



KINGDOM OF THE NETHERLANDS—THE NETHERLANDS

SELECTED ISSUES

November 2021

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SELECTED ISSUES

October 26, 2021

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EDUCATION EXPENDITURE AND OUTCOMES¹

A. Introduction

1. Investing in education is important for growth and equity. The nurturing of “human capital” is essential to boost productivity and economic growth and can also enhance the robustness of the economy to shocks (in the Netherlands and many other parts of the world, less skilled and lower educated workers were the most affected by the economic impact of the Covid-19 pandemic). In addition, broad and equal access to education fosters equality of opportunity and contributes to reducing income inequality. In that respect, investment in education is expected to yield a double dividend: at the macroeconomic level by supporting growth, but also at the individual and societal level by supporting equality of opportunities.

2. The Dutch education system performs well by international comparison, underpinning the country’s economic strength. The Netherlands has one of the highest enrollment rates in the school age population in the OECD, and a larger share of tertiary educated youth and employees than the OECD and the EU on average. These comparatively strong education outcomes are associated with higher employment, including among younger population, compared to peer countries on average, and high average levels of productivity in the economy.

3. However, important challenges need to be addressed to preserve the strong education outcomes. Dutch education outcomes have deteriorated in some respects over the last two decades, as reflected in the decreasing PISA reading test scores, which fell below OECD average in 2018. In addition, significantly weaker performance can be observed among primary school pupils from poorer households and certain migration backgrounds compared to the average. The Netherlands has one of the lowest level of expenditure on pre-primary education among advanced economies, while the enrollment rate in early childhood education has declined in recent years.

4. The Covid-19 pandemic has made these challenges more pressing. As in other countries, containment measures against the virus included temporary school closures. Some early analyses (see Engzell et al., 2020) suggest that, despite efforts to offer distance learning, school closures caused learning losses among most pupils, and especially so among the most vulnerable groups (e.g., from lower income households). As shown in section B, these most affected pupils were already lagging behind in their educational outcomes compared to the average, suggesting that the pandemic could have exacerbated already existing disparities. School closures also seem to have worsened the shortage of teachers, especially in the most disadvantaged schools in the Netherlands.

5. Addressing these challenges requires policy interventions on several fronts. Fostering early childhood education via additional public investment to support broad access to affordable pre-primary education would help pupils start strong in their curriculum, while contributing to close potential initial gaps (such as those related to migrant background). Targeted education

¹ Prepared by Armand Fouejieu.

investments, especially in relatively disadvantaged regions/schools, would support equality of opportunity in primary education. Policies to further boost secondary educational attainment and facilitate the transition from lower secondary to upper secondary education, will also help improve the Netherlands' already strong performance. Furthermore, addressing the long-standing shortage of teachers will support stronger education outcomes across the board, while reducing risks of widening inequality of opportunity.

6. This chapter provides a broad assessment the Netherlands' investment in education and associated outcomes, in a cross-country perspective. Section B discusses several indicators of education outcomes and the links between education and employment. Section C compares the Netherlands' investments in education relative to peers, by level of education and over time and provides an assessment of the efficiency of expenditure on education. Finally, sector D offers some policy recommendations.

B. The State of Education

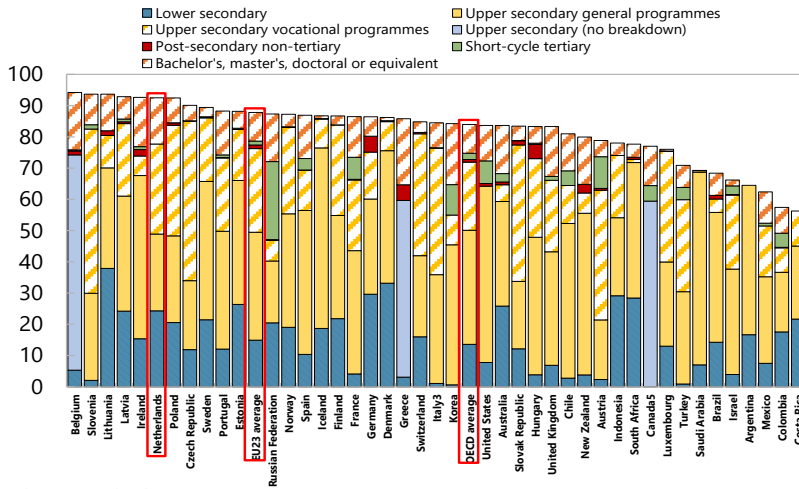
Participation In Education And Education Outcomes

7. The Netherlands has some of the highest school enrollment rates among OECD countries. In 2019, 93 percent of Dutch aged 15-19 years old were enrolled in education, compared to 88 percent and 84 percent on average in the EU and OECD, respectively (Figure 1). At least 90 percent of the Dutch population between 4 and 17 years old is enrolled in formal education (similar to EU and OECD averages), a rate that has remained stable in the past ten years. However, enrollment in early childhood education (pre-primary) has deteriorated in the past decade. While the enrollment rate of 3-5-year-olds increased from 84 to 91 percent in the EU between 2010 and 2019, it declined from 94 to 89 percent in the Netherlands (see section C for further discussion).

8. The average level of education of the Dutch population is above that of the EU. 80 percent of the Dutch population aged 25-34 year has at least upper secondary educational attainment, compared to 69 percent and 73 percent in the OECD and the EU, on average, respectively. Among this age group, 49 percent had a tertiary educational level in the Netherlands in 2019 (compared to 44 percent in the EU), an increase from 40 percent in 2009. Dutch students also broadly achieve high completion rates within the theoretical duration of school programs. For example, in 2019 about 90 percent of students enrolled in general upper secondary education completed the program within the theoretical duration period plus 2 years, while the completion rate was below 80 percent for similar degree in vocational education.

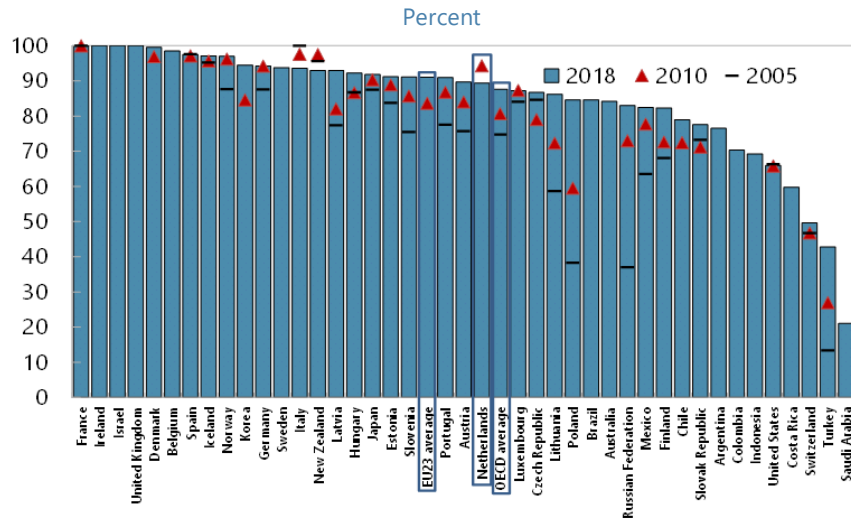
Figure 1. The Netherlands: Enrollment Rates

Enrollment Rates of 15–19 Year-Olds, by Level of Education
(Percent 2018)



Sources: OECD

Change in Enrollment Rates of Children Aged 3–5 years



Sources: OECD

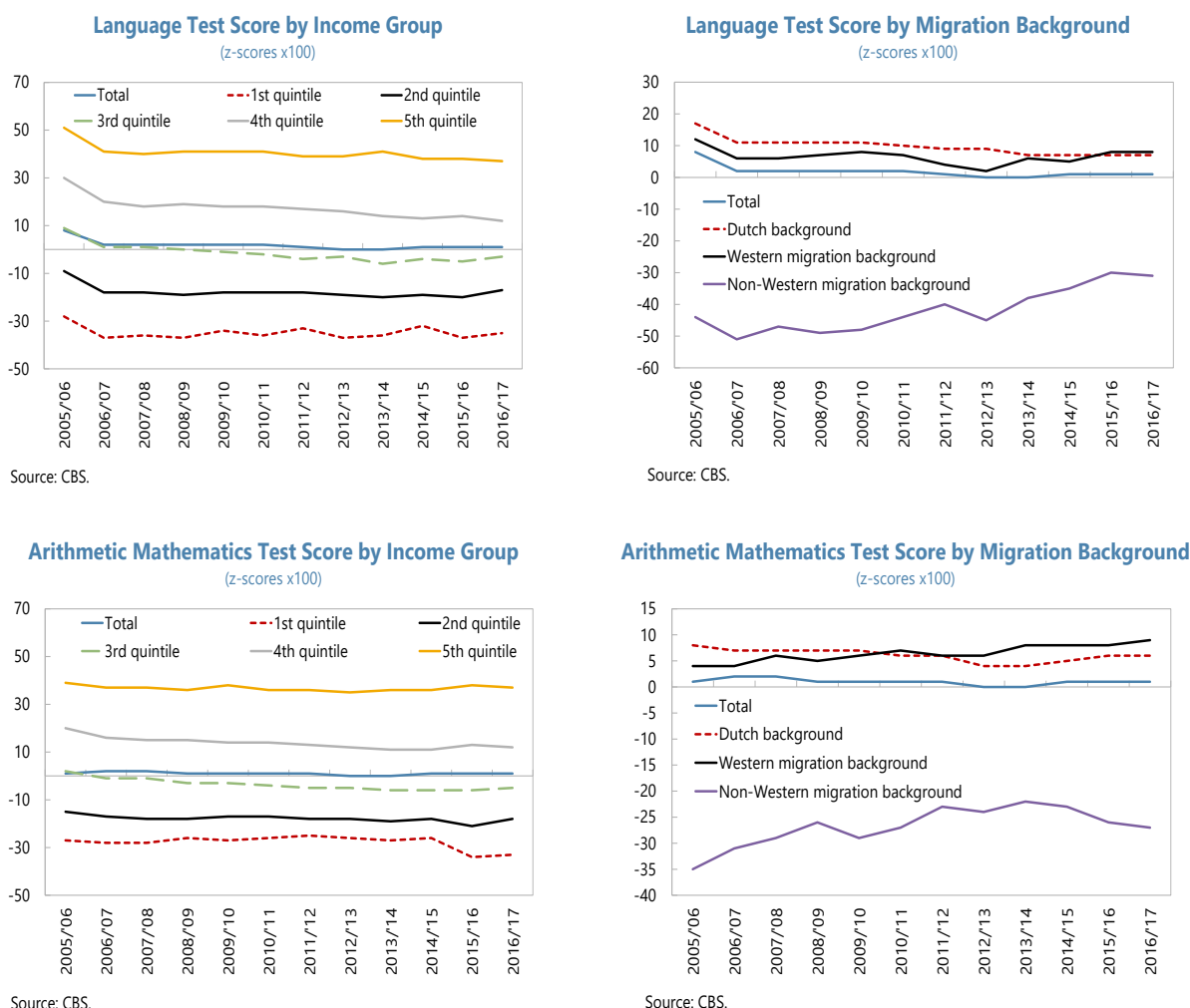
9. However, some Dutch educational outcomes have deteriorated in recent decades, especially in comparative perspective. Although remaining in the top quartile of distribution of PISA standardized tests in Mathematics and sciences among the OECD countries, Dutch performance has deteriorated in all three areas evaluated (Figure 2). In particular, the 2018 PISA report suggests that about ¼ of Dutch aged 15 were unable to read properly, with Dutch reading scores falling below OECD average (where previously it was well above the average). Out of the 37 countries with data available, the Netherlands’s reading score went from raking 7th in 2003 to 21st in 2018. In science, the Netherlands scores has also deteriorated more significantly than OECD average (raking 10th in 2018, down from its 7th position in 2003), while in performance of Dutch students in mathematics has broadly followed the declining trend of the rest of the OECD.

Figure 2. The Netherlands: Comparative Position on PISA Test Scores



10. The deterioration of educational outcomes by international standards contrasts somewhat with a more mixed picture based on the Netherland’s national test results. The 2020 report by the Netherland’s Inspectorate for Education (2020 State of Education) suggests that final test results in secondary education have remained broadly stable in recent years. The report points to differences in the skills tested and the relative importance of some skills in the national curriculums, as possible explanations for the different trends compared to PISA scores. For example, it suggests that national school programs focus mainly on preparing pupils for central/national exams, which leaves limited space for learning other skills such as reading and “thinking skills such as evaluation and reflection”. However, the 2021 Netherland’s State of Education report underlines the presence of marked deficiencies in reading and mathematics, especially in the first year of secondary education.

Figure 3. The Netherlands: National Test Scores by Income Group and Migration Background – Primary Education



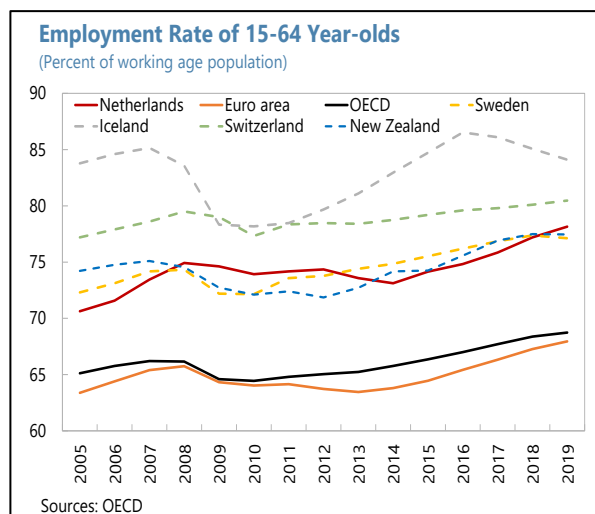
Note: “Western” migrant background refers to people from other European countries (excluding Turkey), North America, Oceania, Indonesia and Japan. Non-western migrant background refers to people from Africa, Latin America and Asia (excluding Indonesia and Japan), or Turkey.

11. Available data also show significant and persistent differences in primary education outcomes across income groups and migrant backgrounds. Pupils from lower income families have consistently performed below average, with no evidence of catching up in the past decade. To an extent the gaps have widened slightly in most recent years, especially for pupils in the first quintile of the income distribution. While pupils with certain migrant backgrounds (roughly called here “Western”) performed broadly as well as Dutch natives, those with other migrant backgrounds have performed comparatively poorly. For the latter, the gap has declined in the past few years but remains large (Figure 3). Such disparities across groups with different income and migration status point to potentially material inclusiveness gaps and inequality of opportunities in the education system, which is likely to affect educational attainment beyond primary education, and employment prospects for these vulnerable groups.

Education And The Labor Market

12. Comparatively good average educational outcomes in the Netherlands have been associated with higher employment rates than in peer countries. The literature

suggests that higher educational attainment is positively correlated with employment and wages. Not only the Netherlands employment rate has been persistently above that of the EU and OECD, it has also increased faster in the past fifteen years (with Iceland and Switzerland the only countries with employment rates exceeding that of the Netherlands). As discussed above, the Netherlands has a higher enrollment rate as well as higher tertiary educational attainment among the young population, compared to the EU and OECD on average, which supports higher employment.

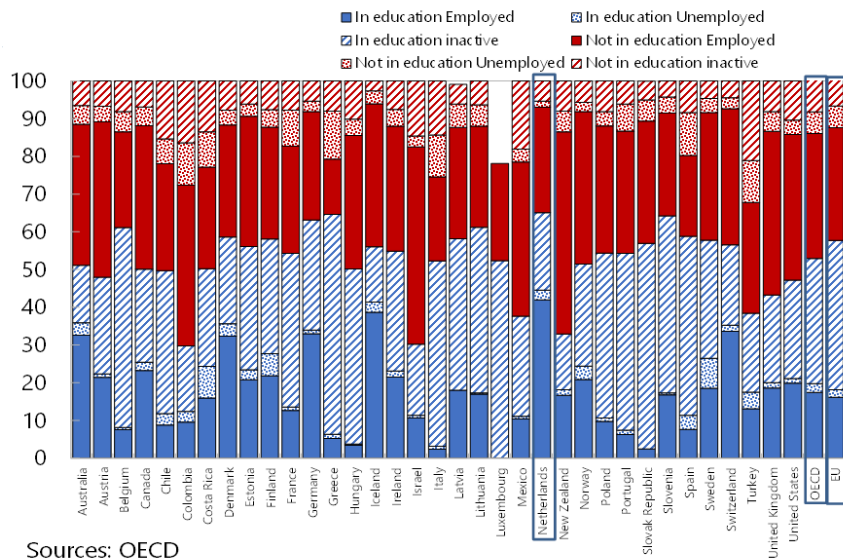


13. The Dutch population tend to combine education and employment at a young age to a larger degree than other EU and OECD countries. In 2019, 42 percent of Dutch aged 18–24 were still in the education system while being employed; the largest proportion among OECD countries (with an average of 17 percent). While 35 percent of this age group has exited the education system (compared to 47 and 43 percent in the OECD and EU average, respectively), the vast majority (80 percent) of those are employed; allowing the Netherlands to have one of the lowest share of NEET (not in education nor employed or in training). Although the share of working age population with tertiary educational attainment is above EU average (38 versus 35 percent, respectively), the Netherlands also has a higher share of employees with an education level below upper secondary education (21 versus 16 percent, respectively). This suggests that, compared to EU or OECD, Dutch

students are more likely to leave education either with a lower educational degree, or with a tertiary degree, which may point to an inequality issue. The proportion of the upper secondary educational degree is below EU and OECD (Figure 4).

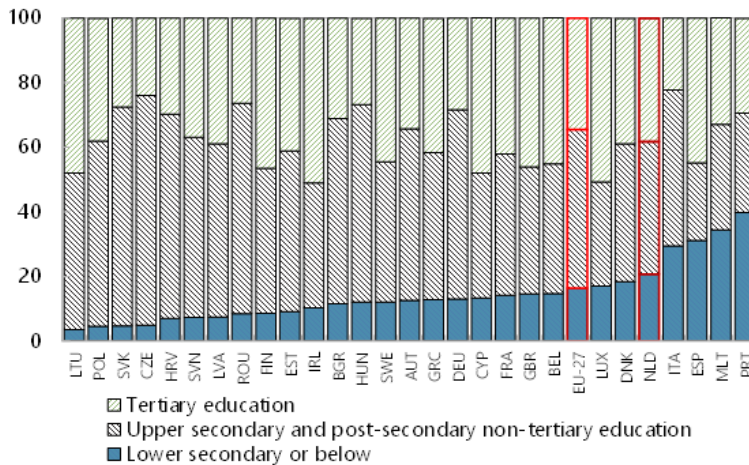
Figure 4. The Netherlands: Education and Employment

Distribution of 18–24 Year-Olds by Employment and Education Status
(Percent 2019)



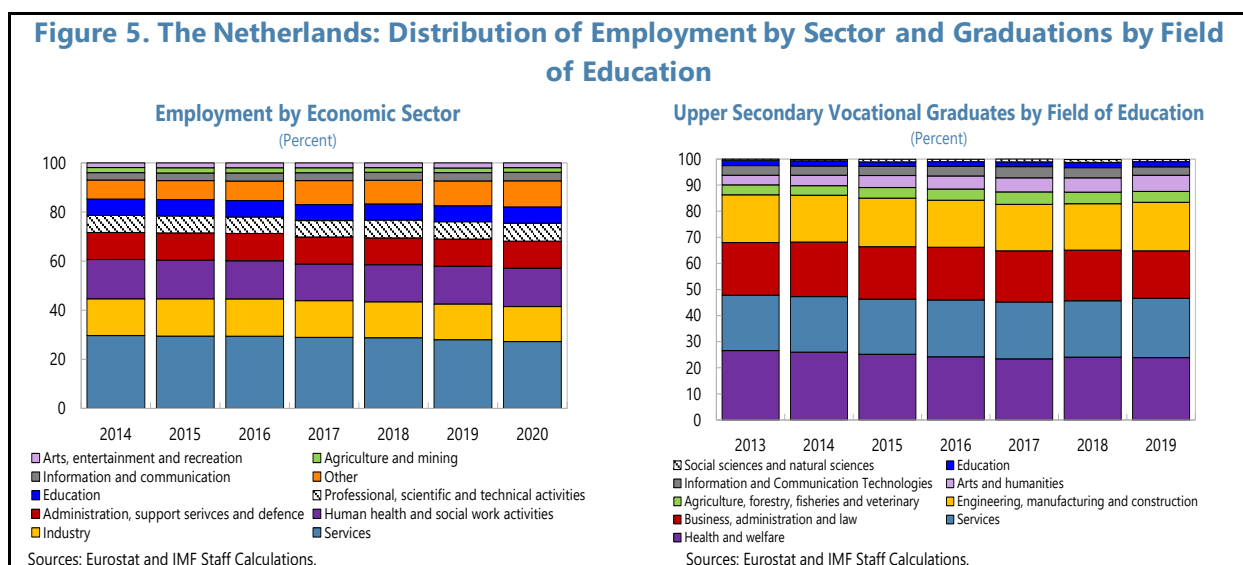
Sources: OECD

Employees by Educational Attainment Level
(Percent 2019)



Source: Eurostat

14. However, available data point to risks of mismatches between sectoral demand for employment in the labor market and supply of skills from the education system (Figure 5).¹ Health and welfare accounts for the largest share across fields of education among upper secondary vocational graduate students. However, this share declined from 27 percent in 2013 to 24 percent in 2019, contrasting somewhat with the stable proportion of employment in health and social services, at about 16 percent of total employment over the same period. While employment in services declined slightly from 29 to 27 percent of total employment in the past seven years, the share of graduate students in this field increased by about 1.5 percentage points, to almost 23 percent in 2019. A More notable gap is visible in the fields of education. The share of employment in the education sector has been stable at about 7 percent, while only 2 percent of graduates studied this field between 2013 and 2019. Employment in the industry sector was stable in the past few years (about 15 percent) as was the share of graduate student in the field of engineering, manufacturing and construction (about 18 percent).



C. Investing on Education

Expenditure On Education

15. The Netherlands' total expenditure on education is above EU and OECD averages, and mainly financed by public resources. In 2017, Dutch total expenditure on education amounted about 5.2 percent of GDP, compared to 4.8 and 4.4 percent in the OECD and EU, respectively (although in several countries, including the U.S., U.K., and Norway, expenditure on education exceeds 6 percent of GDP). These differences are mainly driven by higher expenditure on tertiary education in the Netherlands (1.7 percent of GDP, compared to 1.4 and 1.3 percent in the OECD and EU, respectively) (Figure 6). Public expenditure on education represented about 12 percent of

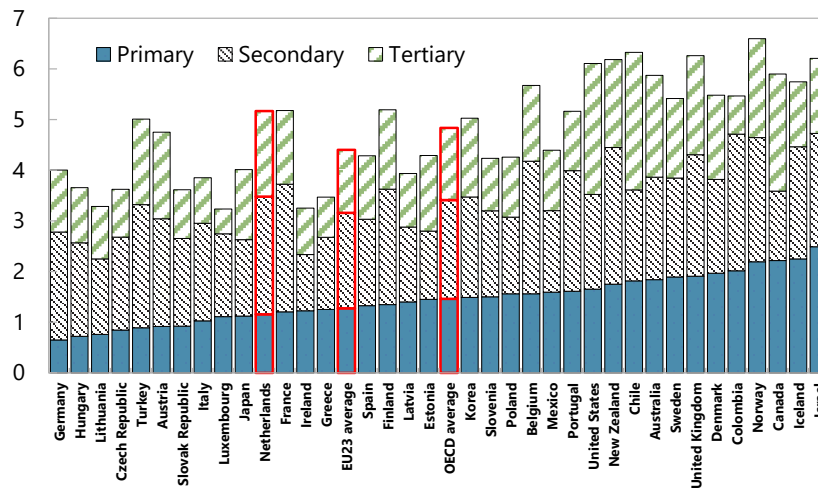
¹ It is worth noting that this discussion only covers vocational education since similar fields of education are not available in the general education curriculum. In 2018, more than 2/3 of all upper secondary pupils were enrolled in vocational education programs (See Netherlands' Country Note, OECD, 2020).

general government expenditure in 2019, increasing from 9 percent in 1995, again, above OECD and EU averages. In general, more than 80 percent of spending on education is financed by the public funds, leaving a relatively smaller role for private investment.

Figure 6. The Netherlands Expenditure on Education – Cross Country Comparison

Total Expenditure on Educational Institutions

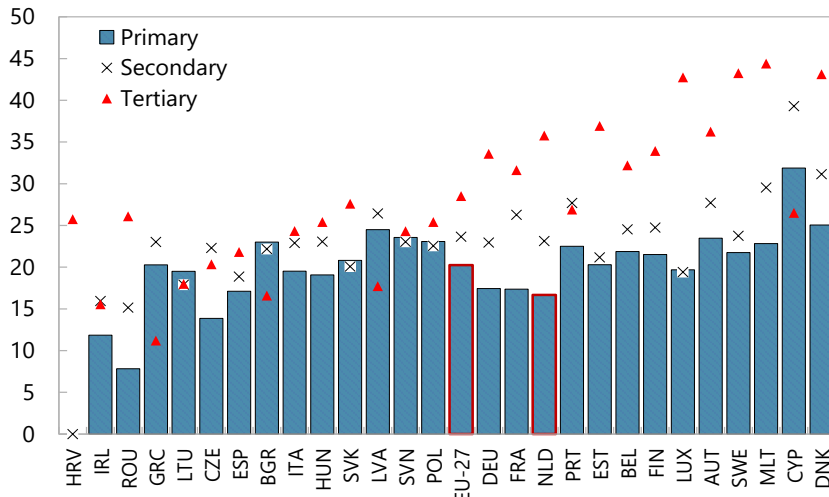
(percent of GDP, 2017)



Sources: OECD

Government Expenditure Per Student

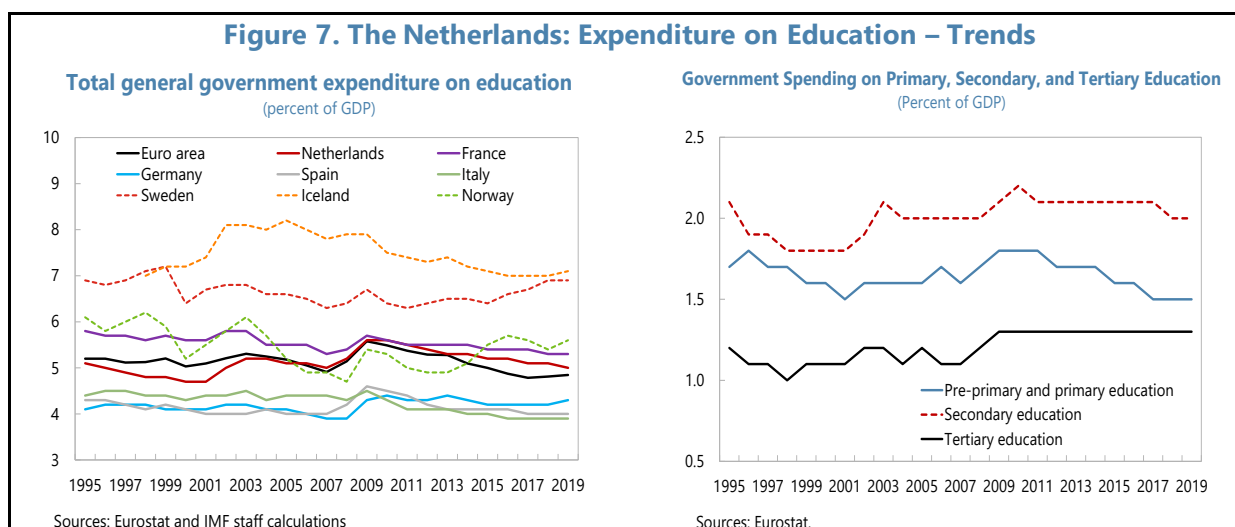
(Percent of GDP per capita; 2018 or latest)



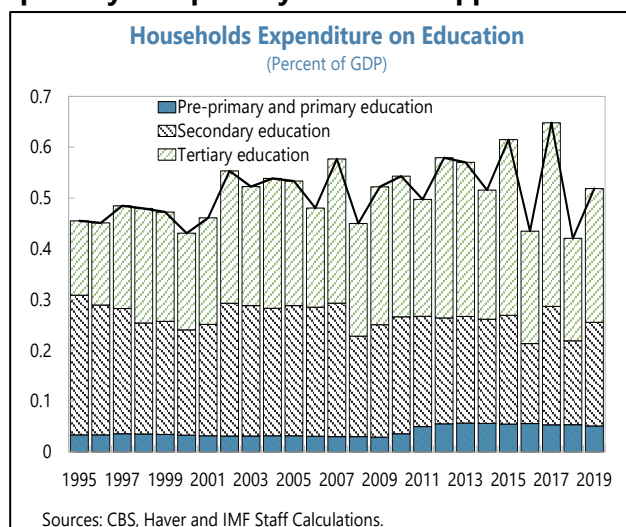
Sources: WDI and IMF Staff Calculations.

16. The Netherlands’ public expenditure on education as a ratio to GDP, however, has declined over the past decade, especially in pre-primary and primary education. The ratio of public expenditure on education to GDP declined by about 10 percent over the past 10 years. A similar trend is observed in the Euro area on average, although not across all countries. In the

Netherlands, the decline was due to lower expenditure to GDP ratio in pre-primary and primary education, while these ratios remain somewhat stable in secondary and tertiary education (Figure 7). The Netherlands has one of the lowest ratios of expenditure to GDP in pre-primary and primary education in the OECD. In 2018, per-student government expenditure on education (in percent of GDP per capita) was significantly lower in primary education compared to the EU average. Per-student public expenditure in tertiary education was larger than in the EU, while very similar in secondary education.



17. Lower government expenditure in pre-primary and primary education appears to be roughly associated with an increase in household spending. Although representing only a small share of the total, household expenditure on pre-primary and primary education has increased significantly in recent years, almost doubling as a ratio of GDP since 2012 compared to the decade before. Whether measured in percent of household gross disposable income or in percent of GDP, household expenditure on education has been volatile, though, ranging from 0.4 to 0.7 percent of GDP in the past two decades. This volatility is primarily driven by expenditure on tertiary education.



Efficiency Of Expenditure On Education

18. Assessing efficiency of expenditure on education entails an analysis of education outcomes for given levels of expenditure (input). Efficiency can be assessed at different levels and following various conceptual approaches. For example, the World Bank (2017) argues that among the wide range of economic efficiency analyses, the most relevant for education are allocative efficiency, technical efficiency, and internal and external efficiencies.² Regarding existing empirical analyses, Canton et al. (2018) suggests that the literature broadly relies on two main approaches. On the one hand, some research implicitly limits the definition of efficiency to resources invested in education. This approach considers monetary factors (expenditure on education) to be the main input in the education production function. On the other hand, another strand of the literature defines an education production function with a wider range of inputs, including monetary and non-monetary factors (e.g., socioeconomic and other individual characteristics). Data envelope analyses (DEA), by which an efficiency frontier is estimated, is a commonly used empirical method for assessing efficiency of education expenditure. The efficiency frontier relates education outcomes (e.g., enrollment rate, test scores) to inputs (determinants of education outcomes such as expenditure on education, socioeconomic factors) via a production function, often covering a large sample of countries. The distance to the frontier captures the inefficiencies relative to the best performing countries, and improvements in outcomes that can be expected if these inefficiencies are eliminated.

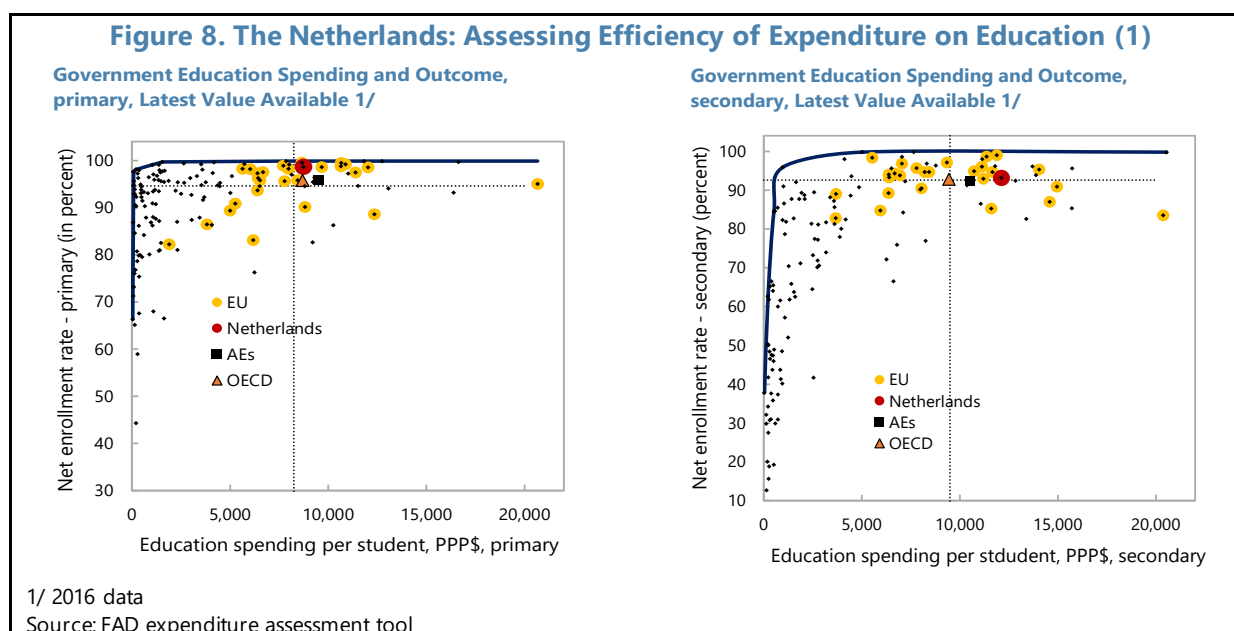
19. This section uses a combination of several conceptual and methodological approaches to comment on the efficiency of expenditure on education in the Netherlands. A data envelope analysis is performed, comparing the Netherlands with OECD, EU and other advanced economies. This approach is complemented by more standard statistical comparisons between the Netherlands and peer countries on education expenditure and outcomes. The analysis is based on a variety of measures of education outcomes (capturing different dimensions), and different levels of education. Among other outcomes, we follow Canton et al. (2018) and consider three dimensions of education outcomes: (i) quantity, measured by tertiary educational attainment; (ii) quality, captured by the PISA test scores; and (iii) inclusiveness, proxied by the inverse of young people NEET (not in education nor employed or in training).

20. The efficiency frontier analysis provides mixed results for the Netherlands. The IMF Expenditure Assessment Tool (EAT) provides DEA of public expenditure, including education expenditure, and outcomes, for a large sample of countries. On the one hand, the EAT confirms that the Netherlands has achieved a comparatively strong enrollment rate in primary education, above EU and OECD averages, despite similar (or even lower, compared to the advanced economies) levels

² These terms are defined as follows: (i) allocative efficiency looks at whether resources are allocated (e.g. among different levels of education) to maximize the overall outcome; (ii) technical efficiency, which investigate the “value for money” aspect of expenditure, i.e. whether the best outcome is achieved at the least cost; (iii) internal efficiency measures the percentage of children who complete an educational cycle (e.g., primary education or lower secondary education) as a share of those who start the cycle or as a percentage of those who finish the cycle in the minimum number of years; and (iv) external efficiency, which measures the returns to individuals, employers, and the country of public investments in education.

of education expenditure per student. The Netherlands is located on the efficiency frontier, in other words, suggesting it performs among the top in this sample of countries when measured by enrollment. On the other hand, Dutch secondary education performs less efficiently than comparator groups. Indeed, despite higher expenditure per student in secondary education, the

enrollment rate in the Netherlands is similar to OECD, EU and advanced economies averages; more generally, inefficiencies are indicated by the distance between the Netherlands and the efficiency frontier (Figure 8).

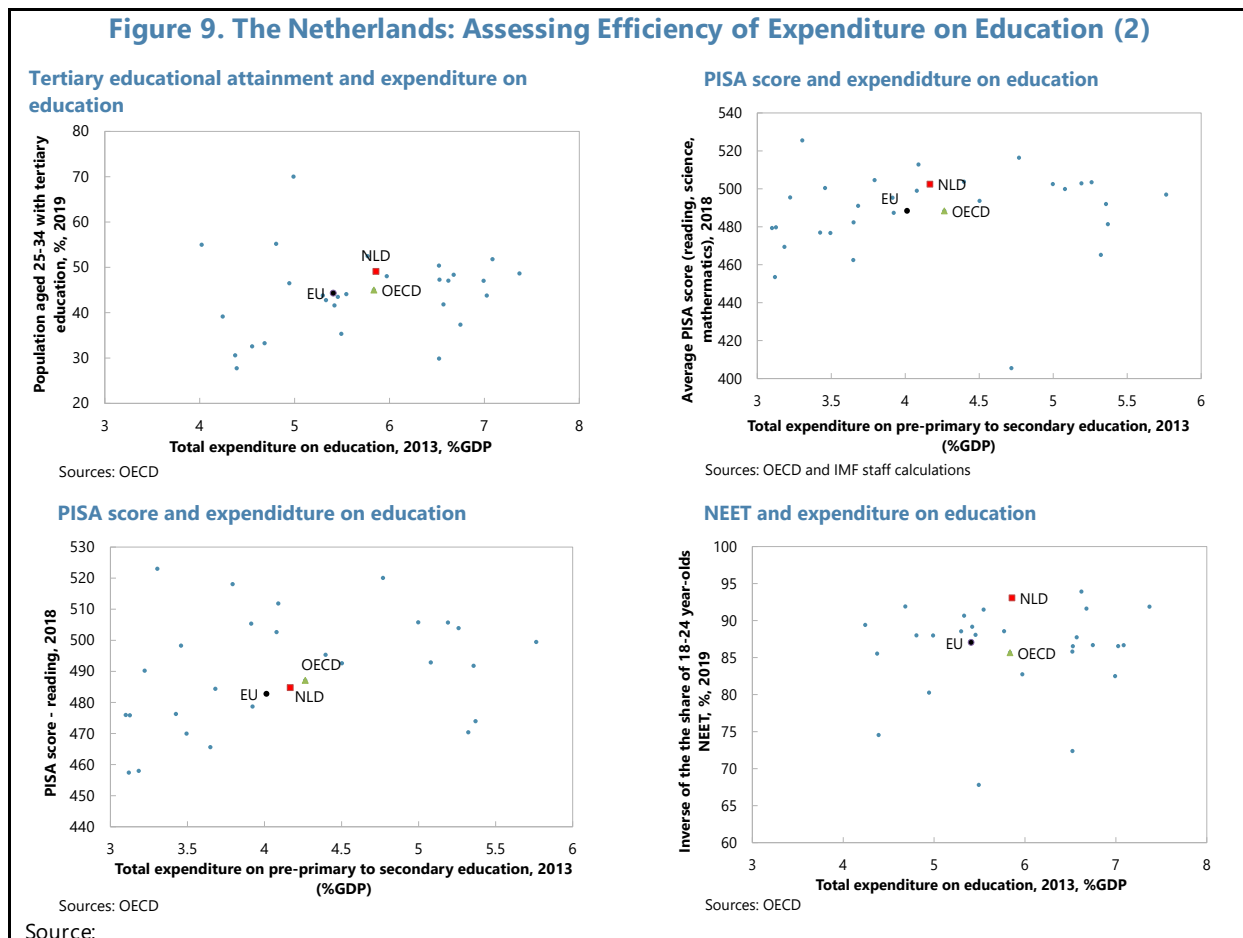


21. Alternative statistical analysis also points to uneven outcomes across levels and dimensions of education in the Netherlands. The DEA discussed above is based on 2016 data, latest available observations in the EAT. In addition, it does not take into account the time lag that occurs between execution of expenditure and actual and measurable impact on education outcomes. Using alternative metrics of education outcomes as discussed above, the assessment in figure 9 is based on more recent data, while lagging input variables by 5 years.

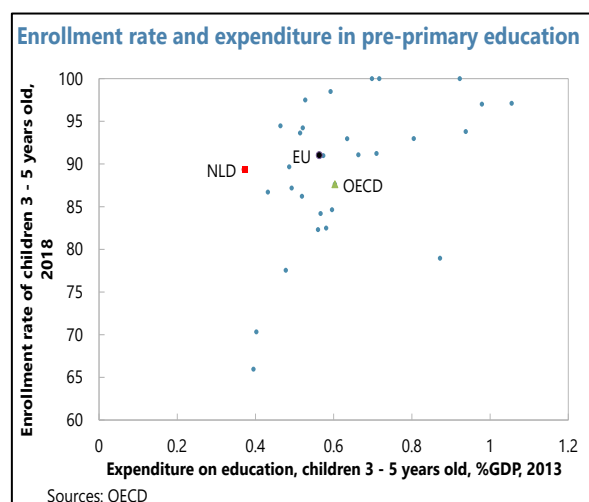
- *Data show comparatively strong performance on tertiary education (quantity) for the Netherlands, compared to EU and OECD countries.* Despite similar levels of expenditure, the share of young people with tertiary educational attainment is higher in the Netherlands compared to the OECD average. However, a few countries in the sample (Luxembourg, Lithuania, and especially Ireland) achieved even stronger outcomes while spending less, suggesting efficiency can be improved further.
- *In terms of quality (PISA scores), the picture is also mixed.* Using average scores across PISA tests (reading, mathematics, and science), the Dutch education system stands above the EU and OECD averages, with lower education expenditure than the latter, but higher than the former. However, as pointed out above, the Netherlands' score in reading is comparatively low, suggesting a gap

with respect to quality of education compared to the countries sample. In general, the Netherlands has a significantly lower enrollment rate in upper secondary education than the EU and OECD, while having a much higher enrollment rate in lower secondary education. The Netherlands’ out-of-school rate in lower secondary education (2.5 percent) is above OECD and EU averages (2 percent and 1.5 percent, respectively), and much higher than that of Austria, U.K., or Spain (below 0.5 percent). Some countries in the sample (including Ireland, Poland, and Estonia) achieve better “quality” of education with lower levels of expenditure compared to the Netherlands, while others (including Finland and Switzerland) reach such outcomes at higher financial costs.

- Based on the inverse of NEET as a measure of inclusiveness, the Netherlands outperforms most countries in the sample, with one of highest shares (93 percent) of 18–24-year-olds either in education, employed, or in training; compare to 85 percent on average in the OECD, and despite similar levels of expenditure.



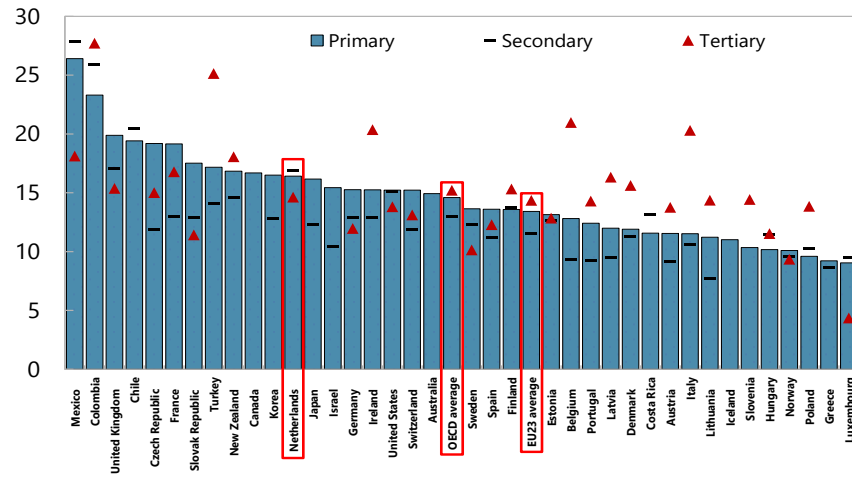
22. Pre-primary education is another challenge of the Dutch education system. As noted above, the Netherlands has a lower enrollment rate of 3–5-year-olds compared to the EU average. OECD (2020b) stresses that early childhood education and care has attracted large policy attention in recent years. This is reflected in the increase in early childhood enrollment rate in most OECD countries over the past decade, with only a few exceptions including the Netherlands (Figure 1). The lower expenditure in pre-primary education in the Netherlands (one of the lowest in the OECD) is associated with lower 3–5-year-olds enrollment rate. All countries with higher enrollment rate also spend comparatively more. Top performers, with nearly 100 percent enrollment rates (such as France, Ireland, and Israel) spend roughly twice as much as the Netherlands.



23. Although the above analysis does not provide insights on the sources of inefficiencies, other data suggest that teacher shortage may be an important factor. In the OECD, the Netherlands has one of the highest student-to-teaching staff ratios in primary and secondary education (in secondary education, the ratio was the fourth largest in the OECD in 2018). The ratio of student to teaching staff is also above EU and OECD averages in pre-primary education (Figure 10). Data show that these ratios have been stable over the past few years, suggesting no signs of improvement. Some empirical evidence in the literature show positive impact of smaller classes on pupils' test scores (Piketty and Valdenaire, 2006); an impact that persists over the long-term at subsequent levels of education and employment (Fredriksson et al., 2013). Smaller classes may be beneficial, especially for the most disadvantaged pupils, because it allows teachers to focus more on individual needs. The higher student-to-teacher ratio in the Netherlands is also associated with higher prevalence of “shadow education”, by which additional after-school education support (e.g., exam training, support for homework) is provided to students at their own expense (Elffer and Jansen, 2019). The use of such education support is however only available to households which can afford it, and may contribute to maintain or increase the gap with the most vulnerable (e.g., from lower income groups).

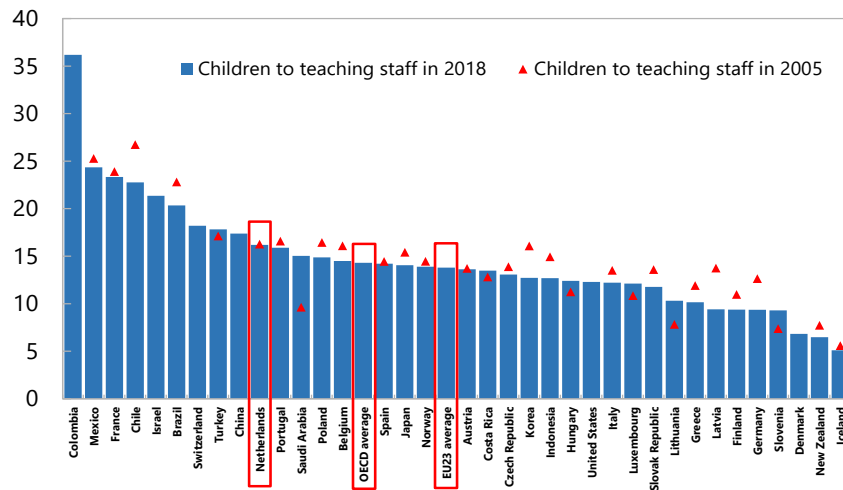
Figure 10. The Netherlands: Teaching Staff
Ratio of students to teaching staff, educational institutions

(by level of education, 2018)



Sources: OECD

Ratio of children to staff in pre-primary education



Sources: OECD

D. Summary and Policy Implications

24. The Dutch education system broadly performs above OECD and EU countries on average, partly thanks to higher investment in education. The Netherlands has one of the highest enrollment rates of school age population in the OECD, and a larger share of tertiary educated youth and employees than the OECD and EU averages. These comparatively strong education outcomes are associated with a higher employment rate, although the structure of the Dutch labor market and higher prevalence of vocational education (through which almost all students combine education with employment) are also important contributors. The Netherlands also invests more in education than OECD and EU, on average, especially in tertiary education. By some measures,

however, the comparative performance of Dutch students in international tests has declined somewhat in the last 20 years. Also, although the Netherlands scores comparatively high in a measure of inclusiveness, the inverse of the NEET index, evidence from its own national tests data points to persistent differences in educational achievement among children from different socioeconomic groups. Overall, efficiency analyses of expenditure on education suggest that although expenditure on education has supported strong outcomes, important challenges remain to be addressed to preserve these outcomes or move the Netherlands back among the very top performers.

25. Addressing these challenges require policy interventions on several fronts. Especially, policy could aim at:

- ***Fostering early childhood education.*** The Netherlands' enrollment rate in pre-primary education has declined in recent years and falls below EU average, while related investment is among the lowest. Although compulsory education begins at age 5 in the Netherlands, early childhood education is widespread across advanced economies and help children start strong in their curriculum. Public provision of early childhood education and care is an important factor in ensuring broad access to affordable pre-primary education (OECD 2020b). Increasing the enrollment and improving access to pre-primary education in the Netherlands will require additional investments, especially by the public sector (childcare cost in the Netherlands exceeds the OECD average, and the gap is larger for the most vulnerable households, e.g., with income below average). This will also help support women full-time employment, as a large majority of them currently work part-time.
- ***Supporting equality of opportunity by avoiding widening inequality in primary education.*** Although efficiency analyses show strong outcome in primary education (measured by the enrollment rate) compared to peers, large gaps on test scores exist between pupils from different income groups and migrant backgrounds. As these gaps persist, this may widen inequality of opportunity in education beyond primary education, with longer-term effects on employment and income for children in the most disadvantaged groups. Targeted education investments, especially in regions/schools catering to these pupils would help close these gaps and support stronger education outcomes overall. Such investments may include more teaching staff to help focus on specific individual needs, and technology to enhance learning experience. Investing earlier, in pre-primary education, as noted above, may also be more beneficial to these groups by supporting stronger fundamentals (e.g., in language for children with disadvantageous migrant backgrounds) ahead of entering primary education.
- ***Further boosting secondary educational attainment and facilitate the transition from lower secondary to upper secondary education.*** As discussed above, the Netherlands has a higher share of tertiary educated youth and employed workers than EU and OCDE, on average. However, compared to these same groups, the Netherlands also has a higher share of young people with lower secondary attainment or below, and one of the highest proportions of lower educated workers (equal or less than lower educational attainment); while the proportion of upper secondary educated is lower. Addressing this "missing middle" (characterized by a

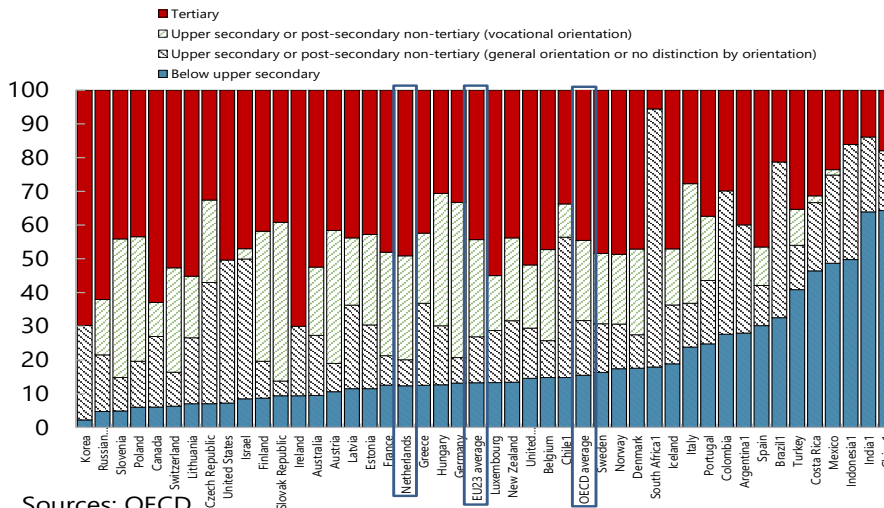
comparatively stronger concentration of youth educational attainment in tertiary and lower secondary education, instead of upper secondary) will further boost educational attainment in the Netherlands. For example, policies could aim at reducing the out-of-school rate in lower secondary education, which is much higher than the EU average. In addition, completion rates in upper secondary vocational education within theoretical duration of studies, can be further improved to reach levels of top performers such as Austria, Switzerland, and or Belgium (Appendix I).

26. Addressing teacher shortage will also support stronger education outcomes across the board, while reducing risks of widening inequality of opportunity. Teacher shortage has been more acute in major cities in the Netherlands, especially in the Randstad. According to the 2020 State of Education report, the shortage is also more prevalent in the most disadvantaged schools (those located in poorer regions of the country and with larger proportion of disadvantaged students). As discussed in section 2, the share of students in the field of education is significantly low compared to the share of employment in this sector, suggesting that, without policy interventions, the shortage will likely persist. Creating incentives to boost graduation in the field of education would help ease teacher shortage over the medium term. Anecdotal evidence also suggests that costs of living and other external factors such as the cost of housing, increase the shortage in large cities. Policy options could include adjusting salaries (or other benefits) depending on the city and cost living, to facilitate teachers' mobility (such policies are implemented in the UK, for example).

27. The Covid-19 pandemic has accelerated the need for policy actions in education. A recent study shows that school closures during the pandemic have created learning losses in the Netherlands, especially in primary schools, with students from the most vulnerable households (lower income groups) particularly affected (Engzell et al., 2020). While the long-term impact of such losses remains uncertain, the costs for human capital can be non-negligible (Teunissen et al., 2021). Some evidence also suggest that the pandemic has further increased the shortage of teachers in some regions and schools where pupils' learning losses were the largest. Put together, these developments exacerbate already existing challenges, requiring rapid policy interventions. The recent government's announcement of spending worth 8.5 billion euros (about 1% of GDP) over the next two years to support a National Educational Plan is welcome. These funds can help address some of the issues discussed above. The resources will need to be used efficiently, including through targeted investments and policies, to maximize the outcomes. The Netherlands' exceptionally strong fiscal position, even post-pandemic, means that additional public support can be made available over a longer period, which may be necessary to address some of the more persistent issues. Also, such investment in education will help address the changing demand in skill sets, particularly post COVID-19, including those driven by increased digitalization.

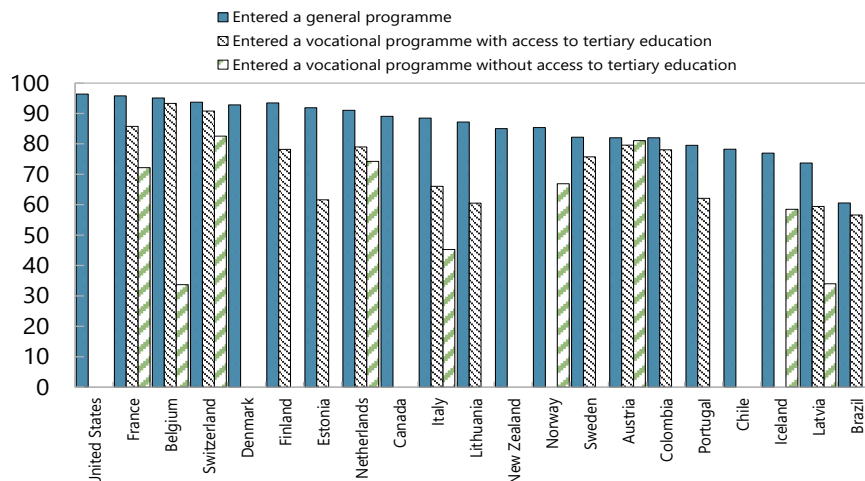
Appendix I. Educational Attainment and Completion Rate

Educational attainment of 25-34 year-olds (2019) (percent)



Sources: OECD

Completion Rate of Upper Secondary Education Within the Theoretical Duration Plus Two Years



Sources: OECD

THE DUTCH LABOR MARKET AND RESILIENCE TO THE COVID-19 PANDEMIC¹

A. Introduction

1. Government policies to preserve jobs and households' income during the pandemic were swift and sizable. As most economies around the world, the Netherlands was hit hard by the Covid-19 pandemic, prompting an unprecedented policy response. Among emergency policies introduced to fight the pandemic, measures to support employment and preserve jobs include: compensation of up to 90 percent of labor costs for companies expecting a reduction in turnover of at least 20 percent (the NOW program);² income and loan support to the self-employed (the TOZO program), workers under flexible contracts (the TOFA program), and for entrepreneurs, start-ups and small innovating companies. The generosity/coverage of these programs have been adjusted as needed by the authorities during the pandemic. In 2020, government emergency spending through these employment support programs cost more 2 percent of GDP, representing a large share of the total (3.5 percent of GDP) additional expenditure to support the Dutch economy during the health crisis. Current estimates and forecast suggest a larger package in 2021, as stricter containment measures were in place at least in the first quarter of the year.

2. Combining features of the short time work schemes and wage subsidies, these measures proved to be effective in limiting the impact of the pandemic on the labor market, although with some disparities across sectors of activity, types of employment, and age groups. The unemployment rate increased moderately to 3.8 percent in 2020, from 3.4 percent in 2019, with significant changes in employment dynamics within the year. Hours worked took a bigger hit, while unemployment increases remained relatively contained and temporary, reflecting policy interventions to protect employment. However, significant disparities could be observed. Younger workers (more likely to be employed under short-term and flexible contracts, and in the catering, retail, and events sectors) were more severely affected compared to prime-age workers, and the unemployment rate increase was about 0.4 percentage point higher for women compared to men, between December 2019 and December 2020. The sectoral impact of the shock was also uneven, with contact-intensive sectors the most affected, while some sectors characterized by employing high-skilled workers expanded.

3. This chapter discusses the impact of the pandemic on the Dutch labor market, as well as the main characteristics of Netherlands' policy response. Section B discusses key developments in the labor market, resilience across types of employment, job contracts, and other relevant groups, and possible signs of labor market slack. Section C provides details on specific

¹ Prepared by Armand Fouejieu and Koralai Kirabaeva

² Initially, under the NOW program, employers receiving compensation for labor costs were subject to a fine in case of dismissal of employees. This restriction was subsequently lifted (although dismissals remained limited to a certain number of employees, under conditions, or subject to agreements with the unions) to facilitate needed adjustments for businesses.

characteristics of the Dutch short-time work scheme deployed to cushion the impact of the health crisis, as well as take-up rates across sectors of activity. And section D concludes with some policy implications.

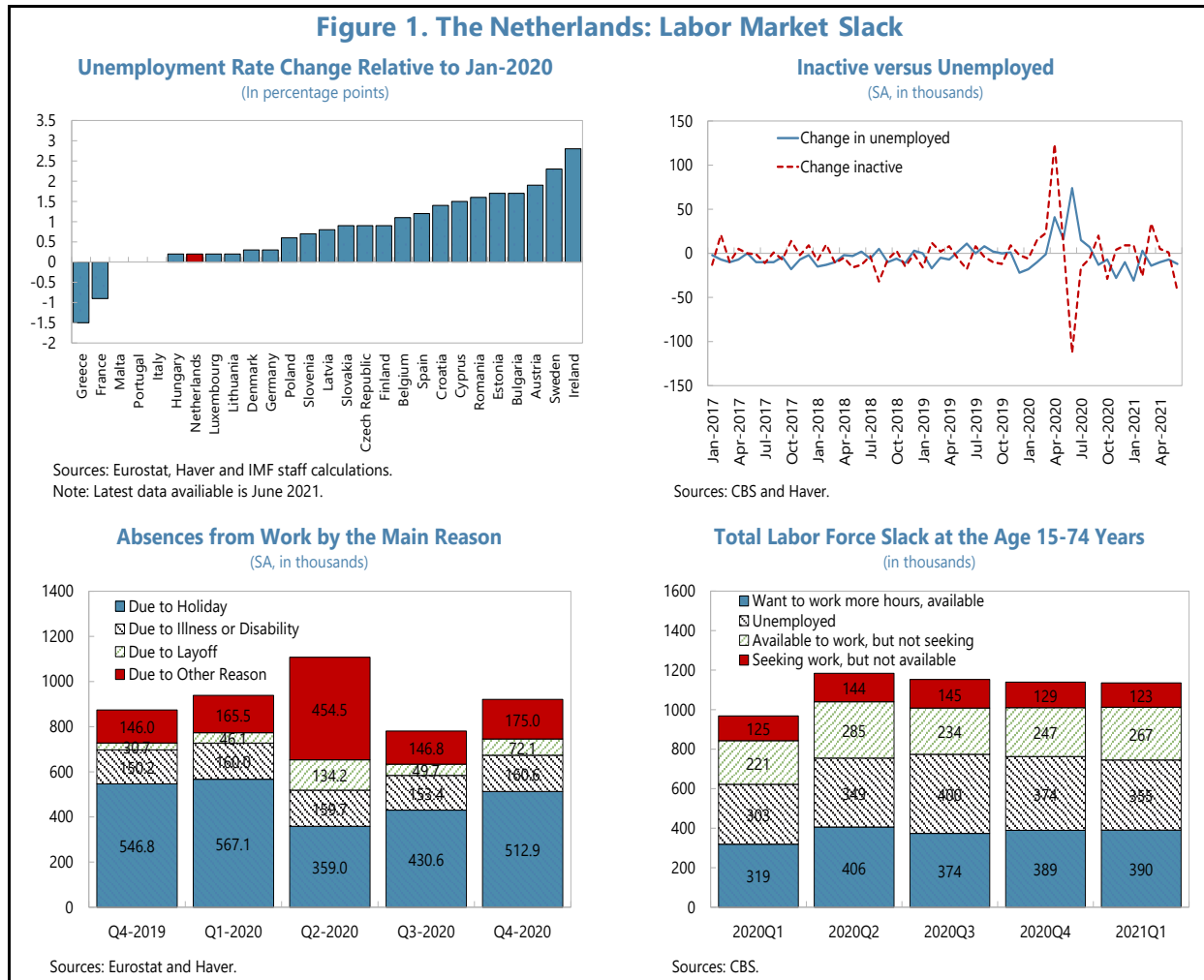
B. Labor Market Developments During the Pandemic

4. The pandemic has had a comparatively limited and temporary impact on unemployment in the Netherlands, although the Dutch labor market has not yet reached the tightness seen before the pandemic. Although unemployment rose significantly in the second and third quarters of 2020, as of August 2021, the unemployment rate had reverted to its historically low pre-pandemic level of December 2019 (3.2 percent). In fact, the Netherlands has had one of the lowest overall increases in unemployment among EU countries. Also, the sharp increase of inactive people in the labor force in the first half of 2020 was subsequently gradually reversed. However, some signs of labor market slack remained visible as of the first quarter of 2021. For example, the number of workers willing to work more hours without being able to do so has remained high compared to pre-pandemic levels (which were unusually low). In addition, the number of people available to work but not looking for a job has also increased and has not reverted to the levels that prevailed before the health crisis.³

5. Important differences across age groups and education levels have been visible during the pandemic, while the unemployment gap across gender has been more moderate. The unemployment rate increased from the low 3 percent in March to the high 4.6 percent in August 2020. The subsequent resumption and adaptation of activities brought the unemployment rate down to 3.2 percent in June 2021. However, younger workers (aged 15 to 24 years old) have suffered a larger and more persistent impact, with their unemployment rate swinging more markedly, and remaining still some 1.5 percentage points above the pre-pandemic value.⁴ In contrast, prime-age workers have recovered their pre-pandemic unemployment rate. The less educated workers also suffered a larger increase in unemployment than their more educated counterparts did. From similar levels before the pandemic, women unemployment rate increased 0.5 percentage point above that of men at the peak of the recession. Since then, the gap has closed again along with the decline in unemployment rates across the two groups.

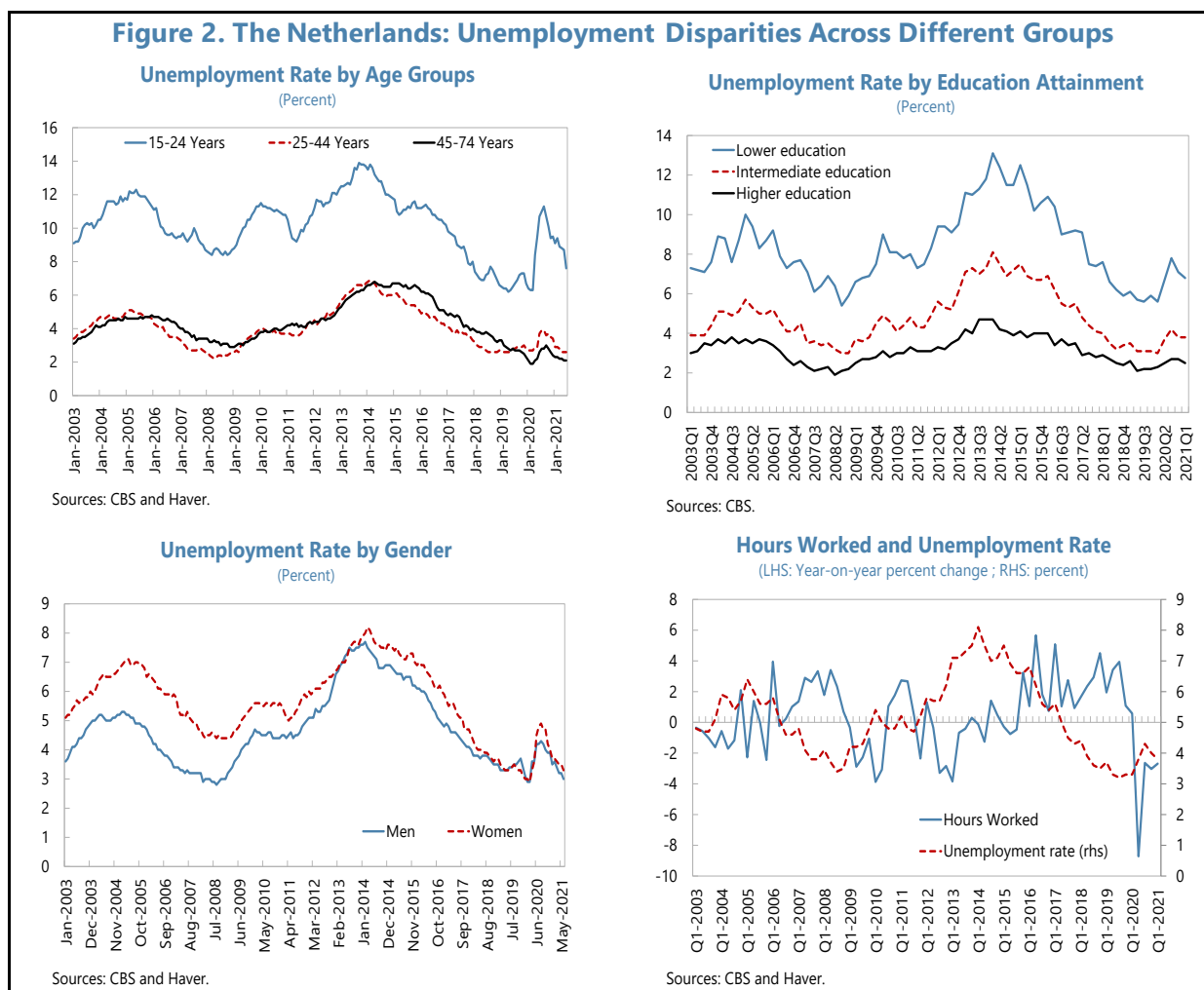
³ To an extent, this reflects the role of government support programs which provide sources of income to a significant share of the labor force currently inactive. It is also worth noting that the Netherlands entered the pandemic with historically strong labor market conditions.

⁴ While younger workers took the largest blow at the pick of the crisis, youth employment also recovered more rapidly (although not fully as of now) as economic activity resumes, the phenomenon is driven by the flexible nature of job contracts in this groups, as noted earlier.

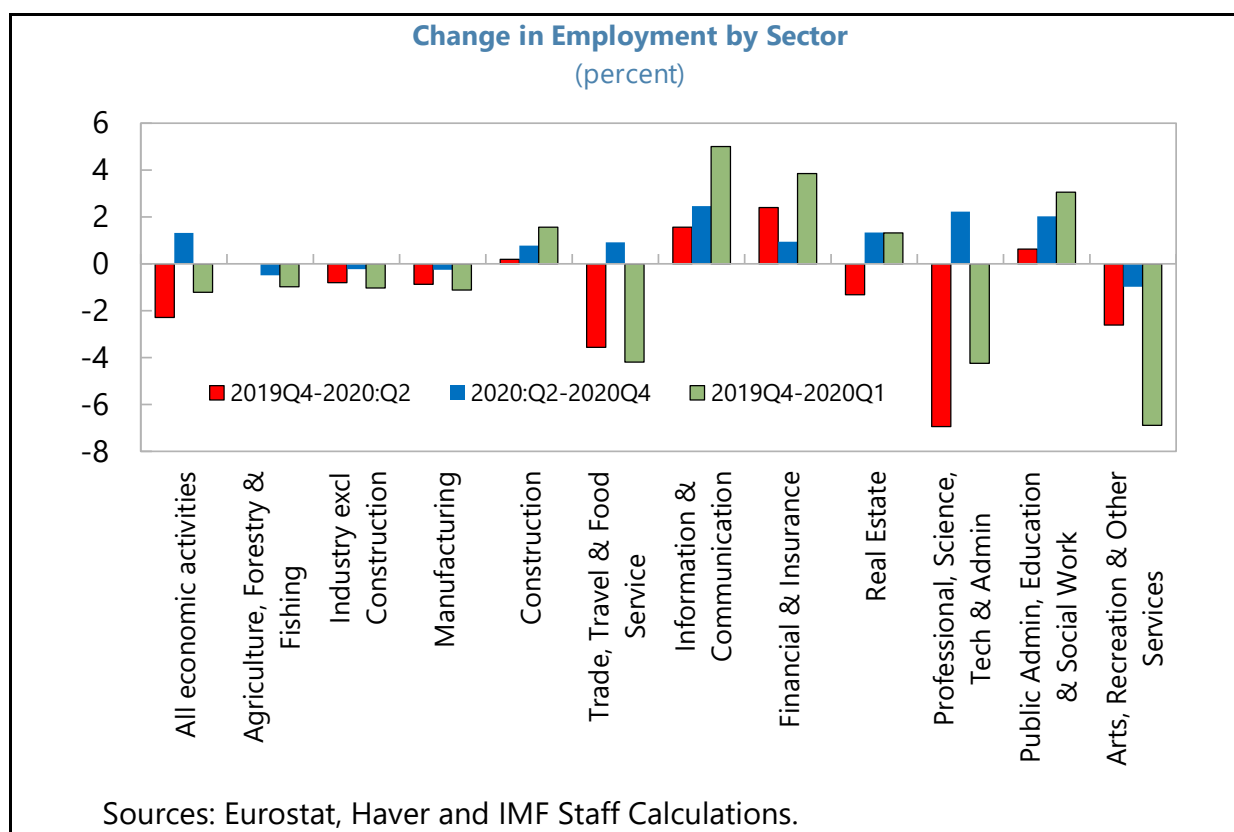


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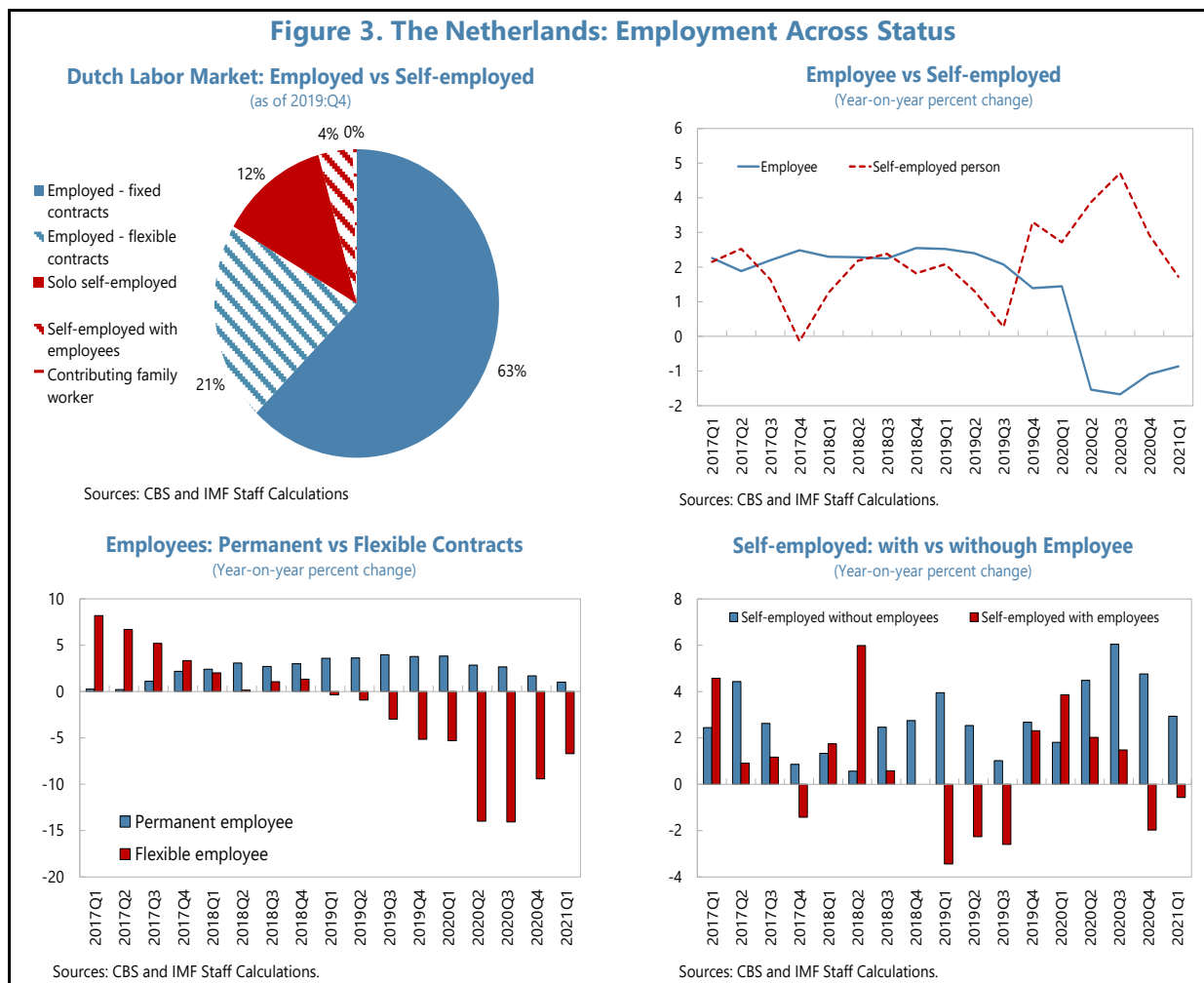
7. The sectoral impacts of the shock on employment were also uneven, reflecting the nature of the pandemic and the need for social distancing. Contact intensive sectors were the hardest hit. Especially trade, travel and food services; and professional, science, technical activity; and art and recreation (which accounted for more than 50 percent of total employment before the pandemic) were the main contributors to the decline in employment. These contact-intensive sectors employ a comparatively higher share of younger and low-skilled workers, and of workers under temporary contracts: the groups that appeared to be most affected by the health crisis. On the other hand, some sectors, including information and communication, financial and insurance services, and public administration, education and social services, registered a significant increase in employment (above 3 percent) as of 2021:Q1 compared to the pre-pandemic level. Those expanding sectors tend to employ high-skilled workers and have a lower share of temporary job contracts (see appendix I).



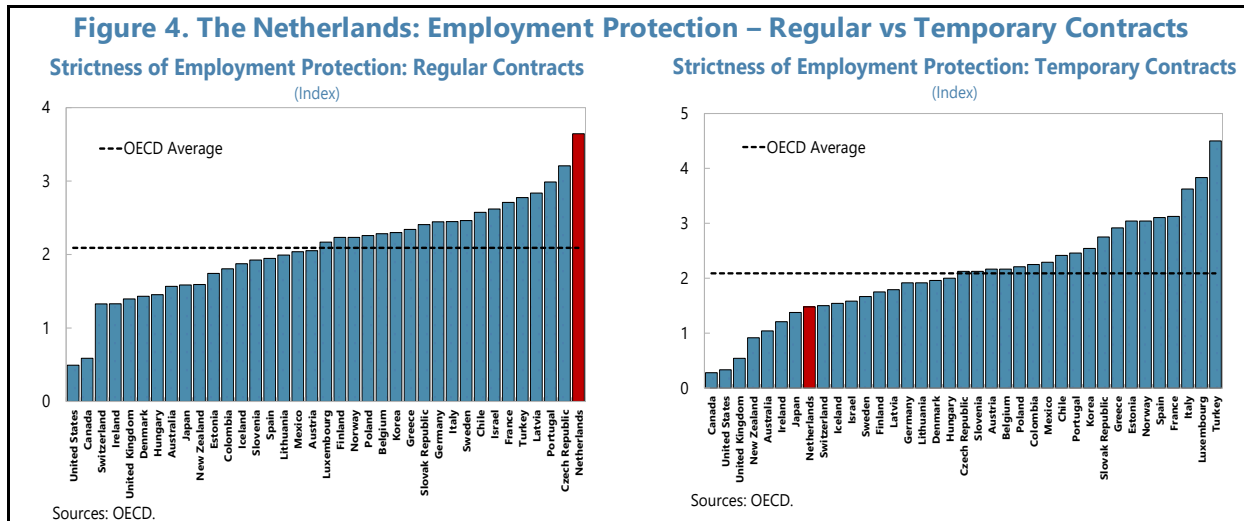
8. Flexible workers and the self-employed faced higher employment volatility and losses during the pandemic, compared to those with permanent contracts and employed workers, respectively.

- Data suggests that employment grew at a stable rate for employed workers in 2020:Q1, but contracted by about 1.5 percent in 2020:Q2 as the recession deepened, and continued to decline until the first quarter of 2021. Such decline in employed workers was mainly driven by layoffs of employees under flexible contracts, whose total numbers shrunk by about 14 percent in the second and third quarters of 2020, and by almost 10 percent in the last quarter. While permanent contract jobs have continued to grow, the more moderate pace of increase was not enough to compensate for the layoff of workers under temporary contracts, suggesting that most of the latter became unemployed or perhaps self-employed. Past experience also suggests that employment under the flexible contracts tends to grow faster than permanent contracts when economic activity recovers from a downturn. Flexible jobs are more likely to serve as an adjustment variable when businesses cope with a shock. Such disparities in the outcomes for workers under different contracts is exacerbated by labor market regulations which impose less restrictions on dismissals of employees under temporary contracts.

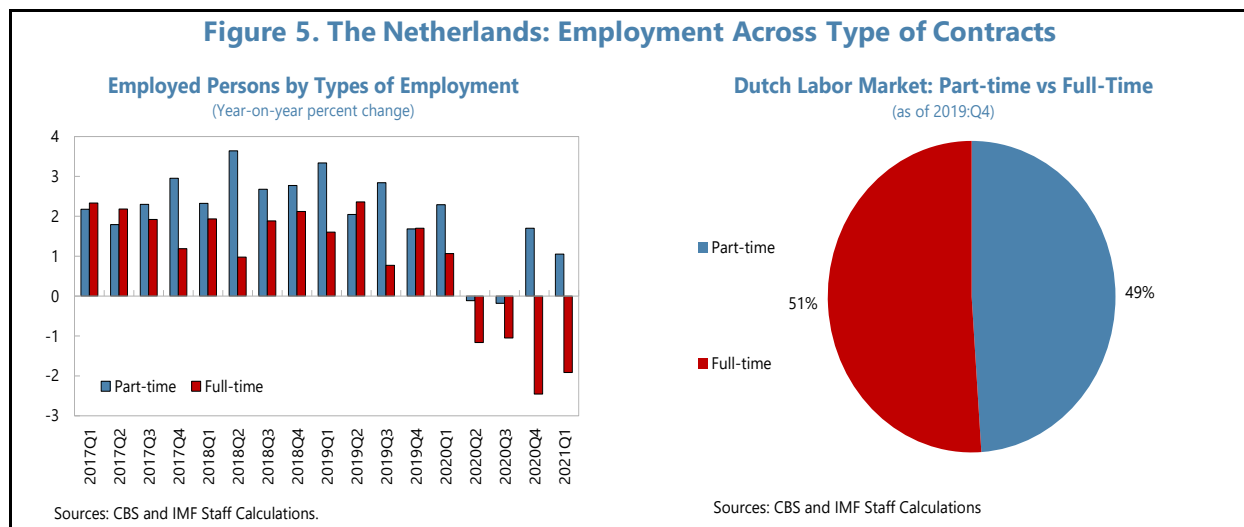
Figure 3. The Netherlands: Employment Across Status



- For the self-employed, employment grew significantly in 2020, surpassing the pace of increase that prevailed before the pandemic. However, different dynamics emerge when looking at self-employed with employees versus solo self-employed. Employment continued to grow in both groups in the second and third quarters of 2020, although at a much slower pace for self-employed with employees. In the latter group, employment contracted in 2020:Q4 and 2021:Q1, while continuing to grow in the group of solo self-employed. A possible explanation for such divergence could be that self-employed entrepreneurs with employees laid off their employees because of the reduced economic activity due to the pandemic, and thus became solo self-employed. The large increase in the number of solo self-employed during the pandemic may also reflect a broader shift across types of employment in the labor market (e.g., previously employed workers converting into self-employed after being laid off). A similar dynamic was observed during the global financial crisis.

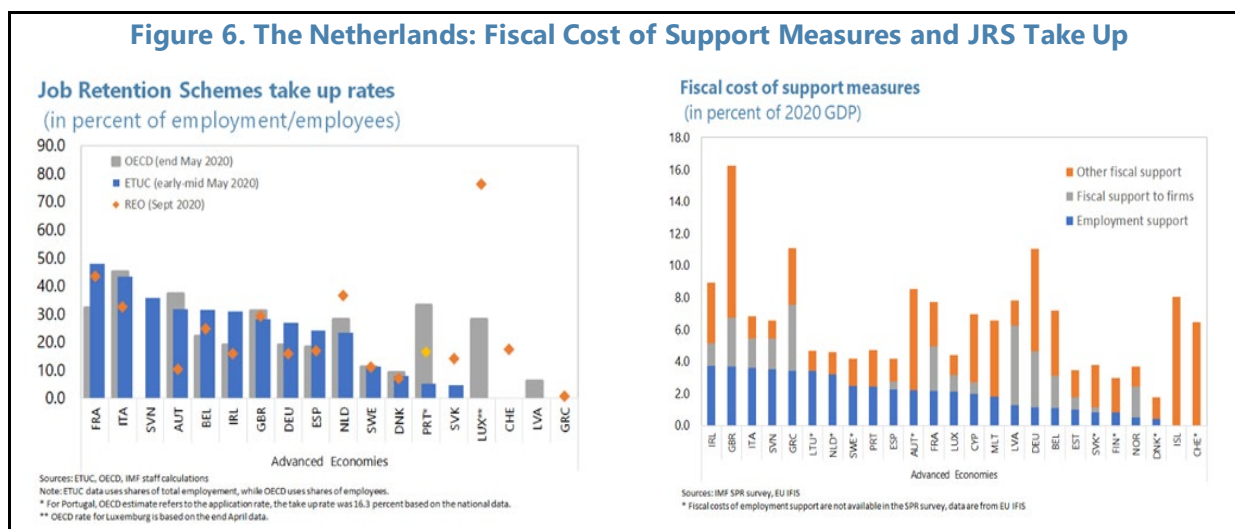


9. Employment losses were larger among full-time workers compared to those working part-time. Employment in full-time contracts declined by about 1 percent in the second and third quarters of 2020, compared to a contraction of only 0.1 percent for part-timers. While part-time employment grew above 1 percent in 2020:Q4 and 2021:Q1, full-time employment contracted further by 2.5 and 2 percent respectively. The still limited economic activity since the second half of 2020, due to the persistence of the health crisis and associated (although more limited) containment measures, may partly explain the shift of employment from full-time to part-time jobs. Also, many part-time jobs are found in sectors that were less (or not) affected by the pandemic, including the health sector. With more than 60 percent of women working part-time in the Netherlands, the increase in part-time jobs has mostly benefited women employment. Indeed, as the economy emerges from the pandemic, latest available data suggest labor participation has increased slightly more rapidly among women compared to men.



C. Employment Support Scheme Coverage by Economic Sector

10. The pandemic prompted unprecedented government responses, including several policies to preserve jobs and household’s income, while allowing businesses to jump-start their activity at lower costs when the health crisis eases. Virtually all European countries deployed several labor market measures to support employment, including job retention schemes, hiring subsidies, reduction and suspension of social contributions, and enhancement of unemployment benefits. Job retention schemes (JRS), either in the form of short-time work scheme (STW) or a wage subsidy (WS) played a predominant role. Employment support accounted for a sizable share of the overall fiscal response across Europe.



11. The Dutch employment support program combines features of STW and WS. The Netherlands replaced its existing STW scheme (werktijdverkorting) with a new Temporary Emergency Bridging Measure for Sustained Employment, known as NOW (Noodmaatregel Overbrugging Werkgelegenheid). The new scheme is a temporary wage subsidy where employers continue to pay employees their full usual wage and receive a subsidy that is proportional to the reduction in turnover: the subsidy could cover up 90 percent of labor costs at the beginning of the pandemic, for businesses expecting revenue loss of 20 percent or more. Employers receive a subsidy they can use for hours worked, but in contrast to other countries with WS schemes, the size of the subsidy is proportional to the decrease in revenue, rather than the reduction in working hours. In this sense, the Netherlands’ scheme can be seen as a hybrid case.⁹ As in all job retention schemes, employers have an obligation to keep their worker employed even if their work is suspended. A lower wage bill would result in a reduction in the subsidy (usually the difference between reference and actual wage bill, not corrected for the actual decrease in revenue).

⁹ OECD (2020). Job retention schemes during the COVID-19 lockdown and beyond, Paris: OECD.

12. It in a reduction in the subsidy (usually the difference between reference and actual wage bill, not corrected for the actual decrease in revenue).

13. **The JRS coverage varied significantly across sectors reflecting the heterogeneity of the corresponding output contraction.** The take up rates

(as a share of total employees) declined in 2020:Q4 compared to 2020:Q2 and the distribution shifted even more towards Services from Industry sectors (primarily manufacturing), especially to hospitality and other services.¹⁰

	JRS take up rates		JRS distribution	
	2020Q2	2020Q4	2020Q2	2020Q4
Total	35.5	16.9	100	100
Agriculture	35.7	23.6	1.1	1.4
Industry	44.8	17.3	18.5	14.7
Services	40.8	20.3	82.0	86.1

14. **The JRS helped to preserve jobs by reducing labor costs.** Similar to other European countries, in the Netherlands hours worked contracted significantly more than employment, and the difference was larger for sectors with higher JRS take up rates.¹¹

	# of countries	GDP growth	Employment	Hours
		(yoy)	growth (yoy)	worked (yoy)
2020Q2-2020Q3				
EU countries	27	-7.7	-2.0	-7.6
w/ STW	20	-8.0	-2.2	-8.1
w/ WS	9	-6.6	-1.6	-6.7
NLD		-6.0	-1.2	-5.6

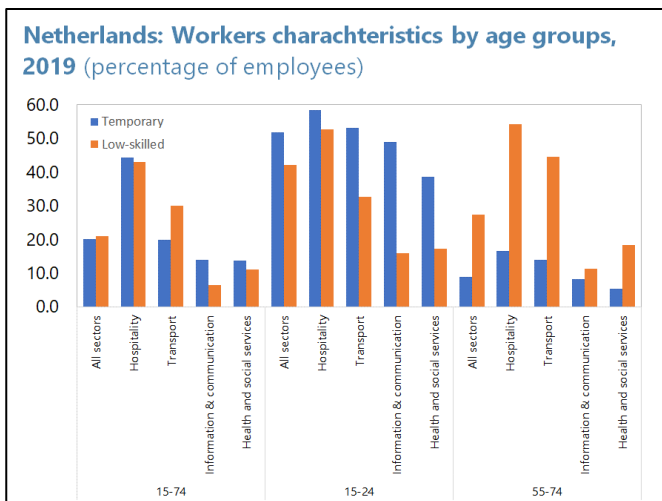
15. **Workers on temporary contracts and low-skilled workers (the less educated) have been particularly affected by the pandemic.** The Netherlands has larger shares of both temporary and low-skilled employment compared to the euro area averages (also see section B, and the Selected Issues Paper on education expenditure and outcomes in the Netherlands). Furthermore, those shares tend to be larger in the sectors most affected by the pandemic, such as hospitality. Due to their higher revenue losses, sectors with larger shares of temporary and low-skilled workers had higher take up rates of the employment support program. The self-targeting mechanism in the design of the NOW program therefore allowed the workers in hardest hit sectors to ultimately benefit most from the support afforded to their employers.

¹⁰ 2020:Q2 marked the peak of the economic impact of the pandemic on the economic activity, including due to voluntary and mandatory lockdowns. Although more severe mobility restrictions were imposed in early 2021, the economy was more resilient, owing to better adaptation of businesses. The STW scheme coverage limit was reduced to 80 percent of labor costs by 2021:Q2.

¹¹ In a forthcoming IMF Departmental Paper "Labor Market Fallout of the Covid-19 Crisis and Associated Policy Options", we showed in a broader sample of 31 European countries during 2020:Q2 – 2020:Q3, the job retention scheme take-up rates (and fiscal costs of employment support) were found to be statistically significant in explaining (i) the difference between employment and GDP contractions, controlling for stringency of containment measures, intensity of the pandemic, shares of temporary and of low-skilled workers.

16. The sectors set to be most affected in the post-pandemic tend to have a relatively higher share of lower-skilled workers, with many working under temporary contracts. The share of lower-

skilled workers is particularly high in contact-intensive service sectors, which are expected to contract or grow less strongly in many post-pandemic scenarios.¹² These sectors also tend to rely more on temporary contracts, especially for younger workers, putting this group at a higher risk of prolonged unemployment. The expanding sectors (relative to pre-pandemic trend) may be able to absorb some of the displaced workers, but mostly those with higher skills.¹³

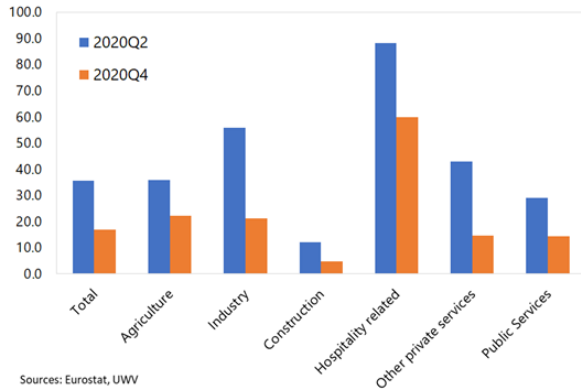


¹² The scenarios are discussed in the forthcoming IMF Departmental Paper “Labor Market Fallout of the Covid-19 Crisis and Associated Policy Options.”

¹³ See Appendix I for charts on potential skill and occupational mismatches.

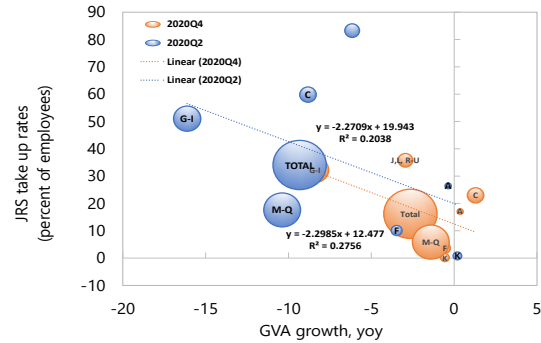
Figure 7. The Netherlands: JRS Take Up and Employment by Sector Activity

Netherlands: JRS take up rates in 2020Q2 and 2020Q4 (in percent of employees)



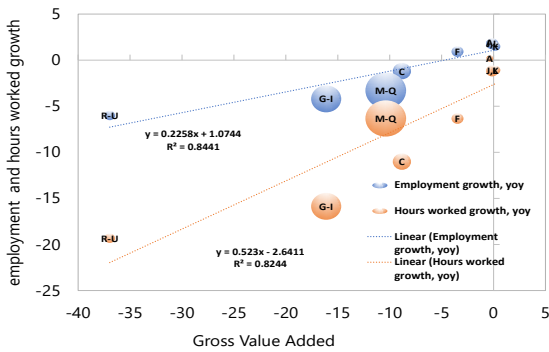
Sources: Eurostat, UWV

JRS take up rates and GVA growth by sector in 2020Q2 and in 2020Q4



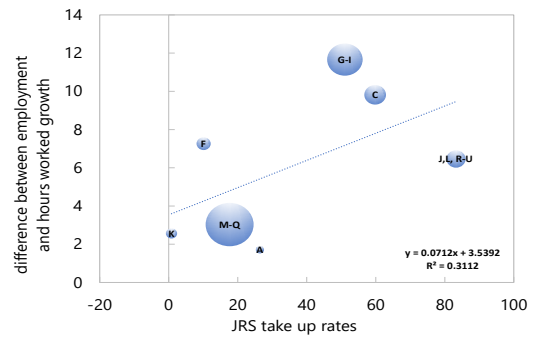
Note: The size of the bubble corresponds to employment shares in 2020Q2. Employment covers only employees.
Sources: Eurostat, UWV

Employment, hours worked, and GVA in 2020Q2 (in percent, yoy)



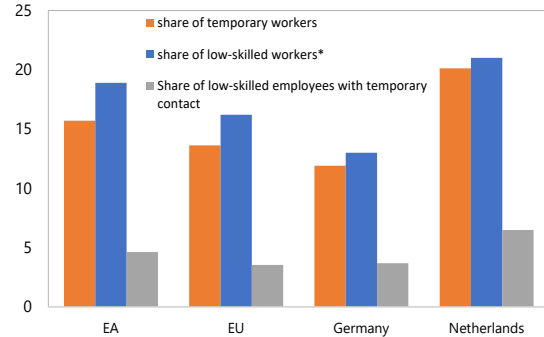
Note: The size corresponds to employment shares in 2020Q2. Employment covers only employees.

Employment vs hours worked, and JRS take up rates in 2020Q2 (in percent, yoy)



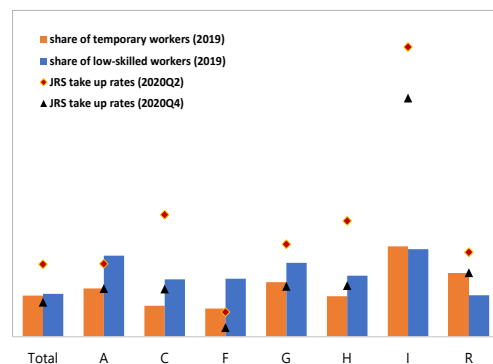
Note: The size corresponds to employment shares in 2020Q2. Employment covers only employees.
Sources: Eurostat, UWV

Worker characteristics: temporary and low-skilled employment



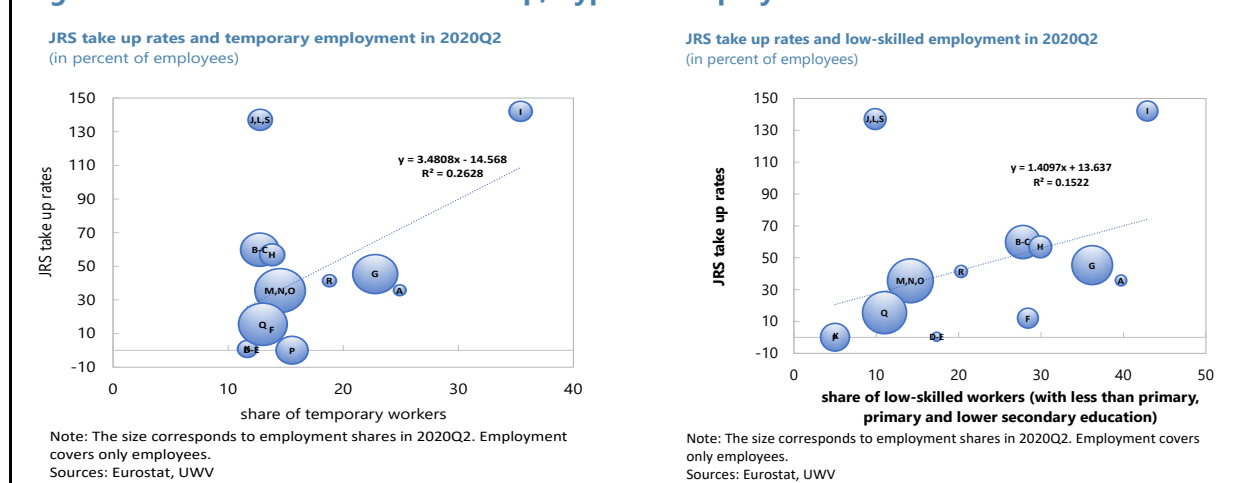
*Low-skilled workers correspond to workers with less than primary, primary and lower secondary education.
Source: Eurostat

Worker characteristics and JRS take up rates by sector



Economic activities sectors

A Agriculture	F Construction	K Financial and insurance activities	P Education
B Mining and quarrying	G Wholesale and retail trade	L Real Estate	Q Human health and social work activities
C Manufacturing	H Transportation and storage	M Professional, scientific and technical activities	R Arts, entertainment and recreation
D Energy	I Accommodation and food services	N Administrative and support service activities	S Other services
E Water and waste	J Information and communication	O Public administration and defence; compulsory social security	

Figure 8. The Netherlands: JRS Take Up, Types of Employment Contracts and Workers' Skills

D. Summary and Policy Implications

17. The Dutch labor market has coped comparatively well with the shock from the pandemic thanks in large part to an unprecedented policy response. The unemployment rate rose by much less than might have been feared given the abrupt reduction in activity in the middle part of 2020 and has been on a strong and persistent declining trend since August 2020, converging toward pre-pandemic lows. The swift and strong policy response to the crisis contributed to moderate the negative impact of lockdowns and other mobility and activity restrictions on the labor market. However, reflecting the structure of the Dutch labor market, the adverse impacts on employment, especially at the peak of the pandemic, were unevenly distributed across different groups of workers, with those workers on temporary contracts and/or less skilled being disproportionately affected.

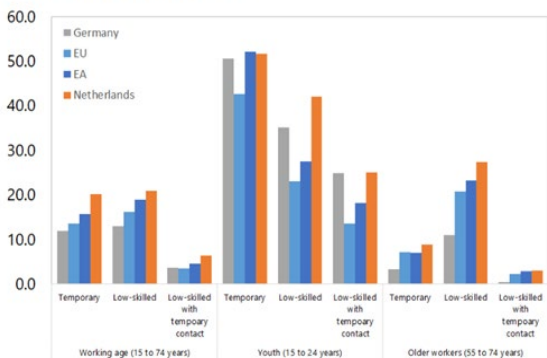
18. The NOW program was particularly successful. The program was well fit to the unique nature of the crisis that accompanied the pandemic: as its name in Dutch says it, it was a bridge for firms and workers to the other side of an exogenous and deep crisis. It was a program designed to preserve firms and their employees through a period of major demand and supply disruptions. In normal times a program of this kind would interfere with the usual process of business exit, which releases resources to the economy that can find better opportunities in expanding sectors and firms. Normal unemployment insurance programs are well suited to deal with the corresponding transitional demand for support. For that reason, it is natural that, as the pandemic crisis wanes, the NOW program should be discontinued. But the design behind NOW, perhaps with some modifications, can again be useful if another major shock were to affect large portions of the economy in the future.

19. Going forward, policies should focus on keeping the most vulnerable groups at risk of drifting out of the labor force attached to the labor market, while addressing some of long-standing challenges. Policy options to consider:

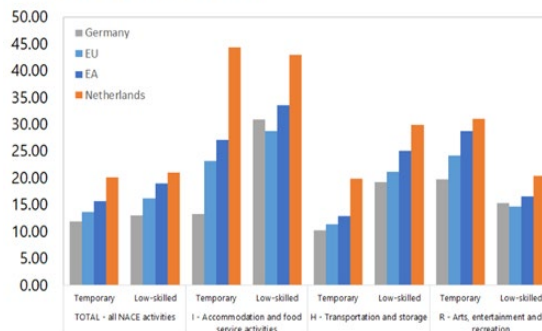
- Subsidies for training costs to reduce the overall cost of training for firms which may be particularly relevant for financially constrained firms. The subsidies could be differentiated to facilitate the training of lower-skilled workers as there is evidence that firms generally prefer to involve in their training programs better educated workers who are less at risk and are involved in more complex jobs. To address this problem and extend training opportunities to non-standard workers, subsidies for training could also be provided to individuals (and not only to firms). The training could be combined with other ALMPs (to facilitate diffusion of information on training opportunities and on their quality) and market-led (firms decide based on their needs) and thus potentially better targeted. Policies to reduce labor market duality will also contribute to increase resilience to future shocks. Ensuring appropriate social protection including a mandatory disability insurance and some basic pension insurance for the self-employed, as currently planned, are steps in the right direction. Continuing realigning tax and other incentives across different types of employment, e.g., gradually reducing the tax credit for self-employed once the pandemic has been left behind, would contribute to reducing labor market duality. Improving employment protection for workers in flexible contract arrangements could enhance the resilience of the labor market to adverse shocks, and support wage growth. Given the high prevalence of part-time employment among women, improving availability and affordability of childcare (currently, its cost exceeds EU and OECD averages) would better enable women to work full-time. Ongoing reforms of parental leave, including the expansion of paternity leave, would also facilitate full-time female labor participation.

Appendix I. Workers' Characteristics in the Dutch Labor Market

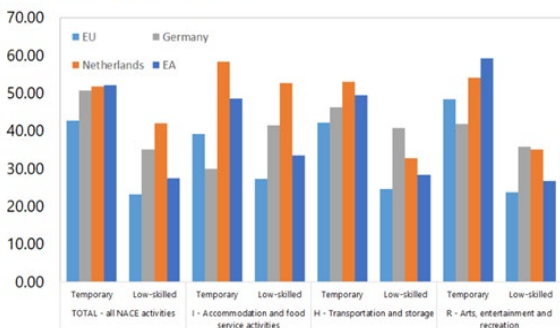
Workers characteristics by age groups
(percentage of employees)



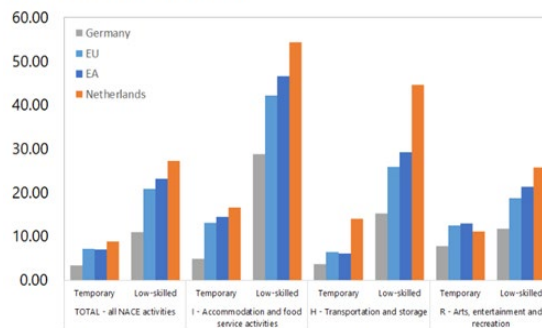
Workers characteristics by sectors
(percentage of employees)



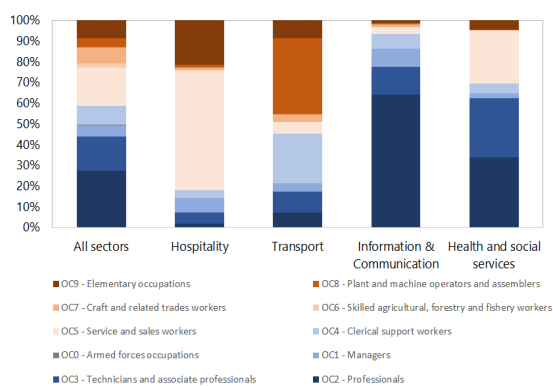
Youth workers characteristics by sectors
(percentage of employees)



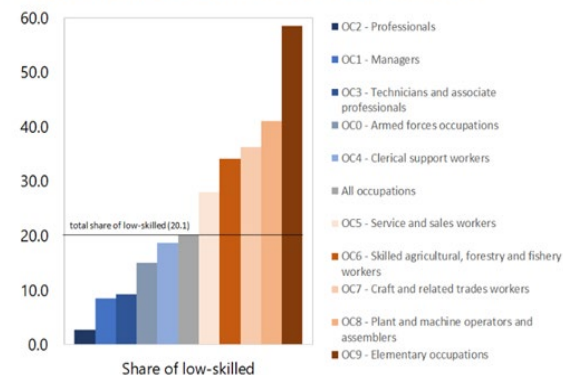
Older workers characteristics by sectors
(percentage of employees)



Netherlands: Employment distribution by occupations and sectors, 2019 (percentage of total employees)



Netherlands: share of low-skilled workers by occupations, 2019 (percentage of total employees)



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