentially important spillovers to the rest of the euro area (REA), which is balanced, however, by the limited economic size of the Netherlands compared to the EA aggregate. To illustrate the size of potential spillovers, this box describes the impact of a stylized debt-financed increase in productive public investment by 1% of GDP for the next 10 years. Such a public investment boost could be motivated by a favourable debt trajectory, low borrowing costs and monetary policy constrained by the effective lower bound on nominal interest rates.

The QUEST simulations show a positive impact on Dutch real GDP of around 0.6% in the first year, increasing to 1.2 % after ten years (Table 1). ([1]) The current account surplus is reduced by around 0.1% of GDP. The spillover of the domestic investment impulse via the trade channel is positive, albeit small, with real GDP in the REA rising by 0.1% in the first few years and then gradually tapering off. These results describe the effects of a public investment boost in the Netherlands on an 'all else equal' basis; of course, a coordinated investment programme across several member states would have a much bigger domestic and cross-border impact.

Table 3.3a:**Simulated domestic impact and spillovers of a public investment boost of 1% of GDP for 10 years**

	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Netherlands										
Real GDP	0,7	0,5	0,5	0,6	0,7	0,8	0,9	1,0	1,1	1,2
Employment	0,2	0,2	0,1	0,1	0,0	0,0	0,0	0,0	0,0	0,0
Gov. debt over GDP	0,1	0,9	1,8	2,7	3,5	4,4	5,3	6,1	6,9	7,8
Current account over GDP	0,0	-0,1	-0,1	-0,1	-0,1	-0,1	-0,1	-0,1	-0,1	-0,1
Rest of euro area										
Real GDP	0,1	0,1	0,1	0,0	0,0	0,0	0,0	0,0	0,0	0,0
Inflation	0,1	0,1	0,1	0,1	0,0	0,0	0,0	0,0	0,0	0,0

Source: European Commission

([1]) Detailed information on the QUEST model and applications is available at: http://ec.europa.eu/economy_finance/research/macroeconomic_models_en.htm. In this simulation, a binding effective lower bound for monetary policy is assumed for the first two years. The boost in public investment simulated in this scenario is assumed to incorporate the increase in investment expenditure included in the 2020 budget already and would thus be consistent with SGP requirements.

4. REFORM PRIORITIES

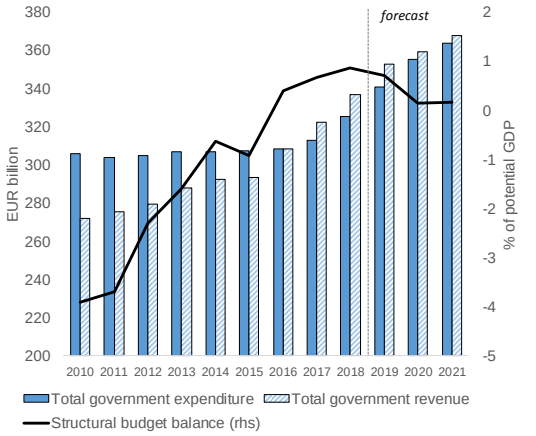
4.1. PUBLIC FINANCES AND TAXATION

4.1.1. EXPENDITURE AND REVENUE DEVELOPMENTS* (9)

After a prolonged period of zero growth, nominal government expenditure is increasing again (Graph 4.1.1). Based on the 2018-2021 multi-annual government agreement, government expenditure is rising mainly in the field of defence, infrastructure and education. Recent additional fiscal measures, announced in the 2020 budget, involve further spending on climate measures, in particular an increase in the subsidy for sustainable energy use ([10]), and higher spending on state pensions ([11]). The government also announced additional budgetary measures to address nitrogen issues (see Sections 1 and 4.4) and to raise teacher's salaries. Public investment is expected to have increased from 3.3% of GDP in 2018 to 3.5% of GDP in 2019, remaining well above the euro area average, but below its longterm average (3.8% of GDP).

Revenue growth outpaced expenditure growth and has led to headline surpluses. The general government balance is forecast at 1.5% of GDP in 2019. Tax relief (mainly for households) and faster expenditure growth are expected to lead to a decline in the surplus, to 0.5% of GDP in 2020, based on the European Commission autumn forecast. In structural terms, taking the economic cycle and incidental measures into account, the government surplus is set to fall from 0.9% of GDP in 2018 to 0.2% of GDP in 2020, illustrating an expansionary fiscal stance (Graph 4.1.1).

Graph 4.1.1: **General government expenditure, revenues and structural budget balance**



Source: European Commission 2019 autumn forecast

Revenue side measures lower the tax burden on labour by roughly 0.5% of GDP. In 2020, the number of personal income tax brackets is reduced to two, with a base rate of 37.35% for all annual incomes up to €68,507 and a marginal top personal income tax rate of 49.5% for all income above this threshold (Graph 4.1.2). This measure is only partly financed by an increase in indirect taxes and leads to an overall lowering of the tax burden. This is expected to increase the labour supply and employment. It reduces progressivity, but the impact on income redistribution is partly offset by an increase in the general income tax credit and the earned income tax credit.

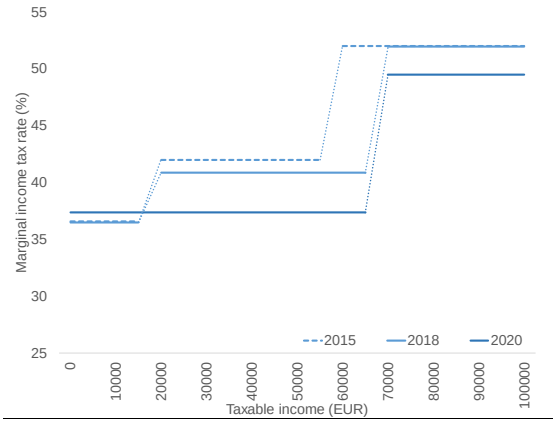
The government is also reducing corporate income taxes, but less than announced earlier. In 2020, the tax rate on profits up to €200,000 is reduced from 19% to 16.5%, while the rate on profits exceeding €200,000 remains at 25%; this goes against the tax rate of 22.55% that was proposed in the 2018-2021 government agreement. From 2021 onwards, the lower tax bracket will be reduced to 15% and the higher tax bracket to 21.7%. The lowering of the corporate income tax rates is partly financed by an increase in the tax base, amongst others following implementation of the Anti-Tax Avoidance Directive.

([9]) An asterisk (*) indicates that the analysis in the section contributes to the in-depth review under the MIP (see Section 3 for an overall summary of main findings).

([10]) Following the *national climate agreement* (see subsection 4.5).

([11]) Following the 2019 pension agreement between social partners (see Section 4.2.5). The pension agreement includes a slowdown in the increase in the statutory retirement age for the first pillar state pension, an agreement to make the occupational pension pillar more flexible and individual, and measures to accommodate workers in physically demanding jobs and self-employed.

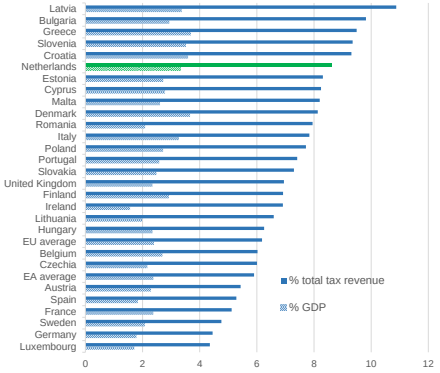
Graph 4.1.2: **Personal income tax rates, 2015-2020**



Source: European Commission

The tax mix is relatively green. With 8.6% of total tax revenue coming from environmental taxes ([12]) in 2018, the tax mix is relatively green by European standards (Graph 4.1.3). Moreover, the share of environmental taxes is set to increase. A carbon levy will be introduced for the non-emission trading industrial sector by 2021, while the energy taxes for households will also increase.

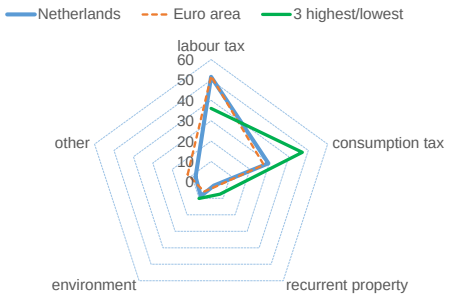
Graph 4.1.3: **Environment taxes (2018)**



Source: European Commission

However, the tax mix is not particularly 'growth-friendly'. With over 50% of total tax revenue coming from taxes on labour in 2018, the tax burden on labour is around the euro area average. Inactivity traps and unemployment traps remain relatively large for low-income earners, making it financially unattractive to accept a job at this income level ([13]). Despite increasing in 2019, the share of consumption taxes in the total tax mix remains around the euro area average, while the share of recurrent property taxes is well below the euro area average. A comparison with other EU countries suggests that there is scope to improve the tax mix by shifting taxes on labour further to areas less detrimental to growth, such as consumption or property income ([14]).

Graph 4.1.4: **Tax mix in the Netherlands and the euro area (share in total tax revenues)**



(1) Environmental taxes include both consumption taxes and capital taxes. '3 highest/lowest' refers to the average of the respective 3 Member States with the highest share in environmental, property and consumption taxes and the lowest labour tax share.
Source: European Commission

4.1.2. AGGRESSIVE TAX PLANNING

Evidence ([15]) suggests that the Netherland's tax rules are used by companies that engage in aggressive tax planning. The international corporate tax system aims to tax the profits of multinationals where they arise. However, these

([12]) Environmental taxes refer to taxes whose tax base is a physical unit of something that has a proven, specific negative impact on the environment. They comprise taxes on energy, transport, pollution and resources. Environmental taxes are considered to be among those taxes relatively less distortive in terms of market outcomes.

([13]) These 'traps' measure the marginal tax burden to move from inactivity or unemployment to paid employment at different income levels. At 76.9 in 2018, the inactivity trap for a low-income earner (67% of the average wage) was much higher in the Netherlands than the euro area average at 54.4. The unemployment trap at this income level was 80.2, also significantly above the euro area average of 76.3 (source: European Commission Tax and Benefits Indicator database based on OECD data).

([14]) Based on 2018 data; the lowering of labour taxes reduces its share in total tax revenues by roughly 2 percentage points, while the 2019 increase in the reduced VAT rate is expected to increase the share of consumption taxes by 1 percentage point.

([15]) For an overview of the high level of incoming and outgoing dividend, interest and royalty payments, as well as of inward and outward foreign direct investment positions, see European Commission (2019d).

firms have in some instances exploited mismatches and loopholes in the international tax framework to reduce their overall tax burden. This brings with it significant problems, such as revenue losses, unfair competitive advantages or lower tax morale. A study commissioned by the Dutch Ministry of Finance shows that the Netherlands was home to some 15,000 letterbox companies in 2017,, with a balance sheet size of nearly €4,500 billion – about six times the country's GDP and 80% of the stock of foreign direct investments in the Netherlands (SEO, 2018). According to a recent IMF paper, the Netherlands is the second biggest recipient of foreign direct investments made through special purpose entities worldwide after Luxembourg, with the two countries hosting nearly half of the world's letterbox companies (Damgaard et al, 2019). Several studies highlight that the Netherlands is used as a conduit country, i.e. certain multinationals use the country's tax rules to route their profits to low or no tax jurisdictions (Garcia-Bernardo et al, 2017). A recent study by the CPB Bureau for Economic Policy Analysis (CPB 2019e) shows that, between 2014 and 2016, around 25% of dividend payments and 45% of interest payments from the Netherlands had low tax jurisdictions or tax havens as their destination. For royalty payments, this ratio reached 75% between 2008 and 2010 (most recent figures in the study).

The government is implementing European and internationally agreed initiatives as well as unilateral measures. The bill on implementing the second Anti-Tax Avoidance Directive should neutralise certain hybrid mismatch arrangements that would otherwise result in double non-taxation (effective as of 1 January 2020). The government has also transposed the sixth amendment of the Directive on Administrative Cooperation into national law, which will enter into effect as of 1 July 2020. This will force intermediaries to disclose aggressive tax planning schemes to tax authorities. The Netherlands adopted most of the provisions of the OECD Multilateral Convention to Prevent Base Erosion and Profit Shifting, which has entered into force on 1 January 2020. However, the application of the provisions of this multilateral instrument will depend on the choices made by the relevant treaty partners. In 2019, the government also introduced a dynamic 'black list' of jurisdictions, comprising those on the EU list and countries with a statutory corporate tax rate lower than 9%. It uses this list for the recent controlled foreign company measure, the ruling rules and the future withholding tax on interests and royalties. The government has also amended the framework for granting advance tax rulings, ensuring a more transparent process.

The government has announced the introduction of a conditional withholding tax on outbound payments, but its effectiveness remains to be seen. The current absence of withholding tax on royalty and interest payments may lead to cross border payments being taxed at a very low rate or escaping tax altogether if they are channelled to a low or no tax jurisdiction. This has been flagged as a key element that facilitates aggressive tax planning through the Netherlands. The government has announced the introduction of a conditional withholding tax on royalty and interest payments, which should enter into force on 1 January 2021. This should affect financial payments made to certain low and no tax jurisdictions. Nevertheless, the effectiveness of the withholding tax is uncertain - countries with a statutory corporate tax rate above the threshold but offering special regime effectively reducing the tax rate below this threshold would not be affected. Similarly, countries with a statutory corporate tax rate above the threshold but with a territorial tax regime that effectively exclude profits not repatriated on their territory would fall outside the scope of this measure.

4.1.3. FISCAL FRAMEWORK

The Netherlands has a well-established fiscal framework. For more than 25 years, it has been conducting a trend-based fiscal policy with a strong multi-annual focus. The main characteristics of this fiscal framework include: (i) the use of independently derived macroeconomic assumptions; (ii) the use of inflation-adjusted expenditure ceilings for the government's entire term; (iii) the use of automatic stabilisers on the revenue side; and (iv) a well-defined budgetary process for decision-making and clear distribution of responsibilities, including the tasks of independent fiscal institutions. The CPB Bureau for Economic Policy Analysis carries out independent macro-economic and fiscal forecasts while the Advisory Division of the Council of State, as fiscal council, monitors compliance with

numerical fiscal rules and performs a normative assessment of government finances. The commitment to comply with EU fiscal rules is embedded in the legal framework, in particular via the law on sustainable public finances (*Wet Houdbare Overheidsfinancien).*

In the 2020 budget, a relatively large number of ad hoc adjustments were made to the expenditure and revenue ceilings. The fiscal framework uses fixed ([16]) multi-annual expenditure ceilings, with automatic stabilisation mostly taking place via the revenue side of the budget. In normal economic times, the framework provides for stability, by setting budgetary anchors well in advance. However, in the 2020 budget relatively large ad-hoc adjustments were made to the expenditure and revenue ceilings. This was done (i) to accommodate higher spending on climate and pensions following discretionary policy decisions; and (ii) to allow under-spending compared to the expenditure ceilings in 2018 and 2019 to be effectuated in later years after the current government's period.

4.1.4. DEBT SUSTAINABLITY ANALYSIS AND FISCAL RISKS

Short-term and medium-term fiscal risk indicators do not give cause for concern. The European Commission's short-term indicator S0 ([17]) does not flag significant fiscal risks. The medium-term S1 indicator, which measures the effort required to achieve a debt level of 60% of GDP by 2033 ([18]), is also negative (-3.2% of GDP). This implies low fiscal sustainability risks, which is explained by a debt level below the reference value. The low short-term and medium-term risk is consistent with the 'AAA' rating given to Dutch government debt by the three major credit rating agencies, and with low spreads on sovereign yields and credit default swaps.

The fiscal sustainability gap indicator (S2) points to medium risk in the long term ([19]). This is mainly due to the projected increase in ageing costs. While the Netherlands scores well on the fiscal sustainability of its public pension system and other age-related public expenditures, spending on long-term care stands out. In the baseline reference scenario, public spending on long-term care is expected to grow from 3.5% of GDP in 2016 to 6% of GDP in 2070, with both at a much higher initial level and rising much faster than in peer countries. In this context, while the 2015 reform in the long-term care system aims to increase the efficiency of the system and contain public expenditures, more recent policy measures such as the additional investment to meet the requirements of the quality framework for nursing homes go in an opposite direction. The government also softened the increase in the first-pillar retirement age and its link to life expectancy.

([16]) Fixed in real terms; the expenditure ceilings are indexed with wage and price developments.

([17]) The S0-indicator aims to detect of fiscal stress early on stemming from risks within a one-year period, making use of the signalling power of its components (a set of 25 indicators)

([18]) The medium-term sustainability indicator (S1) shows the additional adjustment required, in terms of improving the government structural primary balance, over 5 post-forecast years to achieve a 60% public debt-to-GDP ratio by 2033, including financing for future additional expenditure arising from population ageing.

([19]) The long-term sustainability indicator (S2) is currently 2.8% of GDP in the Netherlands. This shows the upfront adjustment needed to the current primary balance (in structural terms) to stabilise the debt-to-GDP ratio over the infinite period, including financing for any additional expenditure arising from an ageing population.

4.2. FINANCIAL SECTOR

4.2.1. BANKING SECTOR

Overall the banking sector appears resilient. Dutch banks remain well capitalised, with a common equity tier 1 ratio of around 17% (well above the euro area average of 14.8%). Profitability has improved over the last 5 years and the return-on-assets stood at 0.5% in Q2 2019 while the return-on-equity reached 8.7% (see Table 4.2.1).

Table 4.2.1: **Financial soundness indicators**

	2014	2015	2016	2017	2018	2019q2
Non-performing loans	3,4	2,7	2,4	2,1	1,9	1,8
o/w NFC & HH sectors	3,8	3,2	3,0	2,7	2,5	2,4
o/w NFC sector	6,3	5,3	5,3	4,8	4,3	4,2
o/w HH sector	2,1	1,7	1,3	1,2	1,1	1,0
Coverage ratio	37,8	37,8	35,6	29,8	26,2	24,4
Return on equity	3,3	7,0	7,3	8,8	8,1	8,7
Return on assets	0,2	0,4	0,4	0,5	0,5	0,5
Total capital ratio	18,4	20,6	22,4	22,1	22,4	22,6
CET 1 ratio	14,4	14,6	15,7	16,8	17,0	16,9
Tier 1 ratio	15,4	16,6	17,9	18,6	19,0	18,7
Loan to deposit ratio	127,0	122,2	119,6	117,7	117,6	118,7

Source: ECB

Despite banks' overall financial soundness and a low level of non-performing loans, there are underlying risks linked to their mortgage exposure. The share of non-performing loans continued to decrease across all sectors, reaching 1.8% in mid-2019, a 10% decrease compared with the year before. However, with mortgage debt levels remaining high and continued house price rises (see subsections 4.2.3 and 4.2.4), combined with risk weights at low levels, risks are building up. In recent years, several measures have been taken to rein in mortgage debt growth. This includes taking macroprudential policy steps (European Commission, 2018a) as well as reducing tax incentives for taking on mortgage debt (see Section 4.2.3 below). In addition, to further improve financial sector resilience against vulnerabilities associated with the banking sector's high mortgage debt exposure, the Dutch central bank intends to introduce a risk weight floor for banks' mortgage holdings, with the level of the floor linked to the loan-to-value ratio of the underlying loans ([20]). The floor is expected to come into force in autumn 2020.

Although Dutch banks are well capitalised, they continue to rely heavily on market funding, and leverage remains high. The financial sector's solvency position and capital ratios continue to exceed regulatory requirements. Both capital adequacy and the tier 1 ratios improved further, reaching 22.6% and 18.7% in Q2-2019. Given the gap between actual lending and its long-term trend, the countercyclical buffer has been kept at 0% by the Dutch central bank (DNB, 2019b). At the same time, the additional buffers imposed on the five systemic banks remain in force, and their gradual build-up should be completed this year. However, despite its relatively high capital ratios relative to risk-weighted assets, the banking sector continues to be highly leveraged. Its leverage ratio (capital and reserves as a share of total — i.e. non-risk-weighted — assets) has declined somewhat, to 5.8% in June 2019. This is one of the lowest levels in the euro area. The sector also continues to rely heavily on market financing, with deposits as a share of total liabilities declining further to 48.7% in September 2019. Consistent with this, the loan-to-deposit ratio started to pick up again, reaching 118.7% in Q2-2019 — one of the highest levels in the euro area.

Dutch banks will also have to comply with the final Basel III framework from 2022, implying a significant boost to minimum capital requirements. According to analysis by the European Banking Authority (European Banking Authority, 2019), this reform could increase the tier 1 minimum required capital and will affect mainly the large and systemically important banks (Bank for International Settlements, 2017). Although Dutch banks should be able to fulfil the new requirements, the impact on their capital position could be significant([21]). However, since the new framework provides for a 5-year implementation period, beginning in 2022, any additional capital needs will be phased in gradually.

Dutch banks maintain healthy profitability, although margins are coming under pressure. The sector's return on equity stayed almost flat (8.7% in Q2-2019, from 8.8% the year before). At 73.8%, the net interest margin in mid-2019 is on an upward trend and one of the highest in the EU.

([20]) According to central bank estimates, this measure will boost average risk weights in the Dutch banking system to 14-15%, from around 11% at present (DNB, 2019b).

([21]) The three largest Dutch banks face an expected additional capital requirement of €7 billion in Common Equity Tier 1 and €4.6 billion in additional tier 1 (AT1) capital instruments (DNB, 2019b).

However, with low interest rates putting pressure on margins, banks are looking for ways to improve their returns. One strategy that banks are focusing on is increasing efficiency by introducing digital solutions and reducing the number of branches (European Central Bank, 2019b; DNB, 2019c). Another, potentially more worrying, emerging trend is that banks appear to be easing their lending conditions and acceptance criteria for mortgage loans and credit facilities for non-financial corporations (European Central Bank, 2019a). While the latter could have a positive impact by addressing genuine financing bottlenecks (e.g. in relation to small and medium-sized enterprises; see subsection 4.2.2), it also risks increasing the vulnerability of banks' loan books to shocks.

The Netherlands has deep financial markets that are attractive for international players. The Dutch market is attracting various new financial players, partly due to its technical and logistical infrastructure. Moreover, Cboe Global Markets Inc., one of the world's largest exchange holding companies, has entered into an agreement to acquire European Central Counterparty NV (EuroCCP), a Dutch equity clearing firm, increasing the potential for developing derivatives clearing capabilities in the Netherlands. However, the growing prominence of electronic trading and the arrival of new trading platforms raise concerns over IT risks, the control of trading algorithms in volatile markets and supervision of market abuse in rapidly moving and globally dispersed markets. To support market operators, the Dutch central bank and the Dutch Authority for Financial Markets have already put forward several initiatives ([22]) to inform on relevant risks and opportunities.

Sustainable finance

The financial sector plays a key role in mobilising finance to fulfil the environmental sustainability agenda. At international level, the Dutch central bank is one of the founding members of the Network of Central Banks and Supervisors for Greening the Financial System, which aims to strengthen the efforts of the financial sector in meeting the climate goals. At national level, the Dutch central bank set up the Sustainable Finance Platform, which aims to promote and increase awareness of sustainable funding in the financial sector. Due to the risks that the energy transition might have on financial institutions, the central bank is also including the data on sustainable assets owned by financial institutions in its stress test scenarios. Furthermore, Dutch banks have pledged to measure, monitor, manage and reduce the environmental footprint of their balance sheets.

Anti-money laundering

The Netherlands is among the countries with the largest flows of inward and outward foreign direct investment. In 2017, this involved a total amount of over €4.5 trillion. A substantial part of these flows (some 80%) is ultimately transferred to a foreign destination through special purpose entities, letterbox or shell companies with no real economic activity in the Netherlands (CBS, 2018b). Against this backdrop, it is key that entities involved in company and trust formation (trust and company service providers (TCSPs), tax advisors, public notaries, lawyers) are aware of the money laundering risks linked to those business structures.

The 2017 national risk assessment considers the money laundering risks posed by TCSPs and by complex fiscally driven legal structures as high and medium-high, respectively.([23]) The national risk assessment justifies the high risk rating for TCSPs with the fact that these services are often directed towards fiscally-driven structures of legal entities, which are vulnerable to misuse. Inadequate understanding of risk exposure to money laundering by professionals that service such entities, particularly when complex schemes are involved, hampers their role as gatekeepers. Trust and company service providers, including legal professionals and tax advisors, are the first line of defence against money laundering risk, as they are involved in company formation. However, statistics provided by the Dutch Financial Intelligence Unit on unusual transaction reports (UTRs) highlight concerns in this area. The number of UTRs filed by TCSPs has been low and

([22]) These include the InnovationHub, the Regulatory Sandbox, and the general principles for using artificial intelligence in the financial sector.

([23]) See van der Veen et al. (2017), p. 40 and Table 6.1 on p. 64.

declining in recent years ([24]). The number of UTRs filed by tax advisors has been low as well ([25]).

The Dutch administration has proposed some measures to combat the misuse of company and legal structures for money laundering purposes. The prevention of letterbox companies is also one on the measures mentioned in the Dutch Anti-Money-Laundering (AML) Action Plan from mid-2019 (Ministry of Finance, 2019d), with a specific focus on the trust sector. Also stricter rules to monitor TSCPs is an important part of the AML Action Plan, as well as the establishment of the ultimate beneficial owner registers on legal entities and on legal arrangements. However, the laws setting up the registers have not been adopted yet. Upon adoption and establishment of the registers, operators will have 18 months to register, well after the deadlines of 10 January and 10 March 2020 laid down in EU law.

The criminal investigation into the AML compliance practices of Dutch bank ING led to an out-of-court settlement, including a record fine, in September 2018. The settlement found ING guilty of criminal offences in violating compliance rules on anti-money-laundering and combating terrorism financing.([26]) Another investigation linked to ABN Amro Bank is ongoing. These cases illustrate how the services provided by the big financial institutions are exposed to money laundering risks, and also draw attention to systemic issues in relation to AML supervision and enforcement in this sector.

4.2.2. ACCESS TO FINANCE

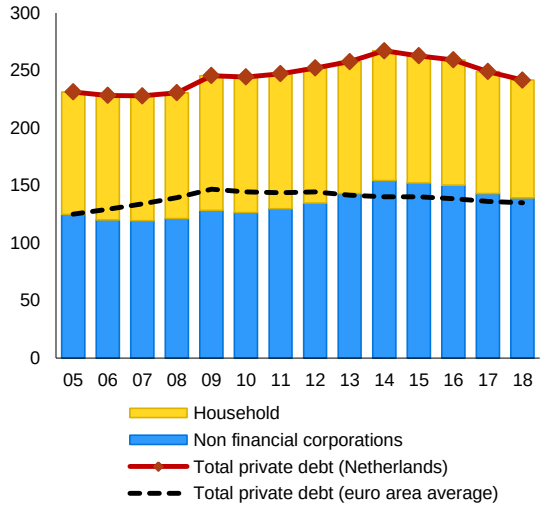
Access to finance for smaller companies is hampered by some bottlenecks, in part linked to a high degree of market concentration in the banking sector. While sufficient financing seems to be available to fund larger, low-risk investments, smaller Dutch companies experience a relatively high rejection rate for credit applications. Firms taking out smaller loans are also charged wider mark-ups on average compared to peer countries (European Commission, 2019a). This may be due to the high market concentration in the Dutch banking sector (European Commission, 2019a) and the absence of a national credit register (Dubovik et al., 2019; van Solinge, 2019). However, in recent years some alternative (non-bank) providers of financing have emerged. These are challenging the dominant position of traditional banks as lenders to small and medium-sized enterprises, including by offering a wider range of financial instruments. Moreover, the Dutch authorities are considering creating new instruments and expanding existing instruments ([27]) to improve access to finance for small and medium-sized companies (EZK, 2019a).

4.2.3. PRIVATE DEBT*

Private debt continues to decline gradually, but remains high by international standards. At the end of 2018, it amounted to 242% of GDP. This represents a significant reduction from its peak of 267% of GDP in 2014, but remains well above the euro area average of about 135% of GDP (Graph 4.2.1). Both household debt, at 102% of GDP, and non-financial corporate debt, at 140% of GDP, far exceed the prudential and fundamental threshold([28]) levels of 65% and 96% of GDP (prudential) and 75% and 104% of GDP (fundamental) respectively, according to Commission calculations. However, the high level of corporate indebtedness is mainly due to the debt of multinationals (about 60% of total non-financial corporate debt). As this consists largely of intra-group debt, it does not raise immediate financial stability concerns (European Commission, 2019a and 2018a). With regard to private debt, the main concern is therefore household debt.

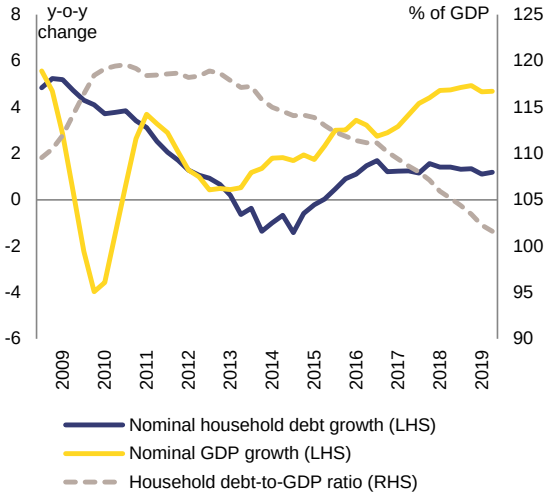
([24]) Dutch trust offices filed 60 UTRs in 2016, 49 in 2017 and 19 in 2018 (Financial Intelligence Unit, 2019, p. 43).
([25]) Tax advisors filed 20 UTRs in 2016, 18 in 2017 and 20 in 2018 (Financial Intelligence Unit, 2019, p. 43).
([26]) For an in-depth analysis of the surrounding events, see European Commission (2019g).
([27]) These include offering support to regional development undertakings (*regionale ontwikkelingsmaatschappijen*); holding discussions with pension funds and other institutional investors to facilitate investments in small and medium-sized companies; encouraging the 'alternative sector' of credit by expanding a number of existing instruments; and assessing the need for a national credit register.
([28]) Fundamentals-based benchmarks are derived from regressions capturing the main determinants of credit growth and taking into account a given initial stock of debt. Prudential thresholds represent the debt level beyond which the probability of a banking crisis becomes relatively high, based on a signalling approach (European Commission, 2017a).

Graph 4.2.1: **Private debt developments versus euro area average**



Source: Eurostat

Graph 4.2.2: **Household debt versus GDP growth**



Source: Eurostat

Household debt continues to decline as a share of GDP, although it is still increasing in nominal terms. Following the post-crisis housing market correction, nominal household debt declined over the course of 2013-2014 as households actively deleveraged. As house prices started to recover, debt growth started rising again. However, at a pace of around 1-1.5% year-on-year, it has remained subdued, both compared with pre-crisis household debt developments and relative to nominal annual GDP growth of 2% to 5% (Graph 4.2.2). This is in part attributable to policy measures to rein in mortgage debt growth, including restrictions on interest-only loans (see below) as well as tighter rules for loan-to-value and loan-to-income ratios. Voluntary mortgage repayments, which became financially attractive due to low interest rates on deposits, also played a significant role (DNB, 2018a). Going forward, household debt growth appears likely to pick up somewhat, as the sharp house price rises seen in recent years (see subsection 4.2.4) feed through into higher mortgage amounts for new borrowers.

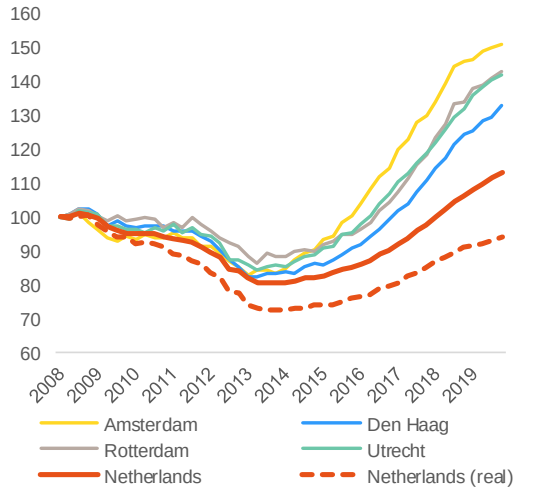
Mortgage interest tax deductibility is being reduced, but remains generous. High household indebtedness is largely due to mortgage debt, which is fuelled by the fact that mortgage interest on owner-occupied homes is treated as a fully deductible expense in income taxation. Dutch authorities have taken some steps to limit this, both by disqualifying new interest-only mortgages from tax deductibility (in force since 2013) and by reducing the maximum applicable rate at which mortgage interest is deductible. This reduction was very gradual at first (0.5 percentage points per year from 2014), but from 2020 it will proceed at an accelerated pace, with the maximum rate lowered in three steps from 49% at present to 37% in 2023. However, this reduction only affects households in the top tax bracket (some 10% of the labour force), and a rate of 37% still signifies a strong implicit subsidy on mortgage borrowing, currently amounting to around €10 billion (1.4% of GDP). It also contrasts with policies in other EU countries, where mortgage interest deductibility has mostly been phased out or capped at a relatively low nominal amount, or where the applicable rate is substantially lower. ([29])

([29]) See Geng (2018), p. 12, for an overview of mortgage interest deductibility rates in a number of countries that have implemented reforms in this area.

4.2.4. HOUSING MARKET*

The housing market upswing continues, albeit at a slower pace and with significant regional differences. At national level, nominal house price growth slowed from 9% in 2018 to around 6% in 2019. In major cities, where the recovery in prices had been particularly steep, the market cooled more notably. This was especially the case in Amsterdam, where prices rose by about 3% over the course of 2019 – just slightly above inflation – following price rises of 10-15% per year since 2016. Nationwide, house prices are now around 12% above their pre-crisis peak although they remain somewhat lower in real terms, whereas in the largest cities prices are substantially above previous highs (Graph 4.2.3).

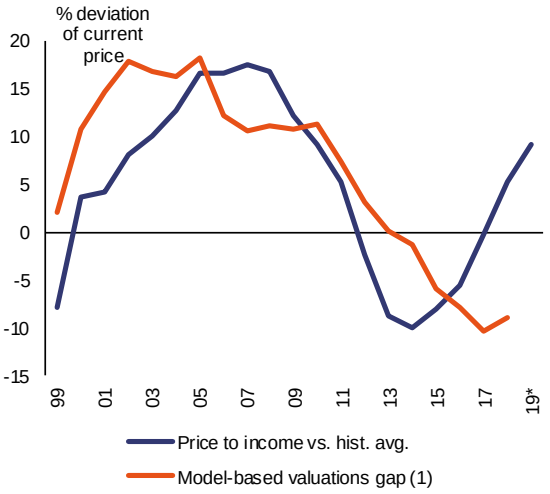
Graph 4.2.3: **House price developments (2008 Q1 = 100) (1)**



(1) Prices exclude new-build homes and are in nominal terms unless otherwise stated
Source: Statistics Netherlands (nominal house prices); Eurostat (deflated house price index)

While valuation indicators do not show clear signs of overheating at present, the risk that house prices exceed fundamentals appears to be rising. At national level, the price-to-income ratio (a valuation indicator linked to housing affordability) rose to about 9% above its long-term average in Q3 2019 (Graph 4.2.4). A model-based estimate still points to undervaluation based on 2018 data (although this is partly a reflection of relatively weak residential investment in the post-crisis period combined with low interest rates). Overall, with continued above-income price rises, it appears increasingly likely that the housing market will re-enter overvalued territory. This is particularly the case for regions where price growth has outstripped the national average and key indicators, notably the price-to-income ratio, appear more stretched. For Amsterdam, for example, econometric models do indeed suggest that price developments have already decoupled from fundamentals for several years (Houben et al., 2017). Risks related to the Dutch housing market are also highlighted in the European Systemic Risk Board recommendation to the Netherlands issued in June 2019 (ESRB, 2019).

Graph 4.2.4: **House price valuation indicators**



(1) The model-based gap is based on a vector error correction model estimated on a panel of EU countries, using five fundamental variables (relative house prices, population, real housing investment, real disposable income per capita and real long-term interest rates).
(*) 2019 price-to-income ratio based on Q3 figures.
Source: European Commission

On the demand-side, house prices are supported by the favourable tax treatment of owner-occupied housing. Under the Dutch tax system, most investment assets are subject to income taxation based on a deemed rate of return under the '*box 3*' approach, implying annual tax payments of about 0.9-1.6% of their net financial value under current rules([30]). Owner-occupied

([30]) From 2022, the rules pertaining to '*box 3*' taxation will change somewhat, with a differentiated deemed rate of return for cash savings versus other financial assets. In addition, debt used to acquire an asset (e.g., a rental property) will be factored in using a separate deemed interest rate rather than simply deducted from the asset value. The overall effect of these changes will be to further widen the difference in tax treatment between owner-

housing is exempted from this approach, and is instead subject to a (generally lower) recurrent property tax([31]). Moreover, when financed with a mortgage, it benefits from a substantial additional tax advantage linked to mortgage interest tax deductibility (see subsection 4.2.3). Overall, these tax benefits represent a significant subsidy that favours owner-occupied housing over other investment opportunities as well as over rental housing. Möhlmann et al. (2019) estimate that their impact on house prices (relative to a fully neutral taxation scenario([32])) amounts to around 10%, and on the share of rental homes in the overall housing market to around 5 percentage points.

Demand for owner-occupied housing is also driven by the lack of a viable alternative on the rental market. The Dutch housing market is characterised by large owner-occupied and social housing sectors, each of which are subsidised through different channels([33]). The private rental market is the only sector not receiving any subsidy, and with a share of about 13% of the overall number of homes it remains relatively underdeveloped. This leads to poor availability of rental housing and high rent levels. As a result, middle-income households – whose earnings are above the social-housing ceiling yet often insufficient to comfortably afford private-sector rents – can be pushed into (largely mortgage-financed) home ownership. This particularly concerns younger families, leading to a relatively young average first-time buyer age accompanied by high debt-to-income and loan-to-value ratios. This, in turn, creates potential financial vulnerability issues for this age group (DNB, 2019b; European Commission, 2017b).

The housing supply continues to fall short of estimated needs, particularly in major cities. Following the financial crisis, the Netherlands experienced a prolonged period of weak residential construction (European Commission, 2019a). This resulted in a significant housing shortage, estimated by the Dutch authorities to be around 294 000 homes in 2019, equivalent to 3.8% of the overall housing stock (BZK, 2019a). Shortages in large metropolitan areas are especially severe, amounting to 5-7% of the local housing stock (ABF Research, 2019). To address the existing shortage as well as expected demographic developments, the government set a target for net new housing of 75 000 homes per year until 2025 (BZK, 2018a). Thanks to a gradual recovery in construction output, this target was just about met in 2018 and 2019, but a sharp fall in building permits in 2019 (partly linked to the 'nitrogen problems' ('*stikstofproblematiek*'), see below) suggests this is unlikely to be the case in the coming years (Graph 4.2.5). Moreover, the 75 000 target possibly understates actual building needs going forward ([34]), so even if it is achieved shortages may well persist.

occupied housing and other financial investments (except for cash).

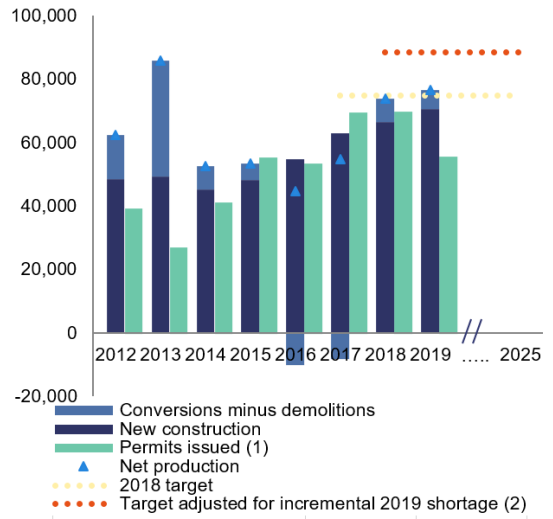
([31]) Owner-occupied homes are taxed by adding the '*eigenwoningforfait'*, calculated as a percentage (0.65% for most properties) of the assessed value to employment income, which is then taxed at the marginal rate (currently about 37-52%). If the *eigenwoningforfait* exceeds mortgage interest, it is capped at that level so that no net tax is payable, although from 2019 this is gradually being phased out over a period of 30 years (European Commission, 2018a).

([32]) In particular, taxing an owner-occupied home in the same way as any other investment asset (under '*box 3*'), combined with a generalised exemption for the first €300 000 in assets (whether housing or not) per household from taxation under '*box 3*', abolishment of the 2% transfer tax for owner-occupied homes, and a generic reduction in income taxes to maintain overall budget neutrality.

([33]) For owner-occupied housing, the subsidy results from the favourable tax treatment discussed above. For the social housing sector, it mainly stems from land values: by designating land as intended for social housing in zoning plans, it can be sold to social housing corporations at a fraction of the price of land intended for regular residential construction.

([34]) This is due to the fact that estimates of the current housing shortage have been significantly revised upwards since the 75 000 target was set in mid-2018 (see note to Graph 4.2.5). More recent private-sector estimates of construction needs are also higher; e.g., ABF Research (2019) estimates that another 20 000 to 40 000 homes will be needed above and beyond the 75 000 target.

Graph 4.2.5: **New housing supply versus expected needs**



(1) For 2019, permits issued extrapolated to full year based on monthly data for January-November.
(2) At the time the 2018 target was set, the projected housing shortage for 2019 was about 200 000 homes (BZK, 2018b). In 2019, the actual housing shortage was estimated at 294 000 homes (BZK, 2019). The adjusted target (dotted red line) allocates this incremental shortage evenly over 2019-2025 period.
Source: Statistics Netherlands (historical data); BZK (2018a) (2018 target)

Cyclical and structural bottlenecks are constraining housing supply and raising construction costs. As a result of a sharp fall in building activity after the financial crisis, both the construction sector and municipal planning departments declined in size. Following the subsequent recovery, developers now face increasingly tight capacity constraints. From a more structural perspective, a key impediment for more construction is a lack of buildable land: the amount of land allocated to housing has risen at a far slower pace than new residential construction, and remains scarce both by international comparison and relative to land designated for other purposes, such as industrial use. This is in part linked to the role of local governments: decisions on zoning plans are generally made by municipalities and are thus not necessarily conducive to addressing overall housing needs (Michielsen et al., 2019). This can translate into cumbersome and unpredictable requirements being imposed on projects, raising costs and reducing scope for exploiting economies of scale. Another, partly related, issue are long throughput times in the planning and development process, particularly for inner-city construction, which creates further uncertainty for developers. As a result, the responsiveness of housing supply to house price rises in the Netherlands is one of the lowest among OECD countries (Caldera et al., 2013).

The 'nitrogen problems' (*'stikstofproblematiek'*) create additional near-term downside risks to new housing construction. As a result of a judgment of the Council of State in June 2019, construction projects leading to the incremental deposition of a number of harmful nitrogen compounds near to 118 *Natura 2000* nature protection areas across the Netherlands are generally no longer permitted without compensatory measures (see Box 1.1 in Section 1). Estimates indicate this would reduce housing completions by about 36 000 dwellings cumulatively over 2020-2024 in a scenario with no mitigating policy steps (Manshanden et al., 2019). Although the government has announced a package of measures to alleviate the judgment's impact on new construction (LNV, 2019), it remains a significant source of uncertainty.

Policy developments

The Netherlands has taken some steps to improve rental market functioning in recent years, albeit with a limited impact so far (European Commission, 2019a and 2018a). These include measures to allow higher rent increases for '*scheefhuurders*' (middle and high income earners in social housing), a regulatory change facilitating more short-term rental contracts since 2016, and the possibility for municipalities to designate a portion of dwellings as intended for the private rental sector in their zoning plans since 2017. While positive steps, so far these measures have not translated into a meaningful expansion of the private rental sector relative to the overall housing market.

In September 2019, a package of further housing market measures was announced, aimed primarily at boosting construction. Investment subsidies of up to €1 billion, distributed over a period of 4 years, will be made available to municipalities where shortages are most acute. A further €1 billion, spread evenly over 10 years, will be allocated to targeted tax reductions for social housing corporations building new homes. These measures could, over time, contribute to raising new housing construction, but

significant implementation uncertainty remains. In particular, it may be challenging to determine that new homes built under the schemes genuinely represent a net addition to the housing stock, rather than projects that would have happened anyway or that simply shift resources away from other potential developments.

Other recent policy steps risk having a limited or even negative impact on the supply of private rental housing. In May 2019, legislation was adopted to simplify the market criterion ('*markttoets*') for social housing corporations. This should allow them to engage in construction of mid-priced (non-regulated) rental housing more easily. However, against the current backdrop of strong private-sector development activity and capacity constraints in the construction sector, this appears unlikely to create significant incremental rental housing supply in the near-term, while – if successful in the longer run – it risks crowding out the role of the private sector in the non-regulated rental market. In addition, adjustments to the rent-setting system for social housing([35]), announced as part of the September 2019 housing market package mentioned above, imply that more homes remain in the regulated sector rather than transitioning to the private rental market. Moreover, measures to discourage 'buy-to-let' purchases (also proposed as part of the same package) may favour expansion of the owner-occupier market at the expense of rental housing availability.

4.2.5. PENSIONS*

The three-pillar pension system scores well on pension adequacy and fiscal sustainability. The first pillar is the pay-as-you-go state pension, which is non-means-tested and independent of employment history([36]). It is funded by a specific contribution and general income taxes, with a current cost of about 5% of GDP. To limit its fiscal impact, the statutory retirement age has been linked to life expectancy since 2012.([37]) The second pillar is typically organised at industry or company level and is capital-funded, with compulsory participation. Although there has been a gradual shift towards defined contributions in recent years, about 90% of all participants still fall under (quasi-)defined-benefit([38]) pension schemes. The third pillar is formed by individual pension plans, supported by a targeted tax relief on premiums paid on such products. The first and second pillar aim to provide a retirement income that replaces around 75% of the average lifetime gross salary. Given that retirees are exempted from paying the specific first pillar pension contribution, net replacement rates are often around 100% (OECD, 2017a).

Second-pillar pension contributions are a key driver of relatively high compulsory savings, having a significant impact on the savings/investment balance. With a typical contribution rate of around 20% of gross earnings, second-pillar premiums are responsible for the bulk of the comparatively large non-tax compulsory payment wedge in the Netherlands (Graph 4.2.6). As such, they can lead to suboptimal consumption smoothing across different lifetime phases, particularly as younger households typically also experience significant forced savings via principal repayments on relatively large mortgages (see subsection 4.2.2). In contrast, older age cohorts on average enjoy

([35]) In particular, lowering the weight of the assessed value ('*WOZ-waarde*') in setting the maximum rent for a property, which in turn determines whether it falls within the social (regulated) or private rental sector.

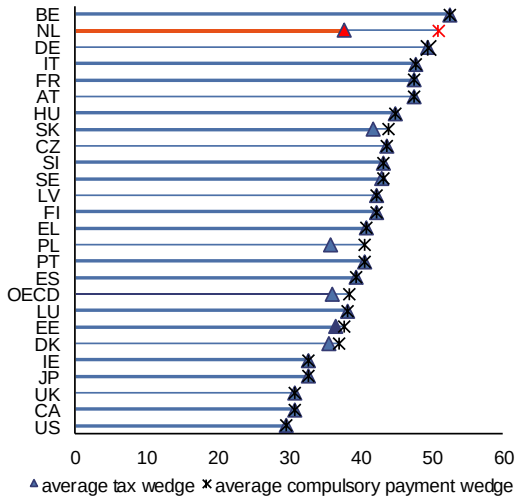
([36]) It is, however, dependent on residency history in the Netherlands. This can be relevant for e.g. migrant workers, as the period before their arrival does not give rise to state pension entitlements in the Netherlands.

([37]) As part of the pension agreement of June 2019 (further discussed below), it was decided that the steps with which the retirement age will rise will become less steep. In the original system, a one year rise in remaining life expectancy at 65 would lead to a one year rise in the retirement age. In the new system, a rise in life expectancy with one year will lead to a rise in the retirement age of 8 months.

([38]) These second-pillar pension funds have some features of standard defined-benefit schemes, in that they target a defined retirement income through their investment strategy, which is used to calculate the present value of future pension pay-outs. However, they also share some characteristics of defined-contribution schemes, as the final benefit can be adjusted over time depending on the financial performance of the underlying investments. Generally, pension funds aim to index benefits with wages or inflation, but if the asset/liability ratio deteriorates, they can be frozen or cut in nominal terms. Nevertheless, there tends to be a perception that expected benefits are guaranteed (rather than merely targeted). This expectations mismatch has negatively affected trust in the system as cuts became necessary in recent years (European Commission, 2019a). Partly linked to this, specific policy measures were taken in November 2019 to limit the risk of further cuts in the near-term (SZW, 2019c).

high pension income, with limited housing expenses and lower overall living costs. At macroeconomic level, compulsory savings via pension funds are a significant driver of the household sector's savings/investments imbalance (European Commission, 2019a) and therefore of the overall current account surplus (see subsection 4.2.6).

Graph 4.2.6: **Compulsory payment wedge on labour income (2018)**



The chart shows the average compulsory payment wedge and average tax wedge for single taxpayers without children and with average earnings.
Source: OECD (2019a)

The funding ratio of pension funds is negatively affected by falling interest rates, triggering adjustments that dampen the impact of monetary policy transmission. The defined-benefit nature of most second-pillar funds implies that the present value of their liabilities – i.e., future pension pay-outs – increases as interest rates decline. The resulting asset/liability mismatch can make it necessary to forgo anticipated benefit increases, raise premiums, or cut benefits outright (Lever et al., 2018). This has a negative impact on disposable household income and can encourage precautionary savings behaviour, weighing on household consumption when monetary policy aims to stimulate domestic demand.

The second pillar in its current form also has structural drawbacks in terms of coverage, transparency and intergenerational fairness. The Dutch pension system emerged in the mid-twentieth century, and was mainly geared towards workers remaining employed within the same company or sector throughout their working lives. As it now stands, it is not well equipped to deal with current structural labour market trends, including flexible career paths with increasing job mobility between sectors and a growing share of self-employed workers (who are not normally covered within the system). In addition, the system involves systematic redistribution from younger to older workers, via the 'average contribution, average accrual' (*'doorsneesystematiek'*) approach ([39]) (CPB, 2018). As this makes the link between contributions and pension savings less clear, it also reduces transparency.

The social partners and government reached a framework agreement on pension reform in June 2019. Overall, the agreement aims to address vulnerabilities in the pension system while maintaining its strengths: compulsory participation, collective implementation, collective risk sharing and supportive tax rules. The agreement and its subsequent implementation steps imply a number of key changes, including (SZW, 2019a, 2019b and 2019c):

- Transitioning from the current *doorsneesystematiek* to an actuarially fair system. This will be based on a fixed contribution percentage combined with an accrual rate that declines with age, reflecting the shorter investment horizon for premiums from older workers.

- A tighter linkage between changes in pension funds' financial position and pay-outs, implying a lower threshold for both benefit increases and cuts (albeit smoothed over a period of up to 10 years in most cases). This also implies that benefit adjustments, rather than premium changes, will become the primary mechanism to absorb asset/liability imbalances.

- More individual flexibility in using accumulated pension assets, in particular the option to redeem part of it as a lump-sum payment at the pensionable age under certain conditions.

([39]) In the current set-up, pension contributions paid in at any point of one's career entitles the beneficiary to the same amount of pension benefits, irrespective of their age and the investment horizon. While this system facilitates collective risk sharing, it is not actuarially fair

- A slower increase in the first-pillar retirement age (see subsection 4.1), and more scope for workers in occupations deemed particularly arduous to retire earlier.

- The introduction of mandatory disability insurance for the self-employed (see subsection 4.3.1).

Overall, effective implementation of the planned reform could address key challenges in the second-pillar system. In particular, it removes the structural intergenerational transfers present under the *doorsneesystematiek* approach([40]), reduces the procyclical impact of the system (as market shocks should no longer impact premiums), and is better equipped to deal with flexible career paths. Some further potential changes are still under discussion and will depend on the outcome of preparatory research and consultation work. This includes introducing wider and more flexible coverage options, including for self-employed workers (albeit on a voluntary basis), as well as further increasing individual flexibility, for instance by opening up the possibility to allocate part of pension premium payments to mortgage amortisation (SZW, 2019b).

While the planned reform holds significant promise, implementation is still ongoing. At present, an agreement on overall principles is in place. Crucial aspects are still to be decided upon under the guidance of a steering committee of social partners and government. This includes the precise rules for adjusting pension benefits based on funding ratio changes, as well as compensation mechanisms for age cohorts who will loose out under the new system (Zwaneveld, 2019). The legislative process is expected to take until early 2021, with the new framework gradually being phased in from 2022. Implementation of the pension agreement should therefore be closely monitored.

([40]) However, the new system could still involve some degree of systematic intergenerational transfers depending on the precise rules governing benefit adjustments based on funding ratio developments.

4.2.6. SAVINGS AND INVESTMENT IMBALANCE*

The Dutch economy's long-standing current account surplus widened to a record 11.2% of GDP in 2018 before declining somewhat. From a balance of payments perspective, the surplus is almost entirely attributable to a structural positive trade balance in goods of about 9% to 10% of GDP (Graph 4.2.7). In terms of product groups, exports of chemicals, foodstuffs and animal products make a significant contribution. Over half of total exports are re-exports, linked to the port of Rotterdam's role as a global trade and logistics hub, with an estimated overall impact on the goods surplus of at least 3% of GDP (Suyker et al., 2019; CBS, 2017). Trade in services and the primary income balance have limited net impact on average ([41]), but do contribute substantially to the year-to-year volatility of the overall surplus. In 2019, the latest available quarterly data([42]) suggest that the current account surplus has started to fall somewhat. It is expected to decline further in the coming years as import growth outpaces exports, reflecting a weakening external environment combined with relatively robust domestic demand (linked to accelerating wage growth and an expansionary fiscal stance, see sections 1 and 4.3.1).

The current account surplus is well above fundamentally justified levels. According to Commission current account 'norm' estimates ([43]), fundamental drivers explain only around 4 percentage points of the surplus. The most important explanatory factors for the Netherlands are its relatively high income level per person, expected ageing relative to the rest of the world,

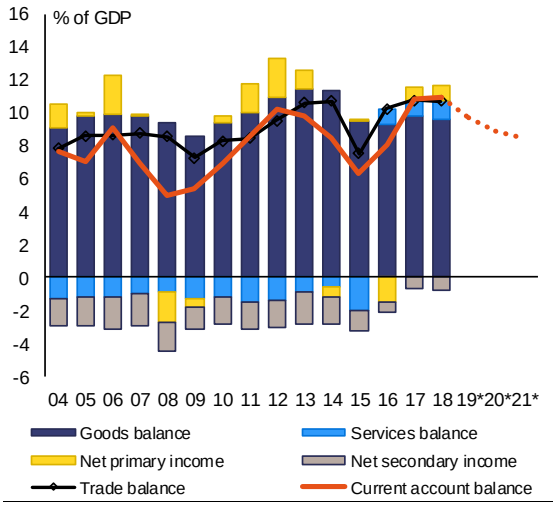
([41]) The underlying inflows and outflows, however, are sizeable, amounting to around 20% of GDP for services trade and 35% of GDP for primary income flows. This is in part linked to the activities of multinationals, which can involve significant intra-group payments categorised as services trade or primary income flows (Suyker et al., 2019). In addition, the second-pillar pension funds (see subsection 4.2.5) are a significant primary income recipient, as their assets are largely invested abroad.

([42]) Over the latest four quarters for which data is available (Q4-2018 to Q3-2019), the current account balance stood at 9.7% of GDP.

([43]) This benchmark is derived from regressions capturing the main fundamental drivers of the saving-investment balance (e.g. demographics, resources), as well as policy factors and global financial conditions (Countinho et al., 2018). Corresponding IMF current account norm estimates suggest a fundamentally justified level in the range of 1.3%-5.3% of GDP for 2018 (IMF, 2019a).

and its status as a corporate financial centre. The latter is linked to its geographical location and infrastructure network as well as its business environment and institutional framework, making it attractive as an international corporate hub.

Graph 4.2.7: **Current account balance components**



Asterisk (*) indicates forecast figures
Source: Statistics Netherlands; European Commission

The large current account surplus is mirrored in savings exceeding domestic investment, with all institutional sectors in surplus. The corporate sector has consistently been the largest contributor, driven mainly by non-financial firms (Graph 1.7 in Section 1). Although households were net borrowers before the crisis, they have since become net savers as a result of deleveraging pressures and relatively weak residential investment. The government sector was running large deficits during the crisis and in its aftermath. Since 2017, the government has turned net lender, although this is set to fade given the current expansionary fiscal stance (see subsection 4.1).

Non-financial corporations are the most important structural driver of the savings surplus, with both large and smaller firms playing a role. Over the past two decades, the non-financial corporate sector has accounted for about 80% of the overall savings surplus on average, albeit with significant volatility. Large companies, and multinationals in particular, have long been known to be a key factor in this (European Commission, 2019a and 2018a; IMF, 2019b), although their precise contribution has been difficult to quantify. Recent research by the Dutch central bank has now made it possible to break down the non-financial corporate surplus by company size using a bottom-up methodology (Graph 4.2.8) (DNB, 2019a). This confirms that Dutch multinationals have made a large but quite volatile contribution([44]) to the surplus, averaging about 4% of GDP since the early 2000s. However, it also shows that small and medium-sized companies play a larger role than previously thought, with a substantial and fairly stable surplus of around 2% to 3% of GDP.

The large surplus contribution from multinationals is due to the sector's size and global investment footprint. While multinationals represent only 1.4% of all companies active in the Netherlands, they account for around 40% of total economic output (CBS, 2018). Dutch multinationals tend to have strong profitability (European Commission, 2019a), and their world-wide earnings are generally fully attributed to the Netherlands in national accounts, even when retained and invested abroad. Due to their global footprint, a large share of these earnings are indeed typically recycled into foreign direct investment across the world. Therefore, Dutch multinationals' (global) retained earnings systematically exceed (domestic) investment, leading to a structural savings surplus.

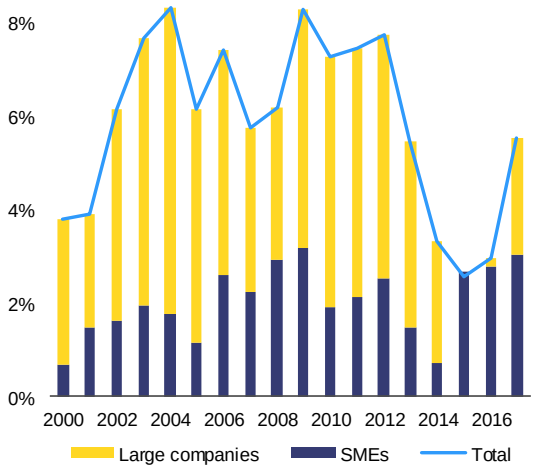
The savings surplus of small and medium-sized enterprises appears to be driven in part by tax incentives discouraging the distribution of retained earnings. Small and medium-sized companies tend to pay out a relatively small share of their profits as dividends (DNB, 2019a). Particularly for firms owned by a small number of shareholders with a controlling interest ('*directeur-grootaandeelhouders*'), this can in part be due to fiscal incentives that favour the accumulation of retained earnings within the company in order to defer or avoid tax payments (Jansen et al., 2014). Some recent tax reforms ([45]) could help address

([44]) In particular, the study shows that large companies (defined as firms with over 250 employees at group level) have on average accounted for about 60% of the overall non-financial corporate surplus since the early 2000s, the bulk of which (about 85%) is due to Dutch multinational corporates. In addition, most of the year-to-year volatility in the corporate surplus is due to a small number of very large corporations.

([45]) These include in particular the phasing out of tax-advantaged internally managed pension plans ('*Pensioen in*

this, although in practice they may shift part of small companies' savings surplus to the household sector rather than leading to an overall reduction. In addition to tax aspects, (perceived) financing bottlenecks (see subsection 4.2.2) are also likely to play a role as they can force companies to retain earnings to fund future investment (DNB, 2019a).

Graph 4.2.8: **Non-financial corporate savings surplus: breakdown by company size (1)**



(1) Companies are classified as large if they have over 250 employees at group level
Source: Dutch central bank (DNB, 2019a)

Housing market dynamics and institutional features of the pension system drive household net saving. Following the financial crisis, the household sector turned from a savings deficit to a significant surplus, peaking at about 4% of GDP in 2014. This was mainly driven by housing market developments: the crisis weighed heavily on new housing investment, while at the same time boosting personal savings via deleveraging pressure linked to high household debt (see subsection 4.2.3). In recent years, residential investment has picked up again as the housing market has recovered (see subsection 4.2.4), resulting in a gradual decline of the household surplus. On a more structural level, household savings are fuelled by the pension system via relatively high second-pillar pension contributions (see subsection 4.2.5) that are largely invested abroad.

eigen beheer') since 2017, and new legislation that will make large debts owed by controlling shareholders to their companies partially subject to tax from 2022.

The corporate and household sector surpluses are subject to statistical distortions, with potentially significant policy implications. As mentioned, a sizeable part of the corporate surplus stems from retained earnings from multinationals. Although in national statistics these are attributed to the Dutch headquarters([46]), their ultimate owners are the (largely foreign) shareholders. Conversely, Dutch pension funds are large portfolio investors in foreign companies, which also have considerable non-distributed earnings. These are not included in Dutch national accounts even though their ultimate beneficiaries are Dutch households (via the second-pillar pension system). Correcting for these distortions lowers the corporate surplus and raises the household surplus by 2% to 4% of GDP (Rojas-Romagosa et al., 2015; Eggelte et al, 2014). These adjustments are roughly offsetting, with only a minor effect on the overall surplus (Adler et al., 2019). Nevertheless, they are relevant from a policy perspective, as the household surplus – unlike the surplus from multinationals – is in part driven by specific policy distortions with wider economic consequences, including 'forced savings' via second-pillar pension contributions (see subsection 4.2.5). The fact that the household surplus is substantially larger than meets the eye underscores the importance of the underlying policy challenges.

Overall, the savings surplus seems primarily driven by excess savings rather than underinvestment. As discussed above, several policy distortions boost savings by households and smaller companies. Conversely, there do not appear to be major structural policy bottlenecks weighing on overall investment ([47]), nor do macroeconomic data point to underinvestment at aggregate level in the Netherlands. Investment as a share of GDP is in fact broadly in line with the euro area average. Moreover, if the long-standing savings surplus reflected a structural lack of investment, its cumulative impact over several decades would be expected to translate into relatively weak labour productivity. In fact, the

([46]) In the national accounting framework, retained earnings are only allocated to their ultimate investor in case of direct foreign investment. For portfolio investments, only actual earnings distributions (i.e. dividends) are considered as flowing back to end investors.

([47]) There are, however, some ad hoc and industry-specific challenges in some areas (e.g., the 'nitrogen problems'). See subsection 4.4, and box 4.4.1 in particular, for further discussion.

Dutch economy remains one of the most productive in the EU (see subsection 4.4).

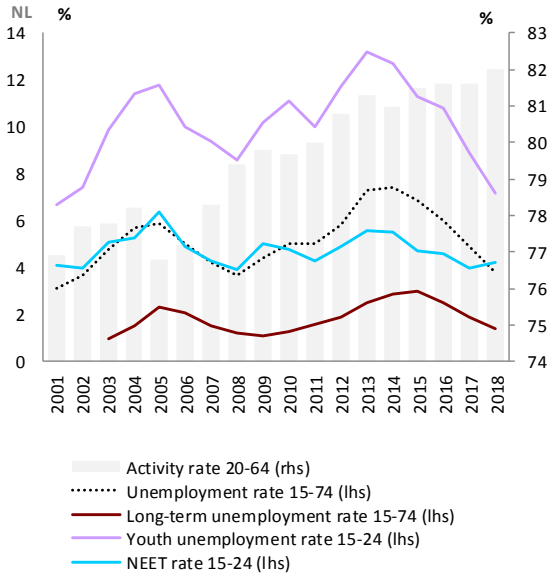
Nevertheless, the large surplus suggests that the Netherlands is leaving some opportunities untapped to raise productive investment or boost the economy more generally. The savings surplus, by definition, means that domestic investment levels can be increased without any need for foreign financing. This opens up opportunities to expand investment in strategic areas that could improve long-run productivity growth or help address key societal challenges (see subsection 4.4 for a discussion of possible investment priorities). From a balance of payments perspective, the high current account surplus implies there can be room to boost wages without an excessive deterioration in competitiveness (DNB, 2016). Finally, as discussed above and in subsection 4.2.5, the surplus is also closely linked to households' suboptimal lifetime consumption smoothing.

4.3. LABOUR MARKET, EDUCATION AND SOCIAL POLICIES

4.3.1. LABOUR MARKET

The labour market is performing well. Labour force participation continues to increase, and was among the highest in the EU at 80.3% in Q3-2019, well above the pre-crisis level. The unemployment rate reached close to historically low levels – 3.4% in 2019 (Graph 4.3.1) – on the back of robust GDP growth. The long-term unemployment rate also stood at 1.4% in Q3 2019 (well below the EU average of 2.5%) and has been declining for all age groups.

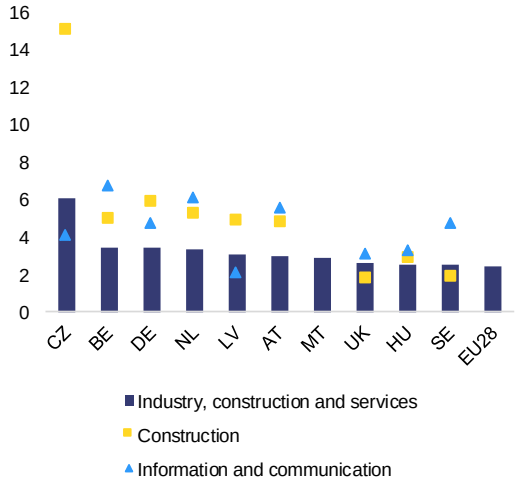
Graph 4.3.1: **Labour market indicators (1)**



(1) NEET: Not in employment, education or training (% of population), total, ages 15-24
Source: Eurostat

Labour shortages have increased further to a record high. The total number of vacancies increased to 284.100 (Q3 2019). The vacancy rate ([48]) reached 3.4% in the third quarter of 2019, and is particularly high in the information and communications technologies, health, construction and hospitality and restaurant sectors (Graph 4.3.2). There is also a growing labour shortage in certain professions, such as primary and secondary school teachers and nurses, albeit with considerable regional variation. ([49])

Graph 4.3.2: **Vacancy rate by sectors (%, Q2 2019)**



Source: European Commission

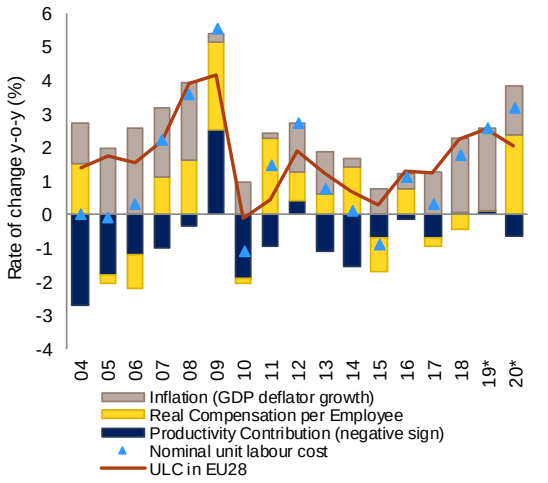
Wage developments*

Real wages have declined somewhat in recent years but are expected to pick up in 2020. In spite of a further tightening of the labour market, nominal compensation per employee increased by 1.7% in 2018 and is expected to have increased to 2.5% in 2019, following 1.0% in 2017, persistently below inflation developments. Wage growth in collective agreements increased on average by 2.6% in 2019 – the fastest in 10 years. Wage increases were the highest in the construction sector (one of the sectors with the biggest labour shortages) and the hospitality and restaurant sectors. In other sectors, wage growth remained relatively muted despite fast-growing vacancy rates. Real wage growth was still [minimal] in 2019 (-0.03%) due to a hike in inflation (linked to the increase in indirect taxes). This hampers consumption growth and with it external rebalancing. The government has repeatedly acknowledged the need for higher real wage growth and has introduced tax measures for 2020, including raising the working tax credit (*arbeidskorting*) and the general tax credit (*algemene heffingskorting*) to stimulate disposable income (see subsection 4.1). The lagged impact on nominal wage growth of robust GDP growth in 2019 and moderating inflation (see Section 1)

([48]) The number of vacant positions as a percentage of the sum of the number of vacant and occupied positions.
([49]) Bijlage: de stand van de krapte op de Nederlandse arbeidsmarkt, Appendix letter Arbeidsmarktbeleid of the Ministry of Social Affairs and Employment to Parliament of 15.6.2018, Kamerstuk 29544 nr. 833, vergaderjaar 2017-2018.

should also contribute to an acceleration in real wage growth in 2020 (Graph 4.3.3).

Graph 4.3.3: **Unit labour cost decomposition**



Source: European Commission

The high level of labour market segmentation may have been an important contributing factor in low wage growth over the last decade ([50]). In 2000-2017, the increase in the share of non-standard employment correlates with wage growth. The downward pressure on wages can be partly explained by the fact that overall wages for temporary employees are substantially lower than wages for permanent employees (European Commission, 2018a, Box 4.3.1; Smits et al., 2019) As a result, the increase in the share of temporary employees negatively affected wage growth across the wage distribution, with the largest impact at the bottom (European Commission, 2018b). The self-employed without employees also pay lower taxes and social security contributions compared to employees, boosting their disposable income. The high level of self-employed without employees on the labour market may also lead to downward pressure on wages and result in unfair competition, in particular for those at the bottom of the earnings distribution.

([50]) Other factors include increasing automation and digitalisation, the globalisation of production processes and labour, the relatively high level of employers' obligations and weakening bargaining power of workers (see Baarsma et al., 2018; OECD, 2015; De Beer et al., 2018; DNB, 2018b).

Labour market segmentation

Flexible employment remains an important share of the labour market, pointing to a risk of labour market segmentation. Although the Dutch labour market performs well overall and is among the top performers in the OECD (OECD, 2019c), the high level of, and strong growth in, non-standard employment remains a concern. Both temporary employment and self-employment without employees have increased considerably in the last 10 years, which makes the Netherlands an outlier in the EU. Almost one in five Dutch workers have a temporary contract ([51]), and the country has seen the fastest growth in self-employment (OECD, 2019c). Distinct drivers and institutional factors([52]) create large financial (dis)incentives, with particularly distortive effects at the margins of the labour market, impeding fair working conditions, hampering smooth labour market transitions and inclusive growth. Labour market segmentation may also have a negative impact on wage developments, investment in training and social protection coverage.

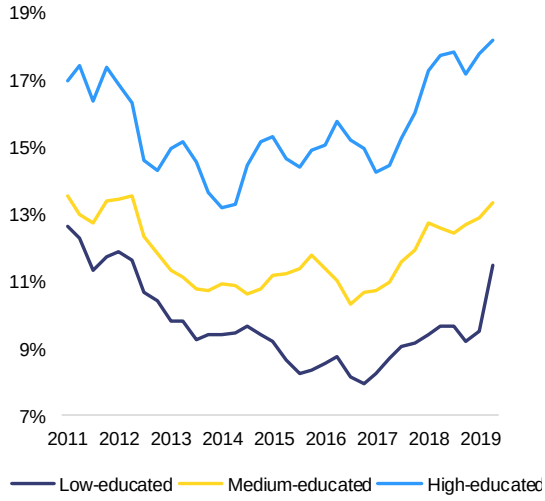
While job creation was mainly in temporary and self-employment up until 2017, growth in permanent contracts has more recently outpaced that of temporary employment. Since the second half of 2017, the increase in permanent contracts has outpaced that of temporary, flexible contracts. This applies to all education levels, but is particularly pronounced for high-skilled workers. ([53]) In addition, for the first time in years the share of temporary employees (as a percentage of total employment) fell slightly in 2018 (14.6%) compared to a year before (15.2%). An increasingly tight labour market may have provided incentives for employers to offer more open-ended contracts, in particular for high-skilled workers but to a lesser extent also for middle- and low-skilled workers (CPB, 2019f) (Graph 4.3.4).

([51]) Compared to one in eight less than two decades ago, and less than one in ten across the OECD average.

([52]) See European Commission (2019a), p. 7 and p. 47 and European Commission (2016), pp. 46-49, European Commission (2017b), p. 30; European Commission (2018a), pp. 34-36 and p.39.

([53]) For instance the number of high-skilled workers increased by 128 000 from 2017 to 2018, of which more than 80% received a permanent contract. (CPB 2019b)

Graph 4.3.4: **Transition rate from temporary to permanent employee by educational level**



Source: Statistics Netherlands

Policy developments

To achieve a better balance on the labour market, a package of measures taken to tackle the differences between permanent and flexible contracts will enter into force in 2020. Following a previous major reform (*Wet werk en zekerheid*) in 2015([54]), a package of measures ([55]) was adopted in 2019 to make it easier to hire employees on a permanent basis and to make flexible contracts less flexible, more secure and their use more expensive ('labour market in balance' law — *wet arbeidsmarkt in balans*). The vast majority of those measures entered into force from January 2020([56]). In addition, on the employer's obligation to continue to pay staff for 2 years in case if they fall ill, more suitable insurances will be offered to cover the risk of sickness ('*MKB verzuim-ontzorg-verzekering'*), which entered into force from January 2020. Futhermore, the government intends to introduce a discount to sickness contributions of €450 million as of 2021 to compensate small and medium-sized enterprises for the salary costs of the second year of illness. ([57]) Moreover, a committee of independent experts was set up to advise the government on how to regulate the labour market in the future, taking into account the changing economy and society. Its report was presented on 23 January 2020 and the subsequent government reaction is expected in the first quarter of 2020. Some of the measures taken have the potential to tackle major differences in treatment between permanent and temporary/flexible contracts and could therefore reduce the relatively large use of flexible employment. However, their application in practice should be closely monitored.

Important challenges remain, in particular concerning the self-employed without employees. As far as self-employed workers without employees are concerned, the criterion 'under the control and direction' ('*gezagsverhouding*') has been clarified as of 1 January 2019. A draft questionnaire has also been developed to implement a web module that will qualify the working relationship of self-employed workers, in particular when there is no employment relationship. Further information on the state of play is expected in the first quarter of 2020([58]). Moreover, on 24 June 2019 in a letter to Parliament the government announced its intention to introduce a general minimum hourly rate of €16 for all self-employed without employees who provide services to both business and private clients, in combination with an opt-out of payroll taxes and employee's insurances, as well as parts of labour law, collective agreements and pension obligations for those self-employed charging an hourly rate of €75 or more. A public consultation on the respective draft bills to implement the intended proposals was launched in October 2019 in order to make them law by January 2021.

The government also announced its intention to gradually decrease the tax deduction and improve social security coverage for self-

([54]) The impact of this reform will be evaluated in 2020 - preliminary results were discussed in detail in previous European Semester country reports (see European Commission (2015), p. 38/39, European Commission (2017b), p.31 and European Commission (2018a), p. 35/36)

([55]) Including (1) the introduction of a new, additional ground for dismissal; (2) minimum labour conditions applicable to employees working on a payroll basis; (3) the introduction of limits to the use of zero-hours contracts; and (4) the possibility to differentiate unemployment contributions by type of contract. See European Commission (2019a), p. 41, for further details.

([56]) One exception being the requirement to provide payroll workers with an adequate pension which will enter into force on 1.1.2021.

([57]) Letter to Parliament of 20 December '*Loondoorbetaling by ziekte*'

([58]) Letter to Parliament Voortgang uitwerking maatregelen 'werken als zelfstandigen', 22.11.2019

employed workers. The tax deduction is set to be reduced by €250 per year until 2028 (when the maximum deductible amount will be €5 000)([59]). Furthermore, on possible social security coverage for sickness/disability for the self-employed, the government and social partners in their agreement in principle on reforming the pension system of 5 June 2019 (see subsection 4.2.5), decided to introduce mandatory disability insurance for the self-employed. In consultation with organisations representing the self-employed, discussions are ongoing in the '*Stichting van de Arbeid'* platform on how to implement this agreement. A concrete proposal [is expected in] early 2020 and the government plans to send a legislative proposal to Parliament before summer 2020 (SZW, 2019b). Possibilities to increase the pension coverage for the self-employed on a voluntary basis are also being assessed, with results to be presented before summer 2020 (SZW, 2019b). Moreover, the suspension of the enforcement of measures adopted to tackle bogus self-employment, initially planned until 2020, will be further extended until 2021([60]).

Social dialogue is an established institutionalised approach and an essential feature of the Dutch *poldermodel* and has functioned well in general in the past. Social partners were consulted on the intention and possible policy options to reform the second pillar of the pension system and the ambitious agenda to reform the labour market. They also play an important role in implementing the pension reform agreement and issued a joint (negative) reaction via the '*Stichting van de Arbeid'* on the draft bills containing the recent plans of the government on self-employment.

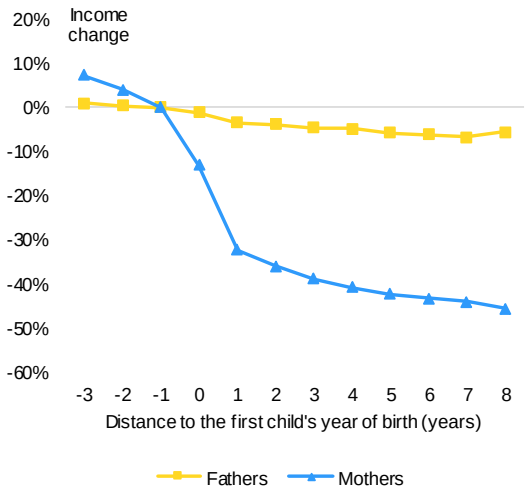
Female labour market participation

Despite the tight labour market, part-time employment remains particularly high for women. While the employment rate of women is high and still on the rise (74.2% in 2018, compared to 71.6% in 2016), almost 3 out of 4 women work part-time (73.8% in 2018 compared to an EU-28 average of 30.8%) ([61]). As a result, the gender employment gap in full-time equivalents is one of the highest in the EU (25.7 percentage points (pps) in 2018 against an EU average of 18 pps), despite the relatively small hourly gender wage gap in the Netherlands (OECD, 2019b). Due to a combination of multiple factors and institutional drivers, part-time employment of women has always been high in the Netherlands ([62]). The part-time share is particularly high among women with personal and family care responsibilities ([63]), although many women already start working part-time shortly after leaving education, before having children (SCP, 2018).

Women also experience a 'child penalty' and considerable pay gap. In In recent years, the number of hours worked by women with children has increased, while there is no similar trend for women without children (see European Commission (2019a), p. 42, Graph 4.3.7). Nevertheless, the average income of women decreases considerably in the first 2 years following the birth of the first child (while having a rather limited effect on the income of men). This effect is still felt 8 years later, resulting in an average wage gap of 39% (Graph 4.3.5) (Adema et al., 2019). Differences in work intensity also result in a relatively large gender pay gap (47.5% in 2017) and one of the largest gender pension gaps later in life (43.4% in 2017). Recent analysis ([64]) shows for instance that incentivising women to work a few hours a week more could increase both their economic independence and gender equality as well as help significantly reduce existing labour shortages (McKinsey Global Institute, 2018) and tackle demographic challenges (OECD, 2019b), thus helping to move towards Sustainable Development Goal 5 (Gender equality).

([59]) While compensating them fully in 2020, 2021 and 2022 by increasing the '*arbeidskorting*'.
([60]) letter to Parliament 'Toezicht Arbeidsrelaties', 24.6.2019
([61]) For men, the share of part-time employment is also high and well above the EU average (23% vs 8% in 2018).
([62]) For further details, see European Commission (2019a) p. 42; see also Portegijs et al. (2008).
([63]) 17.4% (2018) vs EU-28 5.4%; 17.1% (2017).
([64]) See Adema et al. (2019) and McKinsey Global Institute (2018).

Graph 4.3.5: **Relative 'Child Penalty'**



Source: Netherlands Bureau for Economic Policy Analysis (Adema et al., 2019)

Labour market situation of people with a migrant background

Despite an improvement in their employment rate, people with a migrant background continue to face serious employability challenges. In 2018, the employment rate among the non-EU-born was on the rise (62.6% compared to 59.9% in 2017), but remains 19.3 pps (compared to 20.6 pps in 2017) below the level for natives, representing one of the largest gaps in the EU. This is a concern as the non-EU-born represent a relatively large group, amounting to 10.7% ([65]) of the working age population in 2018. The gap is particularly high due to the low employment rate among non-EU-born women (53.6%) compared with native women (77.3%). This gap shows no signs of closing and remains, at 23.7 pps, one of the largest in the EU.

The overall unfavourable labour market situation of the non-EU-born migrants stems mostly from the low activity rate of both migrant men and women. ([66]) In particular, only 58.7% of non-EU-born women were economically active in 2018, and the gap with native-born women was, at 20.9 pps, the largest among EU countries and relatively stable. The low activity rate also has a strong impact on the social situation of non-EU-born people (see below).

([65]) Eurostat, LFS, table lfsa_pgacws.
([66]) See European Commission (2019a), p. 43

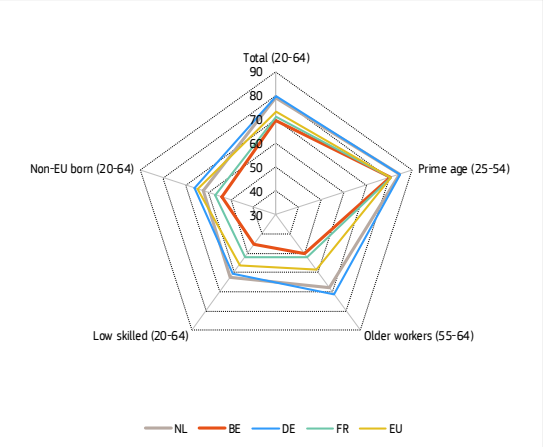
The labour market outcomes of the native-born with a migrant background also remains unfavourable ([67]) (Graph 4.3.6)**.** Native-born people with foreign-born parents face higher unemployment and NEET([68]) rates, partly explained by their lower educational outcomes and on average other drivers ([69]). In addition, national data confirm large differences across subgroups, depending on parents' country of birth, for various indicators including the unemployment rate ([70]). Moreover, when in employment, native-born workers with a migrant background are more affected by a lack of recognition of qualifications, precarious contracts and in-work poverty ([71]). Differences in labour market participation between people with a non-Dutch and a Dutch background are smallest among those with a high level of education (CBS, 2018).

To improve the labour market situation of people with a migrant background and those granted asylum status, a multi-track approach *Further Integration on the Labour Market* has been adopted ([72]). The government's approach to tackling discrimination was set out in detail in April 2018 ([73]), and the subsequently adopted action plan on labour market discrimination focuses on monitoring and control, research and knowledge gathering, and awareness-raising ([74]). The Federation of Private Employment Agencies (*Algemene Bond Uitzendondernemingen*) also published its action plan on diversity in the labour market in May 2018 to address discriminatory

([67]) *EU-OECD Settling In 2018*: the native-born with foreign-born parents (aged 15-34) had a lower employment rate (67.1%) by 20.8 pps (second largest gap along EU countries for which data is available) than the native-born with foreign-born parents (88.0%) — for further details, see European Commission (2019a), p.43/44 and graph 4.3.8.
([68]) Not in employment, education or training.
([69]) For further details, see European Commission (2019a), p. 43/44.
([70]) CBS, Integration Dashboard, see https://public.tableau.com/profile/centraal.bureau.voor.de.statistiek#!/vizhome/DashboardIntegratie/Welkom
([71]) EU-OECD Settling In 2018
([72]) *'Verdere Integratie op de arbeidsmarkt*: de economie heeft iedereen nodig', Kamerstukken II 2017/18, 29544, nr. 821.
([73]) Kamerstukken II 2017/18, 30 950, nr. 156.
([74]) Letter to Parliament of 19 June 2018, Hoofdlijnen Actieplan Arbeidsdiscriminatie 2018-2021; Kamerstukken II 2017/18, 29544-834. See also the implementation plan on labour market discrimination sent to Parliament on 22 November 2018.

practices([75]). To devise more efficient measures for the labour market integration of people with a migrant background, eight experimental actions were launched in 2019, including: combined learning and working, intensive coaching for vulnerable groups, supporting work orientation for vocational students and measuring cultural diversity in companies. A draft bill on tackling discrimination on the labour market has also been prepared ([76]), expanding the scope of the monitoring system of integration in the Netherlands.

Graph 4.3.6: **Employment rates of the non-EU-born compared to natives (%)**



Source: Eurostat

As things stand, it is too early to judge the effectiveness of these initiatives. However, they do underscore the increased awareness of the Dutch authorities of the need to further invest in integration and anti-discrimination policies.

The integration system for recently arrived third country nationals is in the process of being reformed. The new act on integration should enter into force in January 2021. The planned reform involves an increased role for municipalities, who will be responsible for implementing integration measures based on increased funding at national level (the newly arrived will no longer have to self-fund access to the programme with a loan). There will also be more demanding language proficiency requirements for certification. Furthermore, municipalities will also monitor course quality and determine personal integration plans with each migrant. This will focus on participation and helping newcomers find work.

Poverty and social exclusion

The Netherlands has one of the lowest rates of at risk of poverty or social exclusion. The 'share of the population at risk of poverty or social exclusion' indicator of the Social Scoreboard decreased from 17% (2017) to 16.7% (2018), i.e. by 31,000. The component related to poverty risks increased slightly from 13.2% in 2017 to 13.4% in 2018, while severe material deprivation decreased slightly from 2.6% in 2017 to 2.4% in 2018, with material and social deprivation ([77]) falling considerably from 6.3% in 2017 to 4.5% in 2018 (the latter two being at very low levels compared to EU average). The impact of social transfers on reducing poverty (excluding pensions) has weakened significantly, falling from 51% in 2012 to 39% in 2018. However, compared to the previous period (2015-2016), the decrease in 2018 (from 39.7% in 2017) flattened considerably. The adequacy of minimum income support is very high ([78]).

Non-EU-born residents face a much higher risk of poverty or social exclusion. In 2018, around 37% of non-EU-born people living in the Netherlands were at risk of poverty or social exclusion, 22 pps higher than among the native-born, and the gap is widening. This is driven by much more prevalent monetary poverty than for natives (28.5% vs 11.8%), linked partly to their more unfavourable employment situation, a higher rate of severe material deprivation (10.7% vs 1.6%) as well as greater prevalence of in-work poverty (17.5% vs 5.1%). Moreover, more than a quarter (26.9% in 2018) of children with foreign-born parents are at risk of poverty, around 3 times higher than children with native-born parents.

([75]) https://www.abu.nl/actueel/persberichten/abu-gaat-discriminatie-te-lijf-actieplan-diversiteit-arbeidsmarkt-verstuurd-naar-tweede-kamer.

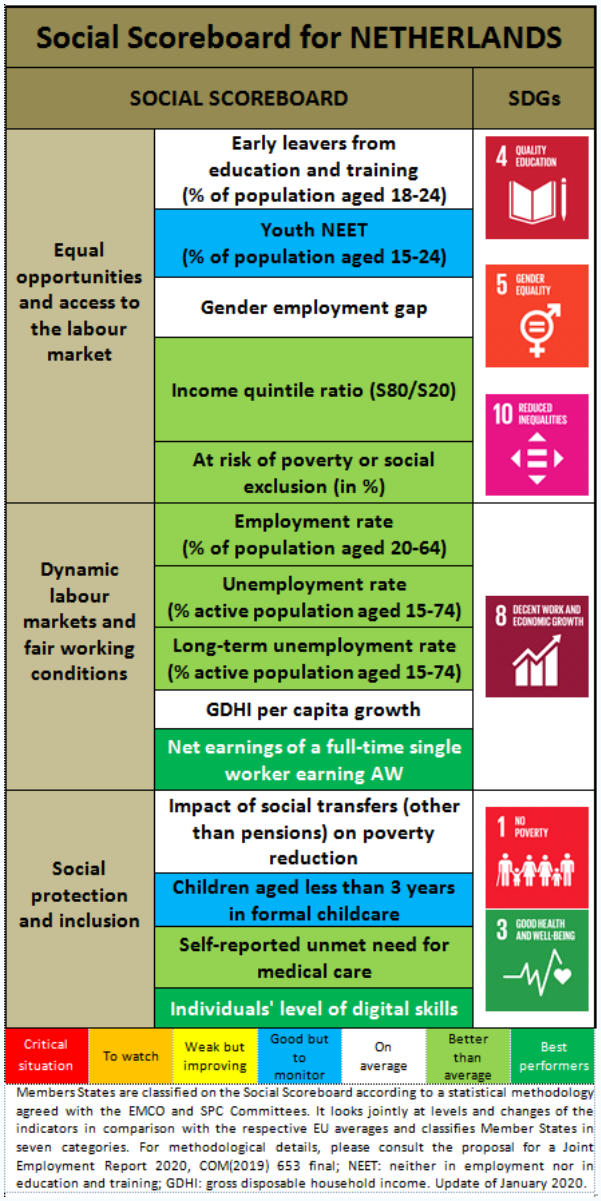
([76]) Ongoing internet consultation: https://www.internetconsultatie.nl/wet_toezicht_discriminatievrije_werving_en_selectie.

([77]) The material and social deprivation indicator takes into account a broader concept of deprivation as it also includes items related to social activities, whereas the indicator measured only material deprivation.

([78]) According to the benchmarking exercise on minimum income in the Social Protection Committee — see draft Joint Employment Report 2020.

Box 4.3.1: **Monitoring performance in light of the European Pillar of Social Rights**

The European Pillar of Social Rights is a compass for a renewed process of upward convergence towards better working and living conditions in the European Union. It sets out twenty essential principles and rights in the areas of equal opportunities and access to the labour market; fair working conditions; and social protection and inclusion.



The Social Scoreboard, which supports the European Pillar of Social Rights, shows that the Netherlands performed very well on most indicators. It has an overall good standing on both labour market performance and the social situation. Per capita real gross disposable income of households continued to rise, with income inequality below the EU average. On social protection and inclusion, the country is among the top performers, with a low level of poverty. The share of young people not in employment, education or training (NEET rate) is well below the EU average. However, in comparison to the general decrease observed in other Member States, the Netherlands registered a slight increase in this rate in 2018.

The high share of flexible employment still requires further attention with regard to equal opportunities in the labour market and fair working conditions. The high level of non-standard employment and its strong growth remain a concern. Both temporary employment and self-employment without employees increased considerably in the last decade, making the Netherlands stand out compared to other Member States.

The Dutch government presented a new strategy in October 2018 to create a genuine learning culture and give more ownership to individuals over their training. The key points of this strategy include: (1) promoting individual training budgets to reach a wider group via the 'Stimulus for labour market participation' (STAP) initiative; (2) improving the portability of training budgets between sectors; (3) creating a portal that lists all training opportunities; (4) improving guidance; (5) helping small and medium-sized companies develop a learning culture; (6) organising behavioural experiments to ensure that individuals feel ownership; and (7) improving the flexibility of the training offer. With the STAP budget, anyone with a link to the Dutch labour market will be able to use training for their own development and employability.

Large cities face higher rates of unemployment, poverty and social exclusion and lower employment rates (European Commission, 2019a)**.** In 2018, the at-risk-of-poverty or social exclusion rate stood at 19.8% in cities, while it ranged from 12.4% to 12.8% in towns and suburbs and rural areas. Furthermore, cities have a lower employment rate (77.6%) than both towns and suburbs (81.2%) and rural areas (82.3%). People with a non-EU background make up more than 30% of the population in large Dutch cities (Amsterdam, Rotterdam and The Hague).

4.3.2. EDUCATION AND SKILLS

Despite performing well in general, there has been a decline in basic skills, measured in PISA, and the differences in performance levels between schools are increasing. The Netherlands' average performance, as measured by the OECD Programme for International Student Assessment (PISA), declined significantly in science and reading between 2009 and 2018. While average performance remains well above the EU average in mathematics and science, it is below the EU average in reading. The proportion of low achievers in reading has increased by 10 percentage points since 2009. At 24.1% it is now above the EU average and especially high (56%) among pupils born abroad. The share of top performers has decreased slightly in all three areas tested. The impact of socio-economic background on pupils' performance is somewhat smaller than the EU average. The performance gap between non-immigrants and pupils born abroad is quite large, and native-born pupils with a migrant background only partially catch up.

Children of less and more educated parents are increasingly being educated in different schools. Differences between schools have the largest impact on pupils' performance of all OECD countries (OECD, 2019), and are closely linked to the different tracks offered (Inspectorate of Education, 2017). The gap between the average performance of pupils at schools with a low versus high concentration of pupils with a migrant background is the second largest in the EU. This implies that the achievement of individual pupils is closely linked to their school choice. The parental choice system contributes to creating more segregated schools (Ladd et al., 2011) and strengthens the effects of residential separation (Inspectorate of Education, 2018). The strongest factor in students' segregation is parents' educational attainment, followed by their income and immigrant status (Inspectorate of Education, 2018). The Education Council has warned against this increasing fragmentation in the school system as it may lead to greater segregation and narrowing of opportunities (Education Council, 2019).

The Netherlands faces an increasing shortage of teachers. Based on current trends, the teacher shortage at primary schools is projected to reach 4,000 full-time equivalents by 2020 and 10,000 by 2025 (OCW, 2018a). Low salaries are one factor: a primary teacher's salary corresponds to 71% of the average earnings of tertiary-educated workers. Shortages are more acute in schools where the majority of pupils have a non-Western background. As part of the 2018 'work pressure agreement', primary schools have been granted an additional €237 million for tackling excessive work pressure as of 2018/2019. In the 2021-2022 school year, this will be increased to €430 million.

The rate of early school leaving from education and training (7.3%) is below the Europe 2020 national target, but has slightly increased in recent years. Although the dropout rate in (general) secondary education is 0.5%, it rose from 4.7% to 5.1% in vocational education and training (VET). General secondary schools including VET schools receive extra money if they can reduce their dropout rate to below the national rate. An amendment to the Act on Education and Vocational Education in June 2018 made cooperation between schools and municipalities to combat early school leaving compulsory ([79]).

Overall, adult participation in life-long learning remains significantly higher than the EU average, although it may be a challenge for those in a vulnerable labour market situation. Recent adult learning participation (i.e. adults aged 25-64 having had a learning experience in the last 4 weeks) increased to 19.1% in 2018, far exceeding the EU average of 11.1% (LFS 2018). Employment rates of recent VET graduates

([79]) Wet educatie en beroepsonderwijs inzake regionale samenwerking voortijdig schoolverlaten en jongeren in een kwetsbare positie, 15 June 2018 — https://zoek.officielebekendmakingen.nl/stb-2018-210.html.

increased somewhat to 87.9% in 2018 (compared to 86.9% in 2017), well above the EU average of 79.5% (LFS, 2018). Total enrolment in upper secondary VET also increased slightly in 2017 (to 68.2%) compared to previous years, and is well above the EU average of 47.8% (UNESCO OECD Eurostat joint data collection, 2017). To further strengthen the links between the labour market and the secondary VET offer, the SBB (*Samenwerkingsorganisatie Beroepsopleiding en Bedrijfsleven*) developed a new working method to facilitate quicker adjustments in the VET offer in response to labour market needs. Despite these positive developments, research shows that employers are far less willing to invest in training for employees with temporary contracts than for permanent employees. Often they restrict training to what is strictly necessary for the current job instead of investing to enable employees in a vulnerable labour market position to follow training that may increase their employability.

The demand for skilled workers is expected to grow substantially, pointing to investment needs in training and skills. There is growing evidence ([80]) of increasing labour shortages in specific sectors and shortages of people with the necessary technical or advanced digital skills (see subsection 4.3.1). Despite the high tertiary attainment rate of 49.4%, demand for high-skilled workers is expected to grow by 2.4 million and for medium-skilled workers by 1.3 million until 2025, while supply is expected to grow by only 1 million for high-skilled workers and to fall for medium-skilled workers (OECD, 2018b). Though the gap in educational attainment between the foreign-born and native-born population has been closing at secondary level, it remains significant at tertiary level. This suggests there is still scope to better align the education and skills level of this group with expected needs. Overall, technical skills and qualified professionals are crucial for the Dutch economy's innovation capacity and productivity. Continued investment in skills, education and training is thus important for improving labour market access and employability, while fostering equal opportunities and active inclusion ([81]).

To create a genuine learning culture, a new life-long learning strategy, including the creation of an individual learning budget, has been adopted. In October 2018, the Dutch government presented a new strategy to create a genuine learning culture and give more ownership to individuals over their training ([82]). The key points of this strategy include: (1) promoting individual training budgets to reach a wider group (e.g. people not covered in sectoral agreements) through the 'Stimulus for labour market participation' (STAP / *Stimulans Arbeidsmarktpositie*) initiative (see below); (2) improving the portability of training budgets between sectors; (3) creating a portal that lists all training opportunities; (4) improving guidance; (5) helping SMEs develop a learning culture; (6) organising behavioural experiments to analyse how measures should be developed to ensure that individuals feel ownership; and (7) improving the flexibility of the training offer. The above-mentioned STAP initiative replaces the tax deduction for educational expenses, with a budget of €200 million per year to be allocated to it. An individual will be able to receive a subsidy of up to €1,000 to cover training costs. With the STAP budget, anyone with a link to the Dutch labour market will be able to use training for their own development and employability. It is expected to enter into force from January 2022. An internet consultation was also launched in November 2019 on a draft regulation to stimulate life-long learning in SMEs and in the agricultural, hospitality and recreation sectors in particular (*SLIM regeling*), for which €48 million will be made available each year. In January 2020, The Netherlands initiated a new inter-ministerial basic skills programme (2020-2024). The programme aims to foster basic skills, improve quality assurance in adult basic skills education and training and strengthen the role of local and regional governments. The programme has a budget of € 25 million a year and is additional to the budget for the organisation of the adult basic skills learning offer (€ 60 million a year).[83]

([80]) Getting Skills Right: Skills for Jobs Indicators, OECD 2017; ROA Rapport 'De arbeidsmarkt naar opleiding en beroep tot 2022, ROA-R-2017/10, December 2017.

([81]) For further details, see European Commission (2019a), pp. 46-47 and pp. 44-45.

([82]) Kamerbrief Leven Lang Ontwikkelen.

[83] https://epale.ec.europa.eu/en/content/letter-parliament-about-low-literacy-approach-2020-2024

4.4. COMPETITIVENESS, REFORMS AND INVESTMENT

4.4.1. PRODUCTIVITY AND INVESTMENT TRENDS

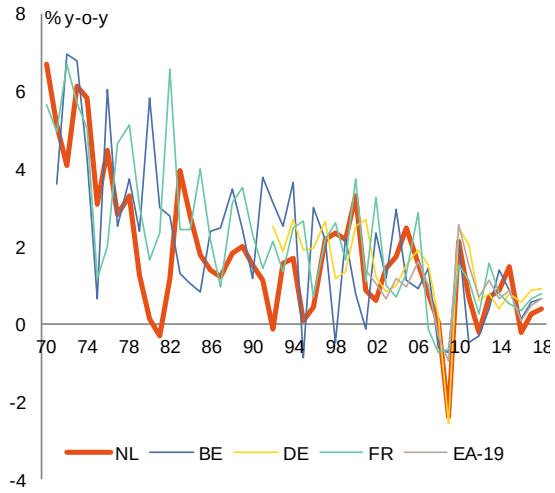
Productivity

Despite a structural slowdown in labour productivity growth, the Netherlands remains one of the most productive economies in the EU. Hourly labour productivity is some 29% above the EU average. However, in common with most mature industrialised economies, both labour productivity and total factor productivity growth have experienced a secular slowdown. Since the 1970s, annual labour productivity growth has declined from an average of 5% to barely 1% in recent years. Similarly, while annual total factor productivity growth averaged some 1.4% in the last decades of the previous century, it has only grown by around 0.5% per year since the 2000s.

The causes for this productivity slowdown appear to involve a number of factors and partly reflect trends playing out at a global level. As most other developed economies have suffered a comparable productivity slowdown (Graph 4.4.1), its underlying drivers do not seem specific to the Netherlands but rather reflect wider developments (Bauer et al., 2020; Roelandt et al., 2019). These include (i) a gradual shift from the production of industrial goods to activities within the services sector with traditionally lower productivity growth (European Commission, 2019a) ([84]); (ii) demographic developments such as population ageing; (iii) transition costs of investments in information and communications technologies (Roelandt et al., 2019); and (iv) the increasing difficulty of achieving incremental productivity gains when productivity levels are already relatively high. In addition, 'labour hoarding' played a part in the initial post-crisis productivity dip, although this explanation has become less relevant as the labour market has tightened.

In terms of drivers specific to the Dutch economy, relatively low entry rates of new firms as well as a potentially suboptimal allocation of resources across firms may play a role. A lack of new firms has a long-term detrimental effect on business dynamism, innovation, and productivity. Entry rates of larger-than-micro firms decreased to below the average EU level in the business services sector, which can constitute an impediment to productivity growth (Bauer et al., 2020). Misallocation of capital and labour across Dutch firms — implying that highly productive firms tend to be too small compared to their optimal size, whereas the opposite is the case for less productive firms — could also play a role (de Winter et al., 2019). The Bureau for Economic Policy Analysis (CPB), in its capacity as the National Productivity Board for the Netherlands, contributes to the policy debate on productivity developments by drawing up a detailed work programme on productivity and holding annual policy dialogues on productivity developments.

Graph 4.4.1: **Evolution of GDP per hour worked (1), NL versus peer countries**



(1) Year-on-year growth at constant prices
Source: European Commission (Ameco)

Investment

Investment is increasing, but remains below pre-crisis levels. The ratio of investment over GDP reached around 21% in 2018, up from 17.6% in 2014. Despite the increase, private business investment remains relatively low, in particular compared to corporate savings. Public investment remained roughly constant in 2018 at 3.3% of GDP. While this is significantly above the euro area average at 2.7% of GDP (Graph 1.2 in Section 1), it remains below pre-crisis levels. At the same time, the government is implementing an expansionary fiscal package, including higher

([84]) However, for the Netherlands this sectoral composition effect appears to explain only a relatively small part of the slowdown — many sectors experience a productivity slowdown (CPB, 2016).

public investment in housing and infrastructure (see Section 4.1). In the longer run, new vehicles such as the national promotional bank Invest-NL and the planned investment fund to boost the economy's future growth potential (see Box 4.4.1) could help further expand investment.

Investments in R&D, human capital and climate and energy can help boost long-run productivity growth and address key societal challenges. Since the Netherlands is among the most productive countries in the world, further productivity gains will likely require application of new technologies and innovations. This underscores the importance of further expanding R&D investment (see below). Consistent with this, boosting technical skills and training qualified professionals are crucial for the Consistent with this, boosting technical skills and training qualified professionals is crucial for the Dutch economy's innovation capacity and productivity growth (see Section 4.1). Furthermore, tackling wider societal challenges, such as climate change and the renewable energy transition, is likely to require substantial investment (see Section 4.5).

4.4.2. SINGLE MARKET INTEGRATION AND SECTORAL POLICIES

Investment in R&D and innovation

Despite relatively low R&D expenditure, the Netherlands remains one of the world's most innovative economies. R&D intensity stood at 2.16% in 2018 ([85]), lower than the national target of 2.5% in 2020 and below other top innovators. Of this, private R&D contributed 1.45% of GDP and public R&D about 0.71% of GDP. Nevertheless, in terms of innovation performance, the Netherlands is among the world's frontrunners. It ranks as one of the four 'innovation leaders' in the European Innovation Scoreboard (European Commission, 2019i), scores among the top 10 countries on the innovation pillar of the Global Competitiveness Index (World Economic Forum, 2019), and Dutch industry has a high share of companies engaged in innovation compared to the rest of the world (European Commission, 2019j).

Headline R&D investment figures understate actual R&D intensity in the Netherlands. The OECD (2017b) explains different sectors' typical R&D intensities and concludes that the Dutch economy is more R&D intensive than could be expected given its sectoral make-up (i.e. with many services and comparatively few R&D intensive industrial sectors, such as pharmaceuticals). Many Dutch multinational firms' R&D also takes place in other countries (which can boost their productivity both in the Netherlands and elsewhere), while there is less investment by foreign multinationals in R&D taking place within the Netherlands (Rathenau, 2019). Moreover, Dutch investments in intangible assets are relatively high. Such investments are not accounted for as R&D, but in practice often have similar objectives and impact, including improving productivity (Bauer et al., 2020).

A potential policy lever to boost R&D investment may come from the new mission-driven innovation policy. The 'mission-driven top sectors and innovation policy' (*missiegedreven topsectoren- en innovatiebeleid*) focuses on maximising the economic performance of selected sectors, which is viewed as a key priority for strengthening competitiveness and addressing societal challenges (EZK, 2018). Overall, this new policy approach aims to further boost investment in R&D in order to achieve the long-term targets on key societal challenges grouped into four 'missions': (i) energy transition and sustainability; (ii) agriculture, water and food; (iii) health and care; and (iv) security.

More generally, the Netherlands is aiming to strengthen its R&I policy by ensuring adequate investment in R&D to support productivity growth and address broader societal challenges. In the 2020 budget, the government announced an additional €400 million on a structural basis for fundamental and applied research. Moreover, the new investment fund to boost the Dutch economy's long-run earnings capacity (see box 4.4.1) may also serve as a platform to expand investment in key technologies.

([85]) Dutch R&D figures have been revised upwards by around 10% due to a methodological revision (see CBS (2019), chapter 6, heading *'Revisie'*)

Box 4.4.1: Investment challenges and reforms in the Netherlands

Section 1. Macroeconomic perspective

Total investment increased to 20.7% of GDP in 2018 and is slightly higher than the long-term average (and broadly in line with the euro area average). The increase is largely attributable to dynamics in construction investment: while residential investment fell sharply during the economic recession, it has seen strong growth in recent years. As a result, it has now converged back to the euro area average. The ratio of business investment to GDP stood at 11.1% of GDP, with public investment still relatively stable at a comparably high level of 3.3% of GDP. In 2019, business and household (residential) investments remained supportive of growth against the backdrop of a tight labour market and solid domestic demand, as well as low capital costs and high profitability. At the same time, increases in (trade-related) uncertainty as well as weaker external demand over the summer have led to a weaker outlook for business investment growth. Over the course of 2019, a ruling by the Dutch Council of State became a source of uncertainty for infrastructure and housing investment as it stopped permits being issued for construction and infrastructure projects in case of incremental nitrate depositions near to Natura 2000 nature protection areas. The government has since taken short-term measures to mitigate the negative impact on infrastructure and housing projects.

Section 2. Assessment of barriers to investment and ongoing reform

Public administration/ Business environment	Regulatory/ administrative burden	CSR
	Public administration	
	Public procurement /PPPs	
	Judicial system	
	Insolvency framework	
	Competition and regulatory framework	CSR
Labour market/ Education	EPL & framework for labour contracts	
	Wages & wage setting	
	Education, skills, lifelong learning	CSR

Financial Sector / Taxation	Taxation	
	Access to finance	
R&D&I	Cooperation btw academia, research and business	
	Financing of R&D&I	CSR
Sector specific regulation	Business services / Regulated professions	
	Retail	
	Construction	
	Digital Economy / Telecom	
	Energy	
	Transport	

Legend:

	No barrier to investment identified
CSR	Investment barriers that are also subject to a CSR
	No progress
	Limited progress
	Some progress
	Substantial progress
	Fully addressed

The Netherlands benefits from an investment-friendly institutional and political setting, with very few genuine regulatory barriers to investment (European Commission, 2015). It qualifies as an 'innovation leader' (European Commission, 2019i), benefiting from an attractive research system and an innovation-friendly environment. According to the World Bank, some sectoral regulations, such as obtaining a building permit, may be burdensome and hamper construction investments. Some small businesses signal the availability of finance as a barrier to investment (EIB, 2019). The Netherlands performs reasonably well in terms of public R&D investment, and has pledged to invest an additional €400 million a year in fundamental and applied research (€200 million each). However, it still underperforms on private R&D investment compared to both the EU average and the top performers. As the government has reaffirmed the intention to increase efforts to reach an R&D intensity of 2.5% of GDP, this will require extra investments from the government and private sector. To boost investment, the government recently set up Invest-NL, a national promotional institution with a mandate to support private-sector investment aimed at tackling key societal challenges and supporting access to finance for SMEs. The government is the sole shareholder, investing up to €1.7 billion in Invest-NL. Invest-NL has indicated that it wants to become an implementing partner for InvestEU. Furthermore, the government has indicated that it is exploring the possibility of launching an investment fund to boost the long-term growth potential of the economy, although details on its financial firepower and target sectors are still to be decided upon.

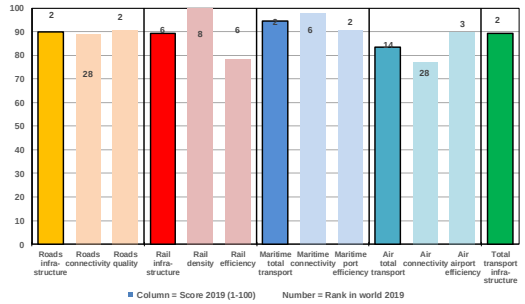
Through the four regional innovation strategies on 'smart specialisation', the Netherlands is strengthening its innovation ecosystems thanks to concentrated investments based on regional needs. This regional dimension of innovation policy strengthens cooperation between companies, researchers and government across sectors and triggers targeted additional investments based on particular regional strengths. The four regional innovation strategies are being updated and embedded in the mission-driven innovation policy (see above). This should further strengthen their contribution to environmental sustainability. In each of the Dutch regions, priorities have been selected that relate to relevant sustainability priorities, including bio-based economy, clean and efficient energy, environmental technologies, sustainable agriculture, clean water or reducing the use of raw materials.

Investment in transport and infrastructure

The Netherlands invests heavily in its dense transport infrastructure network (European Commission, 2019k). The government has boosted investment by about €2 billion (about 0.25% of GDP) per year between 2018 and 2020. The Netherlands' long-term infrastructure and transport plan (*Meerjarenprogramma Infrastructuur, Ruimte en Transport, MIRT*) details investment plans for the 154 infrastructure projects currently in progress. The government is also working on turning the national infrastructure fund into a mobility fund, with a more integrated investment approach across different modes of transport (i.e. roads, waterways, public transport and rail). In addition to domestic infrastructure, the Netherlands also benefits from investment in wider European transport networks as these link Dutch seaports to European markets. The Trans-European Transport Network ([86]) covers the main connections in the Netherlands, including key cross-border rail connections and many MIRT projects. Moreover, its technical standards provide for cross-border interoperability.

The perceived quality of the infrastructure for all transport modes is very high. According to the World Economic Forum's Global Competitiveness Report 2019, the Netherlands scores very well on the quality and connectivity of its transport infrastructure, both in absolute terms and by international comparison (Graph 4.4.2). Overall, it ranks as the best-performing country in the EU, and only Singapore scores higher in a global comparison.

Graph 4.4.2: **Quality score for transport infrastructure in the Netherlands**



Source: World Economic Forum (2019)

Delays due to congestion on Dutch roads are somewhat lower than the European average. The average peak-hour delay in the Netherlands was 32.1 hours in 2017, compared to an EU average of 32.4 hours. Taking only urban areas into account, the average delay in the Netherlands was 37.9 hours in 2017, below the EU average of 39.7 hours ([87]).

Road congestion makes up a significant part of the external costs of transport activities. A recent study published by the European Commission (Schroten et al., 2019) estimates the total external costs of transport for road, rail and inland waterways in the Netherlands at €31 billion per year, which corresponds to 4% of GDP. They include external costs related to accidents, environment (air pollution, climate change, costs related to energy production, i.e. the well-to-tank emissions, noise, habitat damage) and, only for road, congestion costs of around €11 billion ([88]). Congestion costs therefore amount to around 35% of total external costs ([89]), compared to around

([86]) Regulation (EU) No 1315/2013 of the European Parliament and of the Council of 11 December 2013 on Union guidelines for the development of the trans-European transport network and repealing Decision No 661/2010/EU, OJ L 348, 20.12.2013, p. 1.

([87]) Source: European Commission Joint Research Centre calculations based on TomTom data.

([88]) A significant part of the total external cost of congestion is already internalised by the willingness of users to travel in congested situations.

([89]) Infrastructure costs are not included in the figures on external costs.

29% for accident costs and around a third of the total for environmental costs. For land modes, annual infrastructure costs ([90]) amounted to almost €14 billion (including fixed infrastructure costs) in 2016. According to other research (Panteia, 2019), costs associated with lorries getting stuck in traffic jams amounted to €1.4 billion in 2018.

However, a large share of these external costs is recovered from road users, whereas for other transport modes pay-back rates are much lower. Internalising external and infrastructure costs – for example through taxes and charges – is important for social fairness and helps reduce external costs. Although the road sector has large external costs, in part due to congestion (see above), it is also the transport mode where these costs are best recovered from end users, suggesting that there are overall appropriate incentives in place to discourage overuse of road transport. Excluding fixed infrastructure costs, Dutch road users pay around 98% (passenger) and 26% (freight) of their total external and variable infrastructure costs. In contrast, rail users pay 47% for passenger and 43% for freight ([91]). Inland waterway transport is the mode that pays the least – just 3%.

The Netherlands is one of the frontrunners in the EU in decarbonising its transport sector by deploying alternative fuels. In the road sector, electric cars, and more recently hydrogen-powered vehicles, are gaining ground. For instance, of the 175,000 public charging points in the EU, almost 45,000 are in the Netherlands ([92]). The country is also leading efforts to decarbonise inland waterway transport. Furthermore, KLM Royal Dutch Airlines has pledged to develop and purchase 75,000 tonnes of sustainable aviation fuel a year over a 10-year period. It claims to be the first airline in the world to invest in sustainable aviation fuel on this scale ([93]).

4.4.3. INSTITUTIONAL QUALITY

Business environment

The Netherlands maintains an overall high-quality business environment. The country further improved its scores in the World Economic Forum Global Competitiveness Index (World Economic Forum, 2019) and now ranks 4th out of 140 countries. The country scores particularly well on business dynamism and infrastructure quality. The Netherlands performs very well on measures reflecting entrepreneurship and the conditions for the growth of enterprises (European Commission, 2019l; Flachenecker et al., 2020).

Internal market surveillance and enforcement

Market surveillance of the single market for goods is essential to protect consumers and to ensure a level playing field for businesses. Controls at external borders are a unique opportunity to stop unsafe and non-compliant products before distribution on the EU market. As the EU's largest port, the port of Rotterdam accounts for 10% of goods imported into the EU, implying that the Netherlands bears a key responsibility in this area.

The Netherlands reveals a worsening level of overall enforcement of internal market rules. In 2019, delays in transposing directives and complying with Court of Justice judgments both increased. Additional efforts to ensure full transposition of these rules and the elimination of infringement proceedings would help increase both cross-border trade and real incomes ([94]).

([90]) These are the annualised economic costs of the total infrastructure network on the basis of annual depreciation and financing costs. As such, they are different from annual infrastructure expenditure, which would show the actual spending on infrastructure in a given year.

([91]) The cost coverage indicators are affected, particularly for road transport, by the choice of using transport activity data following the nationality principle (transport activity is allocated to countries where the vehicle is registered) instead of the territoriality principle (transport activity is allocated to the countries where the activity actually takes place). For further explanations, please see the study mentioned in footnote 3 above.

([92]) Source: European Alternative Fuels Observatory.

([93]) Source: KLM corporate website: https://news.klm.com/klm-skynrg-and-shv-energy-announce-project-first-european-plant-for-sustainable-aviation-fuel/ (retrieved on 22.11.2019).

([94]) A full transposition of single market rules and the elimination of infringement proceedings have been estimated to increase real incomes by three quarters of a percentage point, while intra-EU trade could increase by more than 11% (WIFO, 2019).

Services regulation

The city of Amsterdam has introduced tight restrictions for short-term accommodation rentals. These severely limit the possibilities for residents to rent out their homes on an occasional basis via collaborative economy platforms. Without measures to manage large numbers of tourists using other forms of accommodation, the restrictions on the collaborative economy are unlikely to be suitable to address challenges stemming from the rapid growth of the tourism sector (Barron et al., 2019; Garcia-López et al., 2019; Bivens et al., 2019; Cocola-Gant et al.,. 2019).

T**he Netherlands plans to organise the auction for the 3.6 GHz band, the primary 5G pioneer band in the EU, with a substantial delay.** ([95]) This will slow down 5G roll-out, the next generation standard for mobile communications. It will mean that Dutch end users have to wait longer for reliable Gigabit speeds on their tablets and smartphones. In addition, economic progress of industry will be slowed down as services like automated driving, eHealth or industry automatisation may not be launched to the same extent as in other Member States.

Public procurement

The public procurement system generally works well, but authorities could improve transparency and accountability. A more competitive tendering of public procurement contracts, which add up to some 14% of GDP, could lead to lower prices, higher quality, more participation by smaller companies and/or more foreign competition in tenders. The publication rate of public tenders ([96]) has increased but remains below the EU average. In 2017, it stood at 2.5% of GDP (vs 1.9% of GDP in 2015), compared to an EU average of 4.1%. The quality of data published is generally not very high. For instance, contracting authorities are reluctant to include the value of contracts in contract award notices. The contract register includes currently available information (contract notices and contract award notices). Its expansion to cover other aspects (e.g. contract completion, payment register) would greatly contribute to helping improve the transparency and accountability of public procurement.

Businesses consider the legal protection in public procurement not to work effectively. The majority of businesses do not resort to legal remedies, because the procedures are perceived to be extensive and do not produce desired results (EZK, 2019b; VHG, 2019). The Netherlands has conducted an investigation into the system of legal protection (van Schelven et al., 2019). The issues that were raised as problematic concern limited standard of review, limited possibility to lodge complaints at different stages of procurement procedures and the need for a clearer role of the Commission of Procurement Experts. Based on the investigation, the Ministry of Economic Affairs announced a plan for the reform of the remedies system (EZK, 2019b).

Cooperation between public buyers may improve expertise in public procurement. In February 2018, the Ministry of Economic Affairs released an 'Agenda for Better Public Procurement' (*Actieagenda Beter Aanbesteden*), which aims to boost the procurement expertise of municipalities and government entities, including by improved cooperation between public buyers. In 2018, only 4% of procedures involved more than one buyer, one of the lowest levels in the EU.

An ambitious digitalisation strategy for procurement could simplify procedures for the benefit of buyers and suppliers. The e-procurement services in the Netherlands are provided to contracting authorities by the market together with the government-run TenderNed system. However, there is no plan yet to connect the national databases to facilitate implementation of the 'once-only' principle. In particular, the European Single Procurement Document – a self-declaration form standardised across EU countries – is not linked to the national databases. The Dutch

([95]) Concerning Decision (EU) 2019/235 on the 3.4-3.8 GHz band, the Dutch Authorities have informed the Commission of the following timeline. The auction of the 3450-3750 MHz band will take place by the end of 2021 or beginning of 2022. The band 3500-3700 MHz will be available for use from September 2022. There is no deadline set for bands 3450-3500 MHz and 3700-3750 MHz, due to remaining discussions on a national security issue (interception). Spectrum 3400-3450 MHz and 3750-3800 MHz will be made available from 2026 for local licensed use.

([96]) The publication rate refers to the value of procurement advertised on the EU Tenders Electronic Daily (TED) platform as a proportion of national GDP.

authorities state that national rules do not provide room for this.

The Netherlands is one of the frontrunners in the EU on green public procurement. It has a national target to reduce annual CO2 emissions from public procurement projects by over 1 million tonnes by 2021. Circular procurement is also part of the Green Deal 'Sustainable health for a sustainable future', signed by 132 stakeholders and aiming, among other things, to reduce greenhouse gas emissions and resource usage.

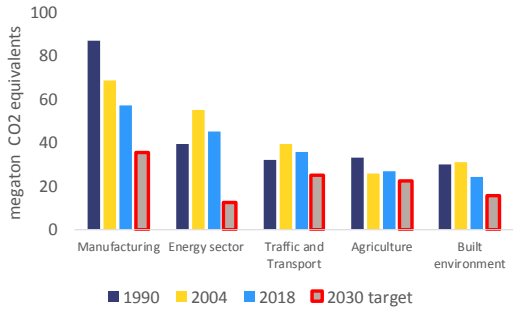
4.5. ENVIRONMENTAL SUSTAINABILITY

Tackling climate change

In 2019, the Netherlands adopted a national climate agreement (*'Klimaatakkoord'*) and climate act (*'Klimaatwet')* targeting emission reductions that exceed EU goals ([97]). The climate act creates a governance framework for reducing domestic greenhouse gas (GHG) emissions by 95% by 2050 compared to 1990, with an intermediate reduction target of 49% by 2030 – exceeding current EU goals (see Box 4.5.1). The Netherlands Environmental Assessment Agency will monitor progress (Schoots and Hammingh, 2019). The climate act is a further step forward towards achieving SDG 13 on climate action.

The climate agreement describes all measures and sectoral targets to achieve the GHG objective in a cost-effective way that is acceptable to society (EZK, 2019c). Short-term measures include (i) a shift in energy taxes from electricity to natural gas; (ii) a shift from households to businesses for financing investments in sustainable energy ('*Opslag Duurzame Energie'*); (iii) the introduction of a planned carbon tax and subsidy scheme for industry by 2021; and (iv) various changes in taxes and subsidies in the automotive sector. The size and scope of the main subsidy for the rollout of sustainable energy initiatives is being broadened ('*stimulerings-regeling duurzame energietransitie'* and *'investeringssubsidie duurzame energie'*). Longer-term measures include the shutdown of all coal-fired power plants before 2030; making 1.5 million buildings gas-free by 2030; and requirements for new cars to be zero emission by 2030. Assessments ([98]) show that the energy sector and manufacturing are the largest producers of GHG emissions (Graph 4.5.1), with the most potential for reducing emissions (Schoots and Hemming, 2019). GHG emissions in energy and transport were in fact higher in 2018 than in 1990 ([99]). Contributions from the built environment and agriculture are closer to their targets and are already substantially lower than in 1990.

Graph 4.5.1: **Greenhouse gas emissions by sector**



Source: Statistics Netherlands

Based on current policies, the Netherlands Environmental Assessment Agency expects GHG emissions to fall by 43-48% by 2030 (Hekkenberg and Notenboom, 2019). This exceeds the current EU 2030 target of 40%, but remains somewhat below the national goal of 49%. Some additional policy measures would therefore be needed to meet this 2030 target.

The budgetary implications of policy plans under the climate agreement appear modest as a whole. According to an analysis by the Bureau for Economic Policy Analysis (CPB), public expenditure on climate and energy policy will increase by €3.9 bn (around 0.5% of current GDP) by 2030, whereas the tax burden will increase by around €4.5 bn (also around 0.5% of GDP) (CPB, 2019d). Around 60% of this added tax burden will be borne by businesses, with the remaining 40% borne by households. The cumulative drag from the climate agreement on household disposable income is projected to remain limited, amounting to 1% by 2030. ([100])

([97]) Under the Paris climate agreement, the EU and its Member States have set a target to reduce greenhouse gas emissions of at least 40% by 2030 (compared to 1990) and 80-95% by 2050**.** There are currently two main instruments in place to achieve these goals: European-wide carbon pricing for industry through the EU emissions trading system which applies to power and heat generation, energy intensive industry and commercial aviation sectors, and binding emission reduction targets for individual Member States.

([98]) Different sectors produce different kinds of greenhouse gases. For example, carbon emissions originate from the combustion of fossil fuels and changes in land use, soil erosion and agriculture. Methane emissions come mainly from livestock.

([99]) However, a substantial reduction of emissions is expected from energy in the lead-up to 2030, with renewable electricity (see below).

([100]) The impact on income growth stems from (i) a (small) net negative contribution of revenue and expenditure measures, combined with (ii) somewhat weaker labour productivity developments due to adjustments to production processes required under the climate agreement; this is expected to be relatively larger for households with limited income than for households with large incomes.

Although there will be transition effects, the overall longer-term impact on employment is likewise expected to be marginal (CPB, 2019d). The transition will affect certain business models and the labour market, mainly through employment shifts to upcoming sectors such as renewable energy. In such sectors, demand for technical skills is high and specific, which will require reskilling and upskilling efforts (European Commission, 2019h; Eurofound, 2019). While macroeconomic projections over longer periods must be interpreted with care, the CPB's analysis does suggest that significant GHG emission reductions can be achieved with limited downside risk to overall economic growth.

Climate change will amplify already substantial water management issues, requiring continued investment in adapting infrastructure to climate change. 26% of the Netherlands land area lies below sea level, and 59% is highly flood-prone. Due to climate change, this will gradually worsen and is linked to rising sea levels, higher seasonal discharge through the river delta and more frequent extreme weather events. Although the Netherlands already has highly sophisticated adaptation infrastructure against flood risks, this anticipated impact from climate change calls for continued investment in e.g. water retention, water discharge capacity as well as dike protection ([101]). The Dutch Delta programme and Delta Fund address these issues. For example, the recent 'room for the river' plan (with investments of €2.3 bn) enables higher water levels and discharge volumes along major rivers to be managed. The major *Afsluitdijk*-dam is currently reconstructed and modernised, with funding from the European Investment Bank. Overall, €17.9 bn will be available in the Delta Fund for 2020-2033, creating an annual budget of €1.3 bn (0.2% of GDP) (IenW, 2019).

([101]) Some of the investment requirements in these areas are already enshrined in law, under the Water Act (*'Waterwet'*). This specifies minimum standards for all dyke sections, with mandated upkeep if requirements are not met.

To achieve climate aspirations and to support a more sustainable and resource-efficient economy, substantial investment, including in R&D and innovation, is needed. In addition to significant energy sector investments (see below), the climate agreement envisages forward-looking research and innovation as a necessary driver to achieve long-run emission reduction targets. The new mission-driven innovation policy (see Section 4.4.2) will support an agenda for climate and energy research using both public R&D investments and private resources. The aim is to leverage eco-innovation and emerging technologies to lower the cost of environmental improvements and facilitate competitive yet sustainable business development.

The clustered character of energy-intensive industries offers specific potential for reducing carbon emissions and developing alternative sustainable economic activity. Energy production, the chemical industry and the manufacturing of basic metals are clustered in regional value-chains, mainly in five areas ([102]) that coincide with the most carbon-intensive regions. Synergies between sectors and companies in these clusters offer decent prospects for innovation to reduce CO2 emissions and to develop alternative sustainable economic activity such as the production of clean hydrogen or the recycling and reuse of materials. A regional approach that ensures ownership, shared knowledge development and coordination can help exploit this potential and adapt the labour market accordingly (Weterings et al., 2018).

([102]) These five cluster areas with energy-intensive industries are Rotterdam/West-Noord-Brabant, Zuid-Limburg, Zeeuws-Vlaanderen/Zeeland, the North-Sea channel area (Amsterdam/Ijmond) and Delfzijl/Eemshaven in the province of Groningen.

Box 4.5.1: Climate policy: towards carbon neutrality

The Dutch climate act involves a long-term planning process aimed at achieving a very low-carbon economy in 2050. The Netherlands adopted its national climate act in July 2019. It creates a governance framework for reducing domestic greenhouse gas emissions by 95% by 2050 compared to 1990, with an intermediate political objective of a 49% reduction by 2030. To this end, the act mandates that a national climate plan is to be drafted every 5 years, with the first plan published in 2019 focusing on 2021-2030. The Environmental Assessment Agency will present annual forecasts for reducing carbon emissions to assess whether the government is on track to reach its target. The first of these was published in autumn 2019, with the Agency concluding that while the current policy mix is ambitious, it falls slightly short of the 49% target, with an estimated reduction of 43-48% by 2030([1]).

The Netherlands organised a thorough stakeholder process to develop its future climate policy in the national Climate Agreement. In October 2017, the Rutte III Coalition set a unilateral objective of reducing greenhouse gas emissions by 49% by 2030 compared to 1990. In 2018, over 150 stakeholders and governmental organisations worked together to formulate a draft climate agreement that is cost-effective and acceptable to society. The purpose of the discussions was to create a way to achieve the political objective. Indicative reduction objectives were set per sector, based on calculations by the Agency of the most cost-effective transition pathways in all sectors. Sectoral working groups discussed possible measures for the construction, transport, power, industry and land sectors, including agriculture and forestry. Sizeable reductions are expected by 2030 thanks to the shift from coal to renewable electricity, as well as a combination of a national CO_2-levy and subsidies to promote emission reduction projects in industry. In addition, various policies support the electrification of transport, energy-efficiency in housing and the deep renovation of neighbourhoods with the aim of phasing out the use of natural gas by 2050 in the built environment. A key aspect of the climate agreement is linked to the regional energy strategies. These strategies will be developed by local governments and interest groups and will contain projects with local support in the areas of renewable electricity, heating for the built environment, and local infrastructure needs.

The national climate agreement comprises a cohesive set of policy measures to reduce carbon emissions, with wide support from stakeholders across Dutch society. Given the level of ambition, the draft agreement of 2018 and its impact assessment by Environmental Assessment Agency led to a lively and contentious public debate in early 2019. The debate focused in particular on the distribution of costs between households and industry, as well as the impact on the daily lives of citizens in terms of their homes or cars. The final climate agreement([2]) was presented in June 2019, with a preliminary assessment([3]) accompanying the Dutch climate and energy outlook([4]) published in early November 2019. The Climate Agreement forms the basis for the national climate plan that is mandated by the Climate Act and the National Energy and Climate Plan. Following a public consultation and a consultation with neighbouring countries, both these plans were sent for approval to Parliament on the 25th November. The Dutch government was the first EU Member State to submit its national energy and climate plan to the European Commission[103]

[103] The Commission will assess, in the course of 2020, the final National Energy and Climate Plan submitted by the Netherlands on 18 December 2019

([1]) https://www.pbl.nl/publicaties/het-klimaatakkoord-effecten-en-aandachtspunten
([2]) https://www.rijksoverheid.nl/onderwerpen/klimaatverandering/documenten/kamerstukken/2019/06/28/kamerbrief-voorstel-voor-een-klimaatakkoord
([3]) https://www.pbl.nl/publicaties/het-klimaatakkoord-effecten-en-aandachtspunten
([4]) https://www.pbl.nl/publicaties/klimaat-en-energieverkenning-2019

Energy efficiency & renewable energy

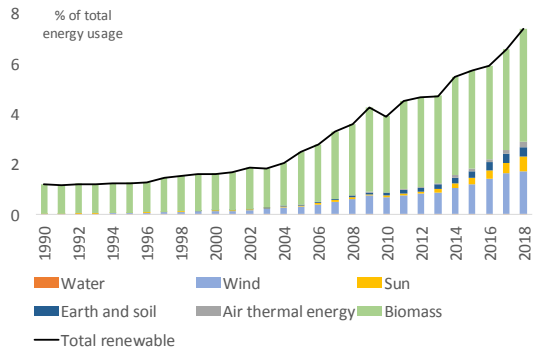
The Netherlands will likely achieve its required end-use energy savings obligation for 2014-2020. The Netherlands Environmental Agency (Schoots and Hemming, 2019) estimates that by 2020, final energy consumption will be 49.9 Mtoe, outperforming the target of 52.2 Mtoe. The primary energy consumption target of 60.7 Mtoe in 2020 will most likely not be reached (the agency's estimate for 2020 is 62.1 Mtoe). In its national energy and climate plan, the Netherlands aims to achieve an additional 12% saving in final energy consumption (to 43.9 Mtoe in 2030, excluding non-energy use) and a 25% saving in primary energy consumption (to 46.6 Mtoe in 2030) (EZK, 2019c). Without further action the 2030 target level for primary energy consumption will not be reached, according to the agency.

Additional measures are also needed to meet the national 2020 renewable energy target. The energy act (2013) included the EU target of 14% of all energy consumption from renewables by 2020. In 2018, only 7.4% of energy consumption was renewable and the 2020 target is expected to be missed. The government has announced additional measures, including an increased budget for its two main support schemes (SDE+ and ISDE) and an analysis of the use of statistical transfers to address the remaining gap. Beyond 2020, the share of renewable energy consumption should rise to 16% in 2023 and to least 25% in 2030 according to the climate act (as of 2019, this incorporates all measures from the energy act).

Biomass remains the main source of renewable energy, although the share of wind energy is increasing. The largest share of renewable energy originates from biomass. Using biomass, however, only contributes to GHG savings when produced, processed and used in a sustainable and efficient way. Other types of renewable energy, based on water, wind and sun, are becoming increasingly important (Graph 4.5.2) and should provide an additional 35TWh by 2030. Continued government support and declining costs of offshore wind farms will increase renewable energy production, with up to 49 TWh of wind farms being planned before 2030 in the North Sea..

The government aims to increase the share of renewable energy consumption in electricity, heating and transport. The share of renewable energy for heating is expected to double from 6% in 2017 to 13% in 2030, partly thanks to an increase of renewable energy in district heating systems. Natural gas currently heats 95% of all buildings. The climate agreement plans to make at least 1.5 million buildings gas-free by 2030 by banning natural gas in all new buildings. Renewable electricity's share is expected to increase from 15% in 2018 to more than 67% in 2030. The Netherlands is one of the frontrunners in the EU in decarbonizing its transport sector (see Section 4.4.2). It significantly increased its share of renewable energy in the transport sector from 6% in 2017 to 9.6% in 2018, above the European average of 8%. The growth is accomplished by increasing the national blending obligation to 8.5%, by increasing the scope of the obligation to agricultural and forestry vehicles, and by a sub-target for advanced biofuels. The Dutch government has not set a sectoral target for renewable energy in transport yet, but its national mission-oriented innovation programme has set a target of 33% of renewables by 2030.[104][105] .

Graph 4.5.2: **Renewable energy usage by source**



Source: Statistics Netherlands

The transition to renewable energy will further reduce the use of natural gas and coal for energy and heat production. The five remaining coal-fired power plants (producing 26% of electricity in 2017) will be gradually phased out by 2030. They employ just over 900 people with almost 4,000 indirect jobs. Natural gas extraction in Groningen the main extraction area will end in 2022. In 2017, the gas extraction sector employed

[104] https://ec.europa.eu/energy/sites/ener/files/documents/nl_final_necp_main_nl.pdf

[105] https://www.rijksoverheid.nl/documenten/rapporten/2019/07/04/rapportage-energie-voor-vervoer-in-nederland-2018

3,250 people, of which 1,660 in the extraction areas in North Netherlands. The energy transition particularly affects the province of Groningen where the decline of the gas industry is coupled with emission reduction challenges in industry, including the phasing-out of coal-based energy production. The National Programme for Groningen([106]), offering a framework for investment in economic development, employment, environment, sustainability and climate change, embraces energy transition as a focus. As a starting capital, the Dutch Government made €1.15 bn available to the programme. The Just Transition Fund is designed to ensure that the transition towards EU climate neutrality is fair by helping the most affected regions to address the social and economic consequences and therefore can contribute to dealing with the challenge in this province.

Investments in renewable energy and networks are expected to increase substantially over the coming decade. Investments in the energy sector as a whole are projected to rise from around €11.6 bn in 2017 to €15.6 bn in 2030 (Schoots and Hemming, 2019). Of these, investments in conventional energy sources will stabilise at around €2 bn a year. Investments in energy efficiency rose from €2.5 bn in 2010 to €4.1 bn in 2017, and will rise further to €5 bn in 2030. Investments in renewable energy and networks are expected to increase from €5.5 bn in 2017 to €9.5 bn by 2030. The most recent measures in the climate agreement will lead to an additional €19-31 bn of investments between 2019 and 2030.

However, further substantial investments are needed in energy infrastructure, which were not clearly specified in the climate agreement. In some instances, infrastructure gaps are already causing implementation delays for renewable energy projects, as some projects could not be connected to the grid due to capacity constraints in 2019. Capacity constraints are also holding back further investment in data centres with a number of cities deciding not to grant further licences for the time being. Proposals for district heating and gas-free buildings likewise require new infrastructure. The network operators are conducting work (Gasunie and Tenet, 2019) in order to design a network optimised for energy carriers and able to respond to the needs of a decarbonised economy. In this context, the Netherlands is looking to build a dedicated hydrogen network to connect industrial clusters. However, how such plans translate into specific infrastructure investments in heat, electricity, hydrogen or CO2 networks , which still need clarification.

Circular economy

The Netherlands has the highest resource productivity in the EU ([107]). Circular (secondary) use of materials stood at 29 % in 2016, a remarkable share compared with the EU-28 average of 11.7% ([108]). There is clear support for circular economy initiatives and environmental protection in both society and government.

Nevertheless, some challenges remain, particularly on tackling waste. The amount of municipal waste generated per person in the Netherlands is 511 kg, higher than the EU average of 489 kg (2017), although there is a downward trend. There is scope to improve compliance with recycling targets for the post-2020 period, in particular on the continued high level of municipal waste incineration (44% in 2017). Generation of total waste, excluding major mineral waste, was 40% above the EU average in 2016. Generation of hazardous waste is increasing in the Netherlands and has doubled since 2004, ranking 7th in the EU.

Sector-specific synergies and trade-offs

Environmental sustainability is pushing all sectors in the economy to take appropriate action. Public finance measures aim to support a green tax mix in the Netherlands (see Section 4.1). The farming, housing, infrastructure and transport sectors will need to adapt to the reassessment of the country's nitrogen policy, by making improved choices on environmentally harmful emissions (see Box 1.1). The banking sector is increasingly factoring environmental sustainability aspects into

([106]) The National Programme for Groningen (2019) is an initiative by the Dutch Government, the province of Groningen and the concerned municipalities in the province.

([107]) Resource productivity is how efficiently the economy uses material resources to produce wealth; the Netherlands scored €4.2/kg in 2017 (EU: €2.04/kg) (EEA, 2016).

([108]) European Commission, circular material use rate. This indicator measures the share of material recovered and fed back into the economy.

its risk management and capital allocation decisions (see Section 4.2). Furthermore, even though additional infrastructure works aim to ease traffic congestion and the Netherlands is a frontrunner in decarbonising its transport sector, sustainable mobility remains a challenge, with significant economic, social and environmental costs (see subsection 4.4.2).

ANNEX A
Overview table

Commitments	Summary assessment ([109])
2019 country-specific recommendations (CSRs)	
CSR 1: Reduce the debt bias for households and the distortions in the housing market, including by supporting the development of the private rental sector. Ensure that the second pillar of the pension system is more transparent, inter-generationally fairer and more resilient to shocks. Implement policies to increase household disposable income, including by strengthening the conditions that support wage growth, while respecting the role of social partners. Address features of the tax system that may facilitate aggressive tax planning, in particular by means of outbound payments, notably by implementing the announced measures.	The Netherlands has made **some progress** in addressing CSR 1
Reduce the debt bias for households and the distortions in the housing market, including by supporting the development of the private rental sector.	**Some progress.** The accelerated reduction of the applicable rate for mortgage interest tax deductibility is being implemented from 2020, with the rate being reduced by 3 pps per year to 37% in 2023. While this helps to address the debt bias for households, a substantial subsidy on debt-financed home-ownership remains. The Dutch authorities announced a package of housing market measures in September 2019, aimed primarily at boosting construction, including in the private rental sector. However, their impact remains uncertain.

([109]) The following categories are used to assess progress in implementing the country-specific recommendations (CSRs):

No progress: The Member State has not credibly announced nor adopted any measures to address the CSR. This category covers a number of typical situations to be interpreted on a case by case basis taking into account country-specific conditions. They include the following:
- no legal, administrative, or budgetary measures have been announced in the national reform programme, in any other official communication to the national Parliament/relevant parliamentary committees or the European Commission, publicly (e.g. in a press statement or on the government's website);
- no non-legislative acts have been presented by the governing or legislative body;
- the Member State has taken initial steps in addressing the CSR, such as commissioning a study or setting up a study group to analyse possible measures to be taken (unless the CSR explicitly asks for orientations or exploratory actions). However, it has not proposed any clearly-specified measure(s) to address the CSR.

Limited progress: The Member State has:
- announced certain measures but these address the CSR only to a limited extent; and/or
- presented legislative acts in the governing or legislative body but these have not been adopted yet and substantial further, non-legislative work is needed before the CSR is implemented;
- presented non-legislative acts, but has not followed these up with the implementation needed to address the CSR.

Some progress: The Member State has adopted measures
- that partly address the CSR; and/or
- that address the CSR, but a fair amount of work is still needed to fully address the CSR fully as only a few of the measures have been implemented. For instance, a measure or measures have been adopted by the national Parliament or by ministerial decision but no implementing decisions are in place.

Substantial progress: The Member State has adopted measures that go a long way towards addressing the CSR and most of them have been implemented.

Full implementation: The Member State has implemented all measures needed to address the CSR appropriately.

Ensure that the second pillar of the pension system is more transparent, inter-generationally fairer and more resilient to shocks.	**Some progress.** The social partners and government reached a framework agreement on pension reform in June 2019. Overall, the agreement aims to address the vulnerabilities in the pension system (such as weak intergenerational fairness (due to '*doorsneesystematiek*') and lack of transparency) while maintaining its strengths: compulsory participation, collective implementation, collective risk sharing and supportive tax rules. The agreement holds significant promise and addresses key distortions in the second pillar system (i.e. it removes the structural intergenerational transfers present under the *doorsneesystematiek* approach and reduces the procyclical impact of the system (as market shocks should no longer impact premiums), while at the same time it will be better equipped to deal with flexible career paths). However, the implementation of some important elements is still ongoing. Some legislative measures have already been taken, but the overall legislative process is expected to take until early 2021, with the new framework gradually being phased in from 2022.
Implement policies to increase household disposable income, including by strengthening the conditions that support wage growth, while respecting the role of social partners.	**Some progress.** Wage growth is increasing but has remained subdued in real terms in recent years. However, it is expected to pick up in 2020 with a further tightening of the labour market. Wage growth in collective agreements increased on average by 2.6% in 2019 – the fastest pace in 10 years. In addition, the government has taken tax measures for 2020, including raising the working tax credit (*arbeidskorting*) and the general tax credit (*algemene heffingskorting*), to stimulate disposable household income.
Address features of the tax system that may facilitate aggressive tax planning, in particular by means of outbound payments, notably by implementing the announced measures.	**Some progress.** There was some progress in addressing the country-specific recommendation on addressing aggressive tax planning. The Netherlands introduced a conditional withholding tax on royalty and interest payments, which will enter into force in January 2021. However, its effectiveness in addressing the issue of aggressive tax planning remains to be seen.
CSR 2: Reduce the incentives for the self-employed without employees, while promoting adequate social protection for the self-employed, and tackle bogus self-employment. Strengthen comprehensive life-long learning and upgrade skills notably of those at the margins of the labour market and the inactive.	The Netherlands has made **limited progress.** in addressing CSR 2
Reduce the incentives for the self-employed without	**Limited progress.** In order to reduce incentives for

employees, while promoting adequate social protection for the self-employed,	the use of self-employed, the government announced its intention to introduce a general minimum hourly rate of EUR 16 for all self-employed without employees providing services to both business and private clients, in combination with an opt-out of payroll taxes and employee's insurances, as well as parts of labour law, collective agreements and pension obligations for those self-employed applying an hourly rate of EUR 75 or more. A public consultation on the respective draft bills implementing the intended proposals has been launched on 28 October 2019 in view of them becoming law by 1 January 2021. The government is expected to send the final draft bills to Parliament in 2020. The government also announced its intention to gradually decrease the tax deduction and improve social security coverage for self-employed workers. The deduction is set to be reduced by EUR 250 per year until 2028 (when the maximum deductible amount will be EUR 5 000. With respect to a possible social security coverage for sickness/disability for self-employed, the government and social partners decided to introduce mandatory disability insurance for the self-employed as part of their agreement in principle on the reform of the pension system of 5 June 2019. In consultation with organisations representing the self-employed, discussions are ongoing in the *'Stichting van de Arbeid*' platform on how to implement this agreement. A concrete proposal [is expected in] early 2020 and it is the government's intention to send a legislative proposal to Parliament before summer 2020. Possibilities to increase the pension coverage for the self-employed on a voluntary basis are currently equally being assessed and results are expected to be presented before summer 2020.
and tackle bogus self-employment.	**Limited progress.** The suspension of the enforcement of measures adopted to tackle bogus self-employment, initially foreseen until 2020, has been further extended until 2021. Nevertheless, the criterion 'under the control and direction' ('*gezagsverhouding*') has been clarified as of 1 January 2019, while in addition, a draft questionnaire has been developed in view of implementing a web module to qualify the working relationship of self-employed workers, in particular when there is no employment relationship. Further information on the state of play with respect to the development of the web module itself is expected to be provided in 1st quarter 2020.

Strengthen comprehensive life-long learning and upgrade skills notably of those at the margins of the labour market and the inactive.	**Some progress.** The Dutch government presented in October 2018 a new strategy to create a genuine learning culture and give more ownership to individuals for their training. An important element of it is to promote individual training budgets through the so-called STAP (*Stimulans Arbeidsmarktpositie*, Stimulus for labour market participation) initiative which replaces the tax deduction for educational expenses. A budget of EUR 200 million per year will be allocated to it. An individual would be able to receive a subsidy of maximum EUR 1 000 to cover training costs. With the STAP budget, anyone with a link to the Dutch labour market could be enabled to use training for their own development and employability. It is scheduled to enter into force scheduled from January 2022. In addition, an internet consultation has been launched in November 2019 with respect to a draft regulation to stimulate life-long learning in small and medium sized enterprises and the agricultural, hospitality and recreation sectors specifically (SLIM regeling), for which EUR 48 million will be made available annually.
CSR 3: While respecting the medium-term budgetary objective, use fiscal and structural policies to support an upward trend in investment. Focus investment-related economic policy on research and development in particular in the private sector, on renewable energy, energy efficiency and greenhouse gas emissions reduction strategies and on addressing transport bottlenecks.	The Netherlands has made **some progress.** in addressing CSR 3
While respecting the medium-term budgetary objective, use fiscal and structural policies to support an upward trend in investment.	**Some progress.** The Dutch authorities are implementing a fiscal expansion for 2020 and have passed legislation to set-up Invest-NL, a national promotional institution with a mandate to support private-sector investment. However, there remains scope to boost public investment further as the Netherlands has some remaining fiscal space.
Focus investment-related economic policy on research and development in particular in the private sector,	**Limited progress.** Revised R&D figures show slow progress regarding the private R&D intensity and a slight decline in the public R&D intensity. The total R&D intensity stabilizes, but lags behind the national target of 2.5% in 2020 and the R&D intensity of co-leaders in innovation. Although new policy measures have been announced, their impact remains to be seen.
on renewable energy, energy efficiency and	**Some progress.** The Netherlands adopted a Climate Change Act setting greenhouse gas reduction targets

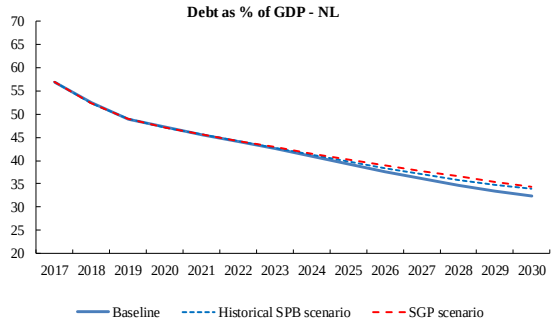
greenhouse gas emissions reduction strategies	for 2030 and 2050, as well as a Climate Agreement with a set of adopted and proposed policies for meeting the 2030 target, including an analysis on investment needs. However, some work still needs to be done to define an overarching and coherent climate investment agenda addressing both public and private sectors.
and on addressing transport bottlenecks.	**Some progress.** The Government agreement set out a clear path with measures to address the increasing traffic on the road, rail, water and in the air. However, there remains room for further improvement.
Europe 2020 (national targets and progress)	
Employment rate target set in the 2016 NRP: 80%.	The employment rate is on an upward trend, reaching about 80.3% in Q3-2019. The Netherlands has thus achieved its target.
R&D target set in the NRP: 2.5% of GDP	At 2.16% of GDP in 2018, the Netherlands appears unlikely to reach its 2020 R&D intensity target.
National greenhouse gas (GHG) emissions target: -16% in 2020 compared with 2005 (in sectors not included in the EU emissions trading scheme)	According to national projections, the Netherlands is expected to achieve a greenhouse gas reduction of 26% in 2020 compared to 2005, well beyond its 16% target under the Effort Sharing Regulation.
2020 renewable energy target: 14%	Despite a strong increase in renewable energy from offshore wind farms, the target of 14% for renewable energy consumption in 2020 will not be met, with an expected share of 11.4% according to the national outlook.
Energy efficiency, 2020 energy consumption targets: - 60.7 Mtoe in primary energy consumption - 52.2 Mtoe in final energy consumption	With an estimated absolute level of final energy consumption of 49.9 Mtoe in 2020, the Netherlands has exceeded its final energy consumption target. However, with an estimated level of primary energy consumption of 62.1 Mtoe in 2020, it will overshoot its primary energy consumption target.
Early school/training leaving target: <8.0%.	After achieving the target in 2016, the percentage of early school leavers has been further reduced. In 2018, the percentage stood at 7.3%.
Tertiary education target: >40% of population aged 30-34.	The rate was 49.4% in 2018, which is well above the national target and the EU average.
Target for reducing the number of people at risk of poverty or social exclusion: 100 000 less people	The number of people in jobless households was 1 516 000 in 2017. This is 97 000 less than in 2008

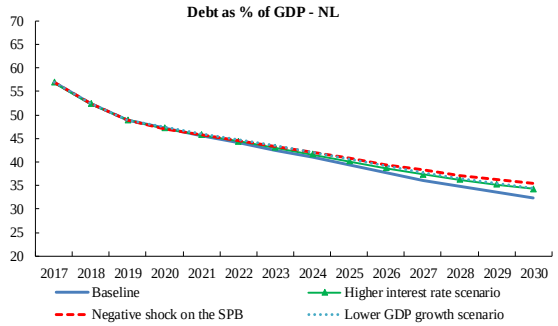
living in jobless household (compared to 2008)	(1 613 000). Thus the target has almost been reached.

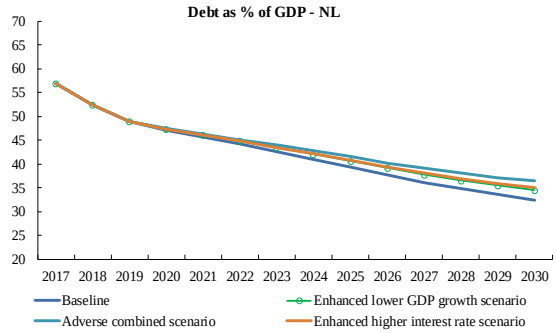
ANNEX B: COMMISSION DEBT SUSTAINABILITY ANALYSIS AND FISCAL RISKS

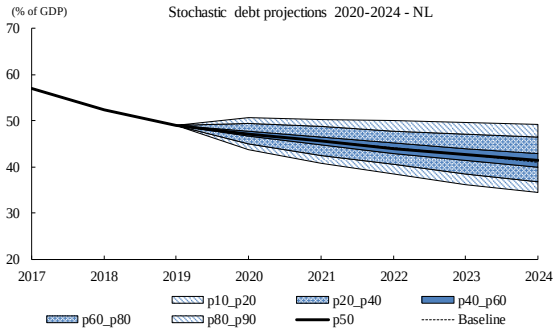
General government debt projections under baseline, alternative scenarios and sensitivity tests

NL - Debt projections baseline scenario	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Gross debt ratio	**52.4**	**48.9**	**47.1**	**45.6**	**44.1**	**42.6**	**41.0**	**39.3**	**37.7**	**36.1**	**34.8**	**33.5**	**32.4**
Changes in the ratio (-1+2+3)	*-4.5*	*-3.5*	*-1.8*	*-1.5*	*-1.5*	*-1.5*	*-1.6*	*-1.6*	*-1.7*	*-1.5*	*-1.4*	*-1.2*	*-1.1*
of which													
(1) Primary balance (1.1+1.2+1.3)	**2.4**	**2.2**	**1.2**	**1.0**	**1.0**	**0.9**	**0.9**	**0.9**	**0.9**	**0.8**	**0.7**	**0.6**	**0.4**
(1.1) Structural primary balance *(1.1.1-1.1.2+1.1.3)*	***1.8***	***1.5***	***0.8***	***0.8***	***0.8***	***0.8***	***0.9***	***0.9***	***0.9***	***0.8***	***0.7***	***0.6***	***0.4***
(1.1.1) Structural primary balance (bef. CoA)	*1.8*	*1.5*	*0.8*	*0.8*	*0.8*	*0.8*	*0.8*	*0.8*	*0.8*	*0.8*	*0.8*	*0.8*	*0.8*
(1.1.2) Cost of ageing					*0.1*	*0.1*	*0.2*	*0.3*	*0.3*	*0.5*	*0.7*	*1.0*	*1.2*
(1.1.3) Others (taxes and property incomes)					*0.1*	*0.2*	*0.3*	*0.4*	*0.4*	*0.5*	*0.7*	*0.7*	*0.8*
(1.2) Cyclical component	***0.6***	***0.6***	***0.3***	***0.3***	***0.2***	***0.1***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***
(1.3) One-off and other temporary measures	***0.0***	***0.2***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***
(2) Snowball effect (2.1+2.2+2.3)	**-1.7**	**-1.3**	**-0.6**	**-0.5**	**-0.5**	**-0.6**	**-0.7**	**-0.8**	**-0.8**	**-0.7**	**-0.7**	**-0.7**	**-0.7**
(2.1) Interest expenditure	*0.9*	*0.8*	*0.7*	*0.6*	*0.5*	*0.5*	*0.4*	*0.4*	*0.3*	*0.3*	*0.3*	*0.2*	*0.2*
(2.2) Growth effect	*-1.4*	*-0.9*	*-0.6*	*-0.6*	*-0.4*	*-0.3*	*-0.3*	*-0.3*	*-0.3*	*-0.3*	*-0.2*	*-0.2*	*-0.3*
(2.3) Inflation effect	*-1.2*	*-1.3*	*-0.7*	*-0.6*	*-0.7*	*-0.8*	*-0.8*	*-0.8*	*-0.8*	*-0.7*	*-0.7*	*-0.7*	*-0.7*
(3) Stock-flow adjustments	**-0.4**	**0.1**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**









Short term	Medium term	S1	Debt sustainability analysis (detail)						DSA	S2	Long term
				Baseline	Historical SPB	Lower GDP growth	Higher interest rate	Negative shock on SPB	Stochastic projections			
			Risk category	LOW	LOW	LOW	LOW	LOW	LOW			
			Debt level (2030)	32.4	33.9	34.5	34.2	35.4				
			Debt peak year	2019	2019	2019	2019	2019				
			Percentile rank	43.0%	46.0%							
			Probability debt higher						10.8%			
			Dif. between percentiles						14.8			
LOW (S0 = 0.2)	LOW	LOW (S1 = -3.2)								LOW	MEDIUM (S2 = 2.8)	MEDIUM

Note: For further information, see the European Commission Debt Sustainability Monitor (DSM) 2019.

[1] The first table presents the baseline no-fiscal policy change scenario projections. It shows the projected government debt dynamics and its decomposition between the primary balance, snowball effects and stock-flow adjustments. Snowball effects measure the net impact of the counteracting effects of interest rates, inflation, real GDP growth (and exchange rates in some countries). Stock-flow adjustments include differences in cash and accrual accounting, net accumulation of assets, as well as valuation and other residual effects.

[2] The charts present a series of sensitivity tests around the baseline scenario, as well as alternative policy scenarios, in particular: the historical structural primary balance (SPB) scenario (where the SPB is set at its historical average), the Stability and Growth Pact (SGP) scenario (where fiscal policy is assumed to evolve in line with the main provisions of the SGP), a higher interest rate scenario (+1 pp. compared to the baseline), a lower GDP growth scenario (-0.5 pp. compared to the baseline) and a negative shock on the SPB (calibrated on the basis of the forecasted change). An adverse combined scenario and enhanced sensitivity tests (on the interest rate and growth) are also included, as well as stochastic projections. Detailed information on the design of these projections can be found in the FSR 2018 and the DSM 2019.

[3] The second table presents the overall fiscal risk classification over the short, medium and long term.

a. For the short-term, the risk category (low/high) is based on the S0 indicator. S0 is an early-detection indicator of fiscal stress in the upcoming year, based on 25 fiscal and financial-competitiveness variables that have proven in the past to be leading indicators of fiscal stress. The critical threshold beyond which fiscal distress is signalled is 0.46.

b. For the medium term, the risk category (low/medium/high) is based on the joint use of the S1 indicator and of the DSA results. The S1 indicator measures the fiscal adjustment required (cumulated over the 5 years following the forecast horizon and sustained after that) to bring the debt-to-GDP ratio to 60 % by 2034. The critical values used are 0 and 2.5 pps of GDP. The DSA classification is based on the results of five deterministic scenarios (baseline, historical SPB, higher interest rate, lower GDP growth and negative shock on the SPB scenarios) and the stochastic projections. Different criteria are used such as the projected debt level, the debt path, the realism of fiscal assumptions, the probability of debt stabilisation, and the size of uncertainties.

c. For the long term, the risk category (low/medium/high) is based on the joint use of the S2 indicator and the DSA results. The S2 indicator measures the upfront and permanent fiscal adjustment required to stabilise the debt-to-GDP ratio over the infinite horizon, including the costs of ageing. The critical values used are 2 and 6 pps of GDP. The DSA results are used to further qualify the long term risk classification, in particular in cases when debt vulnerabilities are identified (a medium / high DSA risk category).

ANNEX C: STANDARD TABLES

Table C.1: **Financial market indicators**

	2014	2015	2016	2017	2018	2019
Total assets of the banking sector (% of GDP)[1]	359.4	352.3	353.5	322.0	299.9	315.0
Share of assets of the five largest banks (% of total assets)	85.0	84.6	84.7	83.8	84.7	-
Foreign ownership of banking system (% of total assets)[2]	6.7	7.2	6.9	7.4	6.7	6.2
Financial soundness indicators:[2]						
- non-performing loans (% of total loans)	3.4	2.7	2.4	2.1	1.9	1.8
- capital adequacy ratio (%)	18.4	20.6	22.4	22.1	22.4	22.6
- return on equity (%)[3]	3.3	7.0	7.3	8.8	8.1	8.7
Bank loans to the private sector (year-on-year % change)[1]	1.1	-1.9	0.5	-2.0	-3.2	1.0
Lending for house purchase (year-on-year % change)[1]	1.3	5.4	3.5	3.3	-1.8	1.4
Loan-to-deposit ratio[2]	127.0	122.2	119.6	117.7	117.6	118.7
Central bank liquidity as % of liabilities[1]	0.6	0.7	0.8	1.5	1.4	1.3
Private debt (% of GDP)	267.2	262.8	259.3	249.1	241.6	-
Gross external debt (% of GDP)[2] - public	43.2	37.5	32.2	25.3	23.7	23.6
- private	346.6	349.8	338.6	326.1	314.2	300.4
Long-term interest rate spread versus Bund (basis points)*	29.2	19.4	20.3	20.4	17.9	18.5
Credit default swap spreads for sovereign securities (5-year)*	28.2	16.1	23.4	17.9	9.6	10.1

(1) Latest data Q3 - 2019. Includes not only banks but all monetary financial institutions excluding central banks.
(2) Latest data Q2 - 2019.
(3) Quarterly values are annualised.
* Measured in basis points.
Source: European Commission (long-term interest rates); World Bank (gross external debt); Eurostat (private debt); ECB (all other indicators).

Table C.2: **Headline social scoreboard indicators**

	2014	2015	2016	2017	2018	2019 [5]
Equal opportunities and access to the labour market						
Early leavers from education and training (% of population aged 18-24)	8.7	8.2	8.0	7.1	7.3	:
Gender employment gap (pps)	11.4	11.1	11.0	10.5	10.1	9.4
Income inequality, measured as quintile share ratio (S80/S20)	3.8	3.8	3.9	4.0	4.1	:
At-risk-of-poverty or social exclusion rate(1) (AROPE)	16.5	16.4	16.7	17.0	16.7	:
Young people neither in employment nor in education and training (% of population aged 15-24)	5.5	4.7	4.6	4.0	4.2	:
Dynamic labour markets and fair working conditions						
Employment rate (20-64 years)	75.4	76.4	77.1	78.0	79.2	80.1
Unemployment rate(2) (15-74 years)	7.4	6.9	6.0	4.9	3.8	3.4
Long-term unemployment rate (as % of active population)	2.9	3.0	2.5	1.9	1.4	1.1
Gross disposable income of households in real terms per capita(3) (Index 2008=100)	98.9	100.1	101.9	102.4	104.1	:
Annual net earnings of a full-time single worker without children earning an average wage (levels in PPS, three-year average)	27800	28570	28768	:	:	:
Annual net earnings of a full-time single worker without children earning an average wage (percentage change, real terms, three-year average)	0.90	1.39	1.18	:	:	:
Public support / Social protection and inclusion						
Impact of social transfers (excluding pensions) on poverty reduction(4)	45.5	48.0	42.5	39.7	39.0	:
Children aged less than 3 years in formal childcare	44.6	46.4	53.0	61.6	56.8	:
Self-reported unmet need for medical care	0.5	0.1	0.2	0.1	0.2	:
Individuals who have basic or above basic overall digital skills (% of population aged 16-74)	:	72.0	77.0	79.0	:	:

(1) People at risk of poverty or social exclusion (AROPE): individuals who are at risk of poverty (AROP) and/or suffering from severe material deprivation and/or living in households with zero or very low work intensity.
(2) Unemployed persons are all those who were not employed but had actively sought work and were ready to begin working immediately or within two weeks.
(3) Gross disposable household income is defined in unadjusted terms, according to the draft 2019 joint employment report.
(4) Reduction in percentage of the risk-of-poverty rate, due to social transfers (calculated comparing at-risk-of-poverty rates before social transfers with those after transfers; pensions are not considered as social transfers in the calculation).
(5) Average of first three quarters of 2019 for the employment rate, unemployment rate and gender employment gap.
Source: Eurostat

Table C.3: **Labour market and education indicators**

Labour market indicators	**2014**	**2015**	**2016**	**2017**	**2018**	**2019** [5]
Activity rate (15-64)	79.0	79.6	79.7	79.7	80.3	80.8
Employment in current job by duration						
From 0 to 11 months	11.9	13.0	13.9	14.6	15.2	:
From 12 to 23 months	7.6	7.7	8.4	9.2	9.6	:
From 24 to 59 months	15.6	14.8	14.4	14.7	15.9	:
60 months or over	63.6	63.0	61.8	60.0	57.8	:
Employment growth* (% change from previous year)	-0.1	1.0	1.5	2.2	2.5	1.8
Employment rate of women (% of female population aged 20-64)	69.7	70.8	71.6	72.8	74.2	75.3
Employment rate of men (% of male population aged 20-64)	81.1	81.9	82.6	83.3	84.3	84.8
Employment rate of older workers* (% of population aged 55-64)	59.9	61.7	63.5	65.7	67.7	69.4
Part-time employment* (% of total employment, aged 15-64)	49.6	50.0	49.7	49.8	50.1	50.2
Fixed-term employment* (% of employees with a fixed term contract, aged 15-64)	21.1	20.0	20.6	21.7	21.4	20.5
Transition rate from temporary to permanent employment (3-year average)	16.2	22.5	30.9	36.9	38.8	:
Youth unemployment rate (% active population aged 15-24)	12.7	11.3	10.8	8.9	7.2	6.6
Gender gap in part-time employment	53.0	52.9	52.7	51.5	50.8	50.3
Gender pay gap[2] (in undadjusted form)	16.2	16.1	15.6	15.2	:	:
Education and training indicators	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
Adult participation in learning (% of people aged 25-64 participating in education and training)	18.3	18.9	18.8	19.1	19.1	:
Underachievement in education[3]	:	16.7	:	:	:	:
Tertiary educational attainment (% of population aged 30-34 having successfully completed tertiary education)	44.8	46.3	45.7	47.9	49.4	:
Variation in performance explained by students' socio-economic status[4]	:	12.5	:	:	:	:

* Non-scoreboard indicator

(1) Long-term unemployed are people who have been unemployed for at least 12 months.

(2) Difference between the average gross hourly earnings of male paid employees and of female paid employees as a percentage of average gross hourly earnings of male paid employees. It is defined as "unadjusted", as it does not correct for the distribution of individual characteristics (and thus gives an overall picture of gender inequalities in terms of pay). All employees working in firms with 10 or more employees, without restrictions for age and hours worked, are included.

(3) PISA (OECD) results for low achievement in mathematics for 15 year-olds.

(4) Impact of socio-economic and cultural status on PISA (OECD) scores.

(5) Average of first three quarters of 2019. Data for youth unemployment rate is seasonally adjusted.

Source: Eurostat, OECD

Table C.4: **Social inclusion and health indicators**

	2013	2014	2015	2016	2017	2018
Expenditure on social protection benefits* (% of GDP)						
Sickness/healthcare	10.1	9.9	9.3	9.2	9.3	:
Disability	2.3	2.2	2.7	2.6	2.5	:
Old age and survivors	12.1	12.2	11.9	11.9	11.6	:
Family/children	0.9	0.9	1.1	1.1	1.2	:
Unemployment	1.6	1.6	1.5	1.3	1.1	:
Housing	0.4	0.4	0.4	0.5	0.5	:
Social exclusion n.e.c.	1.5	1.4	1.2	1.3	1.4	:
Total	28.8	28.6	28.1	28.0	27.6	:
of which: means-tested benefits	3.9	3.7	4.1	4.1	4.1	:
General government expenditure by function (% of GDP)						
Social protection	17.1	17.0	16.5	16.4	15.9	15.5
Health	8.1	8.0	8.0	7.5	7.6	7.6
Education	5.3	5.3	5.2	5.2	5.1	5.1
Out-of-pocket expenditure on healthcare	11.5	11.6	11.3	11.3	11.1	:
Children at risk of poverty or social exclusion (% of people aged 0-17)*	17.0	17.1	16.8	17.6	16.6	15.2
At-risk-of-poverty rate[1] (% of total population)	10.4	11.6	11.6	12.7	13.2	13.3
In-work at-risk-of-poverty rate (% of persons employed)	4.5	5.3	5.0	5.6	6.1	6.1
Severe material deprivation rate[2] (% of total population)	2.5	3.2	2.6	2.6	2.6	2.4
Severe housing deprivation rate[3], by tenure status						
Owner, with mortgage or loan	0.2	0.1	0.4	0.5	0.5	0.3
Tenant, rent at market price	2.1	1.6	2.4	3.3	2.2	3.2
Proportion of people living in low work intensity households[4] (% of people aged 0-59)	9.3	10.2	10.2	9.7	9.5	8.6
Poverty thresholds, expressed in national currency at constant prices*	11215	10962	11136	11865	12284	12362
Healthy life years						
Females	9.2	10.2	9.4	9.9	9.6	:
Males	9.5	10.7	10.5	10.3	10.1	:
Aggregate replacement ratio for pensions[5]	0.5	0.5	0.5	0.5	0.5	0.5
Connectivity dimension of the Digital Economy and Society Index (DESI)[6]	:	71.6	73.7	80.1	81.7	:
GINI coefficient before taxes and transfers*	46.4	48.0	49.0	48.8	48.6	:
GINI coefficient after taxes and transfers*	25.1	26.2	26.7	26.9	27.1	:

* Non-scoreboard indicator

(1) At-risk-of-poverty rate (AROP): proportion of people with an equivalised disposable income below 60 % of the national equivalised median income.

(2) Proportion of people who experience at least four of the following forms of deprivation: not being able to afford to i) pay their rent or utility bills, ii) keep their home adequately warm, iii) face unexpected expenses, iv) eat meat, fish or a protein equivalent every second day, v) enjoy a week of holiday away from home once a year, vi) have a car, vii) have a washing machine, viii) have a colour TV, or ix) have a telephone.

(3) Percentage of total population living in overcrowded dwellings and exhibiting housing deprivation.

(4) People living in households with very low work intensity: proportion of people aged 0-59 living in households where the adults (excluding dependent children) worked less than 20 % of their total work-time potential in the previous 12 months.

(5) Ratio of the median individual gross pensions of people aged 65-74 relative to the median individual gross earnings of people aged 50-59.

(6) Fixed broadband take up (33%), mobile broadband take up (22%), speed (33%) and affordability (11%), from the Digital Scoreboard.

Source: Eurostat, OECD

Table C.5: **Product market performance and policy indicators**

Performance indicators	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**
Labour productivity per person[1] growth (t/t-1) in %						
Labour productivity growth in industry	2.98	-0.49	-1.69	0.38	2.96	0.85
Labour productivity growth in construction	0.42	6.14	7.88	7.91	5.18	4.79
Labour productivity growth in market services	1.33	1.50	0.49	-0.04	0.23	0.07
Unit Labour Cost (ULC) index[2] growth (t/t-1) in %						
ULC growth in industry	-0.60	3.99	0.89	1.82	-1.69	1.24
ULC growth in construction	-1.97	-6.46	-8.70	-6.41	-3.34	-1.83
ULC growth in market services	0.16	-1.05	-1.27	1.28	0.96	2.07
Business environment	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**
Time needed to enforce contracts[3] (days)	514	514	514	514	514	514
Time needed to start a business[3] (days)	4.0	3.5	3.5	3.5	3.5	3.5
Outcome of applications by SMEs for bank loans[4]	1.58	1.64	1.30	0.90	0.72	0.17
Research and innovation	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**
R&D intensity	1.93	1.98	1.98	2.00	1.98	2.16
General government expenditure on education as % of GDP	5.30	5.30	5.20	5.20	5.10	5.10
Employed people with tertiary education and/or people employed in S&T as % of total employment	47	47	48	48	48	49
Population having completed tertiary education[5]	29	30	31	31	32	33
Young people with upper secondary education[6]	78	79	80	81	82	83
Trade balance of high technology products as % of GDP	2.23	2.71	1.60	1.61	1.48	1.98
Product and service markets and competition	**2003**	**2008**	**2013**			**2018***
OECD product market regulation (PMR)[7], overall	1.49	0.96	0.92			1.10
OECD PMR[7], retail	1.47	0.91	0.91			0.97
OECD PMR[7], professional services[8]	1.57	1.28	1.23			1.08
OECD PMR[7], network industries[9]	2.06	1.71	1.57			0.97

*** While the indicator values from 2003 to 2013 are comparable, the methodology has considerably changed in 2018. As a result, past vintages cannot be compared with the 2018 PMR indicators.**

1 Value added in constant prices divided by the number of persons employed.
2 Compensation of employees in current prices divided by value added in constant prices.
3 The methodologies, including the assumptions, for this indicator are shown in detail here: http://www.doingbusiness.org/methodology.
4 Average of the answer to question Q7B_a.- "[Bank loan]: If you applied and tried to negotiate for this type of financing over the past 6 months, what was the outcome?". Answers were codified as follows: zero if received everything, one if received 75% and above, two if received below 75%, three if refused or rejected and treated as missing values if the application is still pending or don't know.
5 Percentage of population aged 15-64 having completed tertiary education.
6 Percentage of population aged 20-24 having attained at least upper secondary education.
7 Index: 0 = not regulated; 6 = most regulated. The methodologies of the OECD product market regulation indicators are shown in detail here: http://www.oecd.org/competition/reform/indicatorsofproductmarketregulationhomepage.htm
Please be aware that the indicator values from 2003 to 2013 are comparable, however the methodology changed considerably in 2018 and therefore past vintages cannot be compared with the 2018 PMR indicators.
8 Simple average of the indicators of regulation for lawyers, accountants, architects and engineers.
9 Aggregate OECD indicators of regulation in energy, transport and communications.
Source: European Commission; World Bank — Doing Business (for enforcing contracts and time to start a business); OECD (for the product market regulation
indicators); SAFE (for outcome of SMEs' applications for bank loans)

Table C.6: **Green growth**

Green growth performance		2013	2014	2015	2016	2017	2018
Macroeconomic							
Energy intensity	kgoe / €	0.12	0.12	0.11	0.11	0.11	-
Carbon intensity	kg / €	0.30	0.29	0.29	0.29	0.28	-
Resource intensity (reciprocal of resource productivity)	kg / €	0.26	0.27	0.28	0.25	0.23	0.24
Waste intensity	kg / €	-	0.20	-	0.21	-	-
Energy balance of trade	% GDP	-1.4	-1.6	-1.1	-0.6	-0.7	-1.4
Weighting of energy in HICP	%	11.66	11.69	9.77	9.36	8.67	8.16
Difference between energy price change and inflation	p.p.	0.0	-1.5	-2.9	-5.6	0.4	8.8
Real unit of energy cost	% of value added	10.5	9.2	9.6	10.1	-	-
Ratio of environmental taxes to labour taxes	ratio	0.13	0.14	0.14	0.13	0.13	-
Environmental taxes	% GDP	3.3	3.3	3.3	3.4	3.3	3.3
Sectoral							
Industry energy intensity	kgoe / €	0.11	0.11	0.11	0.11	0.10	-
Real unit energy cost for manufacturing industry excl. refining	% of value added	19.4	16.1	17.2	18.3	-	-
Share of energy-intensive industries in the economy	% GDP	8.57	8.15	7.65	7.59	7.31	7.08
Electricity prices for medium-sized industrial users	€ / kWh	0.09	0.09	0.09	0.08	0.08	0.08
Gas prices for medium-sized industrial users	€ / kWh	0.04	0.04	0.04	0.03	0.03	0.03
Public R&D for energy	% GDP	0.02	0.01	0.02	0.01	0.02	0.04
Public R&D for environmental protection	% GDP	0.01	0.00	0.00	0.00	0.00	0.00
Municipal waste recycling rate	%	49.8	50.9	51.8	53.5	54.6	55.9
Share of GHG emissions covered by ETS*	%	44.5	47.6	48.2	48.1	47.2	46.2
Transport energy intensity	kgoe / €	0.54	0.51	0.52	0.53	0.52	-
Transport carbon intensity	kg / €	0.96	0.95	0.97	0.97	0.93	0.89
Security of energy supply							
Energy import dependency	%	23.7	30.9	48.4	45.9	51.8	-
Aggregated supplier concentration index	HHI	6.5	6.8	8.9	13.6	11.0	-
Diversification of energy mix	HHI	34.5	33.1	32.4	33.3	34.0	-

All macro intensity indicators are expressed as a ratio of a physical quantity to GDP (in 2010 prices)
Energy intensity: gross inland energy consumption (in kgoe) divided by GDP (in EUR)
Carbon intensity: greenhouse gas emissions (in kg CO2 equivalents) divided by GDP (in EUR)
Resource intensity: domestic material consumption (in kg) divided by GDP (in EUR)
Waste intensity: waste (in kg) divided by GDP (in EUR)
Energy balance of trade: the balance of energy exports and imports, expressed as % of GDP.
Weighting of energy in HICP: the proportion of 'energy' items in the consumption basket used for the construction of the HICP.
Difference between energy price change and inflation: energy component of HICP, and total HICP inflation (annual % change).
Real unit energy cost: real energy costs as % of total value added for the economy.
Industry energy intensity: final energy consumption of industry (in kgoe) divided by gross value added of industry (in 2010 EUR).
Real unit energy costs for manufacturing industry excluding refining: real costs as % of value added for manufacturing sectors.
Share of energy-intensive industries in the economy: share of gross value added of the energy-intensive industries in GDP.
Electricity and gas prices for medium-sized industrial users: consumption band 500–20 00MWh and 10 000 -100 000 GJ; figures excl. VAT.
Recycling rate of municipal waste: ratio of recycled and composted municipal waste to total municipal waste.
Public R&D for energy or for the environment: government spending on R&D for these categories as % of GDP.
Proportion of GHG emissions covered by EU emissions trading system (ETS) (excluding aviation): based on GHG emissions. (excl. land use, land use change and forestry) as reported by Membeinvestr States to the European Environment Agency.
Transport energy intensity: final energy consumption of transport activity including international aviation (kgoe) divided by gross value added in transportation and storage sector (in 2010 EUR).
Transport carbon intensity: GHG emissions in transportation and storage sector divided by gross value added in transportation and storage sector (in 2010 EUR).
Energy import dependency: net energy imports divided by gross inland energy consumption incl. consumption of international bunker fuels.
Aggregated supplier concentration index: Herfindahl index covering oil, gas and coal. Smaller values indicate larger diversification and hence lower risk.
Diversification of the energy mix: Herfindahl index covering natural gas, total petrol products, nuclear heat, renewable energies and solid fuels. Smaller values indicate larger diversification.
* European Commission and European Environment Agency - 2018 provisional data.
Source: European Commission and European Environment Agency (Share of GHG emissions covered by ETS); European Commission (Environmental taxes over labour taxes and GDP); Eurostat (all other indicators)

ANNEX D: INVESTMENT GUIDANCE ON JUST TRANSITION FUND 2021-2027 FOR THE NETHERLANDS

Building on the Commission proposal, this Annex ([110]) presents the preliminary Commission services' views on priority investment areas and framework conditions for effective delivery for the 2021-2027 Just Transition Fund investments in the Netherlands. These priority investment areas are derived from the broader analysis of territories facing serious socio-economic challenges deriving from the transition process towards a climate-neutral economy of the Union by 2050 in the Netherlands, assessed in the report. This Annex provides the basis for a dialogue between the Netherlands and the Commission services as well as the relevant guidance for the Member States in preparing their territorial just transition plans, which will form the basis for programming the Just Transition Fund. The Just Transition Fund investments complement those under Cohesion Policy funding for which guidance was given in Annex D of the 2019 Country Report for the Netherlands. ([111])

The main areas of emission-intensive industries in the Netherlands are Delfzijl/Eemshaven in the province of Groningen, the North-Sea channel area (Amsterdam/Ijmond), Rotterdam and West-North-Brabant, Zeeuws-Vlaanderen and other zones in Zeeland, and South-Limburg.. These areas face important challenges to reduce greenhouse gas emissions in view of the national 2030 and 2050 emission reduction targets, including the shift to energy from renewable sources. Synergies between sectors and companies in these clusters offer, however, good perspectives for innovation to reduce CO_2 emissions and for the development of alternative sustainable economic activities. Transition effects will affect the labour market, notably through employment shifts to upcoming sectors, inducing needs for re- and upskilling.The province of Groningen (comprising the regions East-Groningen, Delfzijl and surroundings and rest of Groningen) include a large carbon-intensive cluster and is likely to be most affected by the climate and energy transition due to the combined effects of the depletion of natural gas extraction and the emission reduction challenges in industry. The energy transition could lead to the loss of 20 000 jobs in the province. This comes on top of the overall social and economic transition challenges that already affect Groningen. For these reasons, the province could be considered as a target area for investments from the Just Transition Fund in the Netherlands. Based on this preliminary assessment, it appears warranted that the Just Transition Fund concentrates its intervention on these regions.

In Groningen, the smart specialisation strategy of the Northern Netherlands ([112]) provides an important framework to set priorities for innovation in support of economic transformation.

In order to tackle the above transition challenges, investment needs have been identified to support innovation for reducing greenhouse gas emissions, the development of alternative economic sectors and related employment shifts. Key actions of the Just Transition Fund could target in particular:

- Investments in research and innovation activities and fostering the transfer of advanced technologies;
- Investments in the deployment of technology and infrastructures for affordable clean energy, in greenhouse gas emission reduction, energy efficiency and renewable energy;
- Upskilling and reskilling of workers.

Emission-intensive industrial sites, performing activities listed in Annex I to Directive 2003/87/EC, employ a substantial number of workers and their activity is at risk due to its their greenhouse gas emissions. Support to investments to reduce the emissions could be considered, provided that they achieve a substantial reduction of emissions (going substantially below the relevant benchmarks used for free allocation under Directive 2003/87/EC) and on the condition that the investments are compatible with the European Green Deal.

([110]) This Annex is to be considered in conjunction with the EC proposal for a Regulation of the European Parliament and of the Council on the Just Transition Fund 2021-2027 (COM(2020)22) and the EC proposal for a Regulation of the European Parliament and of the Council laying down common provisions on the European Regional Development Fund, the European Social Fund Plus, the Cohesion Fund, and the European Maritime and Fisheries Fund and financial rules for those and for the Asylum and Migration Fund, the Internal Security Fund and the Border Management and Visa Instrument (COM(2020)23)

([111]) SWD(2019) 1018

([112]) As defined in Article 2(3) of Regulation (EU) No 1303/2013 (CPR)

ANNEX E: PROGRESS TOWARDS THE SUSTAINABLE DEVELOPMENT GOALS (SDGs)

Assessment of the Netherlands's short-term progress towards the SDGs ([113])

Table E.1 shows the data for the Netherlands and the EU-28 for the indicators included in the EU SDG indicator set used by Eurostat for monitoring progress towards the SDGs in an EU context ([114]). As the short-term trend at EU-level is assessed over a 5-year period, both the value at the beginning of the period and the latest available value is presented. The indicators are regularly updated on the SDI dedicated section of the Eurostat website.

Table E.1: **Indicators measuring the Netherlands's progress towards the SDGs**

SDG / Sub-theme	Indicator	Unit	Netherlands				EU-28			
			Starting		Latest		Starting		Latest	
			year	value	year	value	year	value	year	value
SDG 1 – No poverty										
Multidimensional poverty	People at risk of poverty or social exclusion	% of population	2013	15.9	2018	16.7	2013	24.6	2018	21.9
	People at risk of income poverty after social transfers	% of population	2013	10.4	2018	13.3	2013	16.7	2018	17.1
	Severely materially deprived people	% of population	2013	2.5	2018	2.4	2013	9.6	2018	5.8
	People living in households with very low work intensity	% of population aged 0 to 59	2013	9.3	2018	8.6	2013	11.0	2018	8.8
	In-work at-risk-of-poverty rate	% of population aged 18 or over	2013	4.5	2018	6.1	2013	9.0	2018	9.5
Basic needs	Population living in a dwelling with a leaking roof, damp walls, floors or foundation or rot in window frames or floor	% of population	2013	15.6	2018	15.8	2013	15.6	2018	13.9
	Self-reported unmet need for medical care	% of population aged 16 or over	2013	0.4	2018	0.2	2013	3.7	2018	2.0
	Population having neither a bath, nor a shower, nor indoor flushing toilet in their household	% of population	2014	0.0	2018	0.0	2013	2.2	2018	1.7
	Population unable to keep home adequately warm	% of population	2013	2.9	2018	2.2	2013	10.7	2018	7.3
	Overcrowding rate	% of population	2013	2.6	2018	4.1	2013	17.0	2018	15.5
SDG 2 – Zero hunger										
Malnutrition	Obesity rate	% of population aged 18 or over	2014	13.3	2017	12.7	2014	15.9	2017	15.2
Sustainable agricultural production	Agricultural factor income per annual work unit (AWU)	EUR, chain linked volumes (2010)	2012	42 768	2017	54 576	2012	14 865	2017	17 304
	Government support to agricultural research and development	million EUR	2014	167.3	2019	121.9	2013	3 048.6	2018	3 242.5
	Area under organic farming	% of utilised agricultural area	2013	2.7	2018	3.2	2013	5.7	2018	7.5
	Gross nitrogen balance on agricultural land	kg per hectare	2012	169	2017	187	2010	49	2015	51
Environmental impacts of agricultural production	Ammonia emissions from agriculture	kg per ha of utilised agricultural area	2012	57.9	2017	63.6	2011	19.7	2016	20.3
	Nitrate in groundwater	mg NO_3 per litre	N/A	:	N/A	:	2012	19.2	2017	19.1
	Estimated soil erosion by water	km^2	2010	1.8	2016	1.6	2010	207 232.2	2016	205 294.5
	Common farmland bird index	index 2000 = 100	N/A	:	N/A	:	2013	83.9	2018	80.7
SDG 3 – Good health and well-being										
Healthy lives	Life expectancy at birth	years	2012	81.2	2017	81.8	2012	80.3	2017	80.9
	Share of people with good or very good perceived health	% of population aged 16 or over	2013	75.5	2018	75.7	2013	67.3	2018	69.2
Health determinants	Smoking prevalence	% of population aged 15 or over	2012	23	2017	19	2014	26	2017	26
	Obesity rate	% of population aged 18 or over	2014	13.3	2017	12.7	2014	15.9	2017	15.2
	Population living in households considering that they suffer from noise	% of population	2013	24.1	2018	27.1	2013	18.8	2018	18.3
	Exposure to air pollution by particulate matter ($PM_{2.5}$)	$\mu g/m^3$	2012	13.5	2017	11.3	2012	16.8	2017	14.1
Causes of death	Death rate due to chronic diseases	number per 100 000 persons aged less than 65	2011	110.3	2016	97.3	2011	132.5	2016	119.0
	Death rate due to tuberculosis, HIV and hepatitis	number per 100 000 persons	2011	0.9	2016	0.7	2011	3.4	2016	2.6
	People killed in accidents at work	number per 100 000 employed persons	2012	0.49	2017	0.59	2012	1.91	2017	1.65
	People killed in road accidents	number of killed people	2012	562	2017	535	2012	28 231	2017	25 257
Access to health care	Self-reported unmet need for medical care	% of population aged 16 or over	2013	0.4	2018	0.2	2013	3.7	2018	2.0

(Continued on the next page)

([113]) Data extracted on 9 February 2020 from the Eurostat database (official EU SDG indicator set; see https://ec.europa.eu/eurostat/web/sdi/main-tables).

([114]) The EU SDG indicator set is aligned as far as appropriate with the UN list of global indicators, noting that the UN indicators are selected for global level reporting and are therefore not always relevant in an EU context. The EU SDG indicators have strong links with EU policy initiatives.

Table (continued)

SDG / Sub-theme	Indicator	Unit	Netherlands				EU-28			
			Starting		Latest		Starting		Latest	
			year	value	year	value	year	value	year	value
SDG 4 – Quality education										
Basic education	Early leavers from education and training	% of the population aged 18 to 24	2013	9.3	2018	7.3	2013	11.9	2018	10.6
	Participation in early childhood education	% of the age group between 4-years-old and the starting age of compulsory education	2012	99.6	2017	97.6	2012	94.0	2017	95.4
	Underachievement in reading	% of 15-year-old students	2015	18.1	2018	24.1	2015	19.7	2018	21.7
	Young people neither in employment nor in education and training	% of population aged 15 to 29	2013	7.5	2018	5.7	2013	15.9	2018	12.9
Tertiary education	Tertiary educational attainment	% of the population aged 30 to 34	2013	43.2	2018	49.4	2013	37.1	2018	40.7
	Employment rate of recent graduates	% of population aged 20 to 34	2013	86.0	2018	92.0	2013	75.4	2018	81.7
Adult education	Adult participation in learning	% of population aged 25 to 64	2013	17.9	2018	19.1	2013	10.7	2018	11.1
SDG 5 – Gender equality										
Gender-based violence	Physical and sexual violence to women experienced within 12 months prior to the interview	% of women	N/A	:	2012	11	N/A	:	2012	8
Education	Gender gap for early leavers from education and training	percentage points, persons aged 18–24	2013	3.8	2018	4.0	2013	3.4	2018	3.3
	Gender gap for tertiary educational attainment	percentage points, persons aged 30–34	2013	6.3	2018	6.4	2013	8.5	2018	10.1
	Gender gap for employment rate of recent graduates	percentage points, persons aged 20–34	2013	3.0	2018	2.7	2013	4.4	2018	3.4
Employment	Gender pay gap in unadjusted form	% of average gross hourly earnings of men	2012	17.6	2017	15.2	2012	17.4	2017	16.0
	Gender employment gap	percentage points, persons aged 20–64	2013	10.5	2018	10.1	2013	11.7	2018	11.6
	Gender gap in inactive population due to caring responsibilities	percentage points, persons aged 20–64	2013	14.5	2018	14.4	2013	25.5	2018	27.1
Leadership positions	Seats held by women in national parliaments and governments	% of seats	2014	36.9	2019	34.2	2014	27.2	2019	31.5
	Positions held by women in senior management	% of board members	2014	24.9	2019	32.6	2014	20.2	2019	27.8
SDG 6 – Clean water and sanitation										
Sanitation	Population having neither a bath, nor a shower, nor indoor flushing toilet in their household	% of population	2014	0.0	2018	0.0	2013	2.2	2018	1.7
	Population connected to at least secondary wastewater treatment	% of population	2012	99.5	2017	99.5	N/A	:	N/A	:
Water quality	Biochemical oxygen demand in rivers	mg O_2 per litre	N/A	:	N/A	:	2012	2.06	2017	2.00
	Nitrate in groundwater	mg NO_3 per litre	N/A	:	N/A	:	2012	19.2	2017	19.1
	Phosphate in rivers	mg PO_4 per litre	N/A	:	N/A	:	2012	0.096	2017	0.093
	Inland water bathing sites with excellent water quality	% of bathing sites with excellent water quality	2013	68.1	2018	72.6	2013	76.5	2018	80.8
Water use efficiency	Water exploitation index	% of long term average available water (LTAA)	2011	11.1	2016	8.7	N/A	:	N/A	:
SDG 7 – Affordable and clean energy										
Energy consumption	Primary energy consumption	million tonnes of oil equivalent (Mtoe)	2013	66.2	2018	64.7	2013	1 577.4	2018	1 551.9
	Final energy consumption	million tonnes of oil equivalent (Mtoe)	2013	51.9	2018	50.3	2013	1 115.5	2018	1 124.1
	Final energy consumption in households per capita	kgoe	2013	679	2018	560	2013	605	2018	552
	Energy productivity	EUR per kgoe	2013	7.0	2018	8.1	2013	7.6	2018	8.5
	Greenhouse gas emissions intensity of energy consumption	index 2000 = 100	2012	94.4	2017	95.2	2012	91.5	2017	86.5
Energy supply	Share of renewable energy in gross final energy consumption	%	2013	4.7	2018	7.4	2013	15.4	2018	18.0
	Energy import dependency	% of imports in gross available energy	2013	23.7	2018	59.8	2013	53.2	2018	55.7
Access to affordable energy	Population unable to keep home adequately warm	% of population	2013	2.9	2018	2.2	2013	10.7	2018	7.3

(Continued on the next page)

Table (continued)

SDG / Sub-theme	Indicator	Unit	Netherlands				EU-28			
			Starting		Latest		Starting		Latest	
			year	value	year	value	year	value	year	value
SDG 8 – Decent work and economic growth										
Sustainable economic growth	Real GDP per capita	EUR per capita, chain-linked volumes (2010)	2013	38 180	2018	41 540	2013	25 750	2018	28 280
	Investment share of GDP	% of GDP	2013	18.4	2018	20.4	2013	19.5	2018	20.9
	Resource productivity	EUR per kg, chain-linked volumes (2010)	2013	3.78	2018	4.17	2013	1.98	2018	2.04
Employment	Young people neither in employment nor in education and training	% of population aged 15 to 29	2013	7.5	2018	5.7	2013	15.9	2018	12.9
	Employment rate	% of population aged 20 to 64	2013	75.9	2018	79.2	2013	68.4	2018	73.2
	Long-term unemployment rate	% of active population	2013	2.5	2018	1.4	2013	5.1	2018	2.9
	Gender gap in inactive population due to caring responsibilities	percentage points, persons aged 20–64	2013	14.5	2018	14.4	2013	25.5	2018	27.1
Decent work	People killed in accidents at work	number per 100 000 employed persons	2012	0.49	2017	0.59	2012	1.91	2017	1.65
	In-work at-risk-of-poverty rate	% of population	2013	4.5	2018	6.1	2013	9	2018	9.5
SDG 9 – Industry, innovation and infrastructure										
R&D and innovation	Gross domestic expenditure on R&D	% of GDP	2013	1.93	2018	2.16	2013	2.01	2018	2.12
	Employment in high- and medium-high technology manufacturing and knowledge-intensive services	% of total employment	2013	49.4	2018	48.6	2013	45.0	2018	46.1
	R&D personnel	% of active population	2013	1.41	2018	1.77	2013	1.15	2018	1.36
	Patent applications to the European Patent Office (EPO)	number	2012	3 389	2017	3 478	2012	56 772	2017	54 649
Sustainable transport	Share of buses and trains in total passenger transport	% of total inland passenger-km	2012	13.4	2017	14.3	2012	17.2	2017	16.7
	Share of rail and inland waterways in total freight transport	% of total inland freight tonne-km	2012	53.3	2017	50.6	2012	25.4	2017	23.3
	Average CO2 emissions per km from new passenger cars	g CO_2 per km	2013	109.1	2018	105.5	2014	123.4	2018	120.4
SDG 10 – Reduced inequalities										
Inequalities within countries	Relative median at-risk-of-poverty gap	% distance to poverty threshold	2013	16.5	2018	18.3	2013	23.8	2018	24.6
	Income distribution	income quintile share ratio	2013	3.6	2018	4.1	2013	5.0	2018	5.2
	Income share of the bottom 40 % of the population	% of income	2013	24.4	2018	23.1	2013	21.1	2018	21.0
	People at risk of income poverty after social transfers	% of population	2013	10.4	2018	13.3	2013	16.7	2018	17.1
Inequalities between countries	Purchasing power adjusted GDP per capita	Real expenditure per capita (in PPS)	2013	36 200	2018	39 900	2013	26 800	2018	31 000
	Adjusted gross disposable income of households per capita	Purchasing power standard (PPS) per inhabitant	2013	23 800	2018	25 648	2013	20 392	2018	22 824
	Financing to developing countries	million EUR, current prices	2012	15 522	2017	31 602	2012	147 962	2017	155 224
	Imports from developing countries	million EUR, current prices	2013	118 976	2018	156 260	2013	817 475	2018	1 013 981
Migration and social inclusion	Asylum applications	Positive first instance decisions, per million inhabitants	2013	355	2018	210	2013	213	2018	424
SDG 11 – Sustainable cities and communities										
Quality of life in cities and communities	Overcrowding rate	% of population	2013	2.6	2018	4.1	2013	17.0	2018	15.5
	Population living in households considering that they suffer from noise	% of population	2013	24.1	2018	27.1	2013	18.8	2018	18.3
	Exposure to air pollution by particulate matter ($PM_{2.5}$)	µg/m^3	2012	13.5	2017	11.3	2012	16.8	2017	14.1
	Population living in a dwelling with a leaking roof, damp walls, floors or foundation or rot in window frames or floor	% of population	2013	15.6	2018	15.8	2013	15.6	2018	13.9
	Population reporting occurrence of crime, violence or vandalism in their area	% of population	2013	18.1	2018	17.5	2013	14.5	2018	12.7
Sustainable mobility	People killed in road accidents	number of killed people	2012	562	2017	535	2012	28 231	2017	25 257
	Share of buses and trains in total passenger transport	% of total inland passenger-km	2012	13.4	2017	14.3	2012	17.2	2017	16.7
Adverse environmental impacts	Settlement area per capita	m^2	2009	431.4	2015	471.6	2012	625.0	2015	653.7
	Recycling rate of municipal waste	% of total waste generated	2013	49.8	2018	55.9	2013	41.7	2018	47.0
	Population connected to at least secondary wastewater treatment	% of population	2012	99.5	2017	99.5	N/A	:	N/A	:

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Table (continued)

SDG / Sub-theme	Indicator	Unit	Netherlands				EU-28			
			Starting		Latest		Starting		Latest	
			year	value	year	value	year	value	year	value
SDG 12 – Responsible consumption and production										
Decoupling environmental impacts from economic growth	Consumption of toxic chemicals	million tonnes	N/A	:	N/A	:	2013	300.3	2018	313.9
	Resource productivity	EUR per kg, chain-linked volumes (2010)	2013	3.78	2018	4.17	2013	1.98	2018	2.04
	Average CO2 emissions per km from new passenger cars	g CO_2 per km	2013	109.1	2018	105.5	2014	123.4	2018	120.4
	Energy productivity	EUR per kgoe	2013	7.0	2018	8.1	2013	7.6	2018	8.5
Energy consumption	Primary energy consumption	million tonnes of oil equivalent (Mtoe)	2013	66.2	2018	64.7	2013	1 577.4	2018	1 551.9
	Final energy consumption	million tonnes of oil equivalent (Mtoe)	2013	51.9	2018	50.3	2013	1 115.5	2018	1 124.1
	Share of renewable energy in gross final energy consumption	%	2013	4.7	2018	7.4	2013	15.4	2018	18.0
Waste generation and management	Circular material use rate	% of material input for domestic use	2012	26.5	2017	29.9	2012	11.5	2017	11.7
	Generation of waste excluding major mineral wastes	kg per capita	2012	2 540	2016	2 539	2012	1 716	2016	1 772
	Recycling rate of waste excluding major mineral wastes	% of total waste treated	2012	71	2016	72	2012	55	2016	57
SDG 13 – Climate action										
Climate mitigation	Greenhouse gas emissions	index 1990 = 100	2012	91.1	2017	90.9	2012	82.1	2017	78.3
	Greenhouse gas emissions intensity of energy consumption	index 2000 = 100	2012	94.4	2017	95.2	2012	91.5	2017	86.5
	Primary energy consumption	million tonnes of oil equivalent (Mtoe)	2013	66.2	2018	64.7	2013	1 577.4	2018	1 551.9
	Final energy consumption	million tonnes of oil equivalent (Mtoe)	2013	51.9	2018	50.3	2013	1 115.5	2018	1 124.1
	Share of renewable energy in gross final energy consumption	%	2013	4.7	2018	7.4	2013	15.4	2018	18.0
	Average CO2 emissions per km from new passenger cars	g CO_2 per km	2013	109.1	2018	105.5	2014	123.4	2018	120.4
Climate impacts	European mean near surface temperature deviation	temperature deviation in °C, compared with the 1850–1899 average	N/A	:	N/A	:	2013	1.4	2018	2.1
	Climate-related economic losses	EUR billion, in 2017 values	N/A	:	N/A	:	2012	2 719	2017	2 649
	Mean ocean acidity	pH value	N/A	:	N/A	:	2013	8.06	2018	8.06
Support to climate action	Contribution to the international 100bn USD commitment on climate related expending	EUR million, current prices	N/A	:	2017	405.4	N/A	:	2017	20 388.7
SDG 14 – Life below water										
Ocean health	Coastal water bathing sites with excellent water quality	% of bathing sites with excellent water quality	2013	73.3	2018	73.6	2013	85.5	2018	87.1
	Mean ocean acidity	pH value	N/A	:	N/A	:	2013	8.06	2018	8.06
Marine conservation	Surface of marine sites designated under NATURA 2000	km^2	2013	11 808	2018	15 083	2013	251 566	2018	551 899
Sustainable fisheries	Estimated trends in fish stock biomass	index 2003 = 100	N/A	:	N/A	:	2012	110.0	2017	136.0
	Assessed fish stocks exceeding fishing mortality at maximum sustainable yield (Fmsy)	% of stocks exceeding fishing mortality at maximum sustainable yield ($F>F_{MSY}$)	N/A	:	N/A	:	2012	52.9	2017	42.7
SDG 15 – Life on land										
Ecosystems status	Share of forest area	% of total land area	2009	7.4	2015	8.0	2012	40.3	2015	41.6
	Biochemical oxygen demand in rivers	mg O_2 per litre	N/A	:	N/A	:	2012	2.06	2017	2.00
	Nitrate in groundwater	mg NO_3 per litre	N/A	:	N/A	:	2012	19.2	2017	19.1
	Phosphate in rivers	mg PO_4 per litre	N/A	:	N/A	:	2012	0.096	2017	0.093
Land degradation	Soil sealing index	index 2006 = 100	2009	101.4	2015	103.7	2009	101.7	2015	104.2
	Estimated soil erosion by water	km^2	2010	1.8	2016	1.6	2010	207 232.2	2016	205 294.5
	Settlement area per capita	m^2	2009	431.4	2015	471.6	2012	625.0	2015	653.7
Biodiversity	Surface of terrestrial sites designated under NATURA 2000	km^2	2013	5 563	2018	5 522	2013	787 766	2018	784 252
	Common bird index	index 2000 = 100	N/A	:	N/A	:	2013	94.7	2018	93.5
	Grassland butterfly index	index 2000 = 100	N/A	:	N/A	:	2012	72.2	2017	74.1

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Table (continued)

SDG / Sub-theme	Indicator	Unit	Netherlands				EU-28			
			Starting		Latest		Starting		Latest	
			year	value	year	value	year	value	year	value
SDG 16 – Peace, justice and strong institutions										
Peace and personal security	Death rate due to homicide	number per 100 000 persons	2011	0.9	2016	0.6	2011	0.9	2016	0.6
	Population reporting occurrence of crime, violence or vandalism in their area	% of population	2013	18.1	2018	17.5	2013	14.5	2018	12.7
	Physical and sexual violence to women experienced within 12 months prior to the interview	% of women	N/A	:	2012	11	N/A	:	2012	8
Access to justice	General government total expenditure on law courts	million EUR	2013	1 957	2018	2 154	2012	48 381	2017	51 027
	Perceived independence of the justice system	% of population	2016	72	2019	71	2016	52	2019	56
Trust in institutions	Corruption Perceptions Index	score scale of 0 (highly corrupt) to 100 (very clean)	2013	83	2018	82	N/A	:	N/A	:
	Population with confidence in the EU Parliament	% of population	2013	47	2018	63	2013	39	2018	48
SDG 17 – Partnerships for the goals										
Global partnership	Official development assistance as share of gross national income	% of GNI	2013	0.67	2018	0.61	2013	0.43	2018	0.48
	EU financing to developing countries	million EUR, current prices	2012	15 522	2017	31 602	2012	147 962	2017	155 224
	EU imports from developing countries	million EUR, current prices	2013	118 976	2018	156 260	2013	817 475	2018	1 013 981
Financial governance within the EU	General government gross debt	% of GDP	2013	67.7	2018	52.4	2013	86.3	2018	80.4
	Shares of environmental and labour taxes in total tax revenues	% of total tax revenues	2013	9.1	2018	8.6	2013	6.4	2018	6.1

Source: Eurostat

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