Statistical Insight: Location, location, location – House price developments across and within OECD countries

Category: Housing,Statistical Insights
written by oecdecoscope | July 27, 2020
by Pierre-Alain Pionnier, OECD Statistics and Data Directorate

Housing is key to wellbeing. Real estate typically forms the most important asset of households and their most important source of debt. Not surprisingly given their correlation with the economic cycle, house prices are also one of the most widely tracked economic indicators. However, despite their importance, including for macroeconomic policymaking, as the 2008-09 financial crisis well illustrated, there are few internationally comparable statistics to show how house price developments vary across regions and cities within countries. This is despite the common understanding that changes in house prices within countries are rarely uniform (e.g. there may be 'ripple' effects). Policies that target the 'national' therefore may miss differences across regions and in turn add to the geography of discontent. This Statistical Insights describes a new OECD database on national and regional house price indices that aims to fill this gap.

There are significant differences in house price developments across countries…

The bursting of the housing bubble in the United States played a key role in the 2008-09 financial crisis, which rapidly

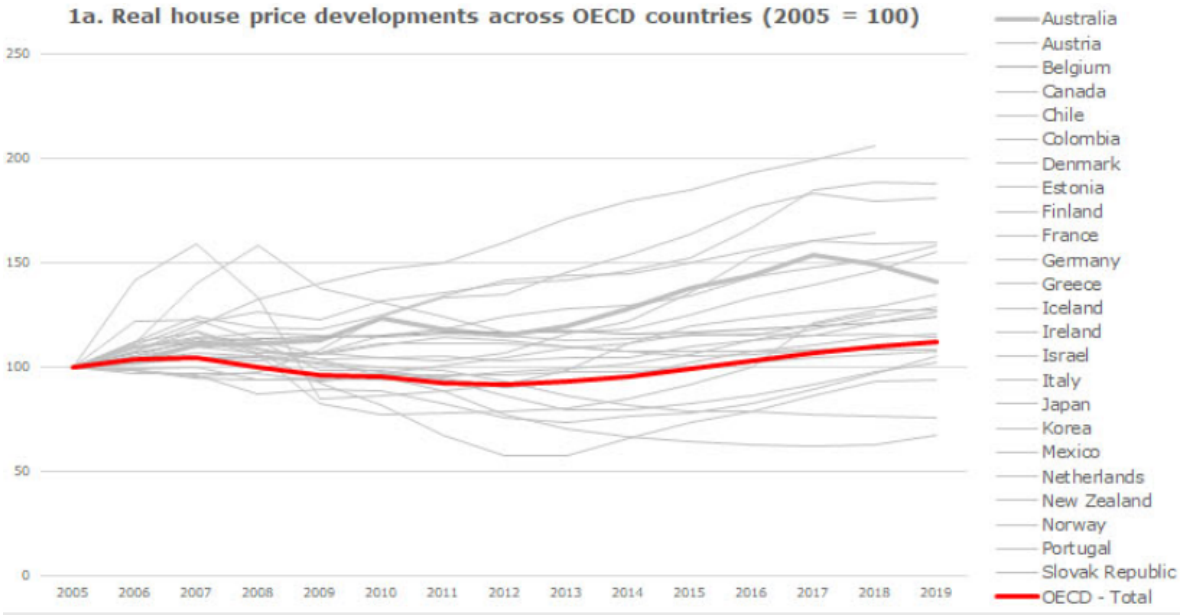
turned into a global recession. Even though real house prices (i.e. adjusted for general inflation) declined in several OECD countries, the extent of declines and subsequent 'recoveries' differed significantly across countries (Figure 1a). For example, in 2018, house prices in real terms in Colombia were double the levels in 2005, whereas they remained 40% lower in Greece.

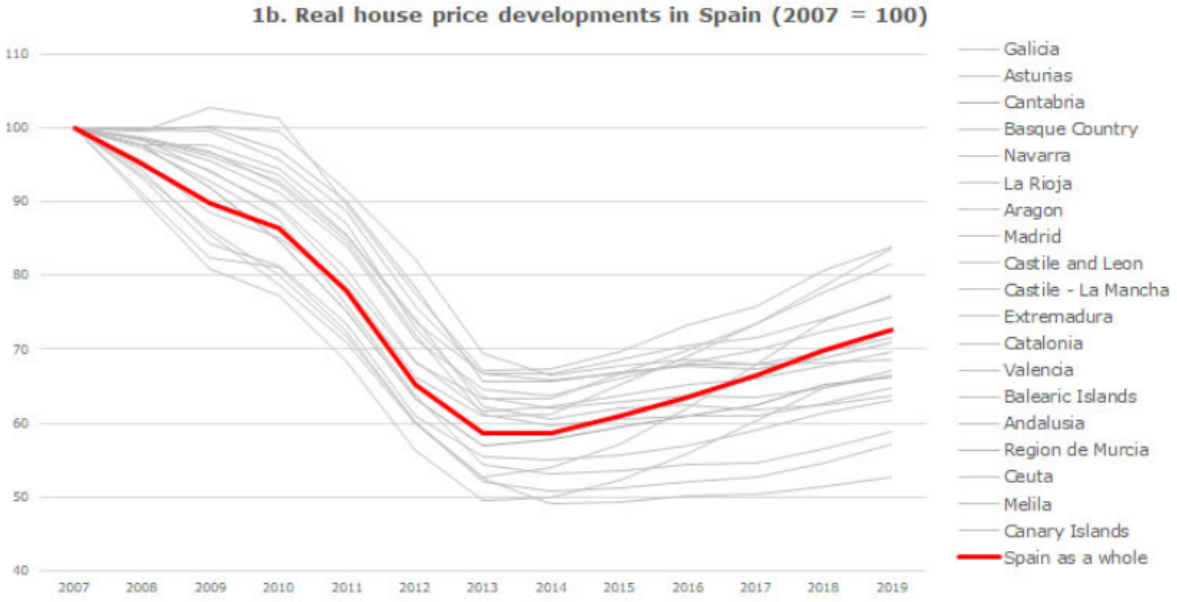
This shows that beyond global factors such as those that drove the financial crisis, country-specific factors also matter. These include population growth, land-use restrictions, real household incomes, real interest rates, mortgage market regulations and supervision, lending patterns (at fixed or variable rates), tax relief on mortgage debt financing, and transaction costs such as stamp duty.

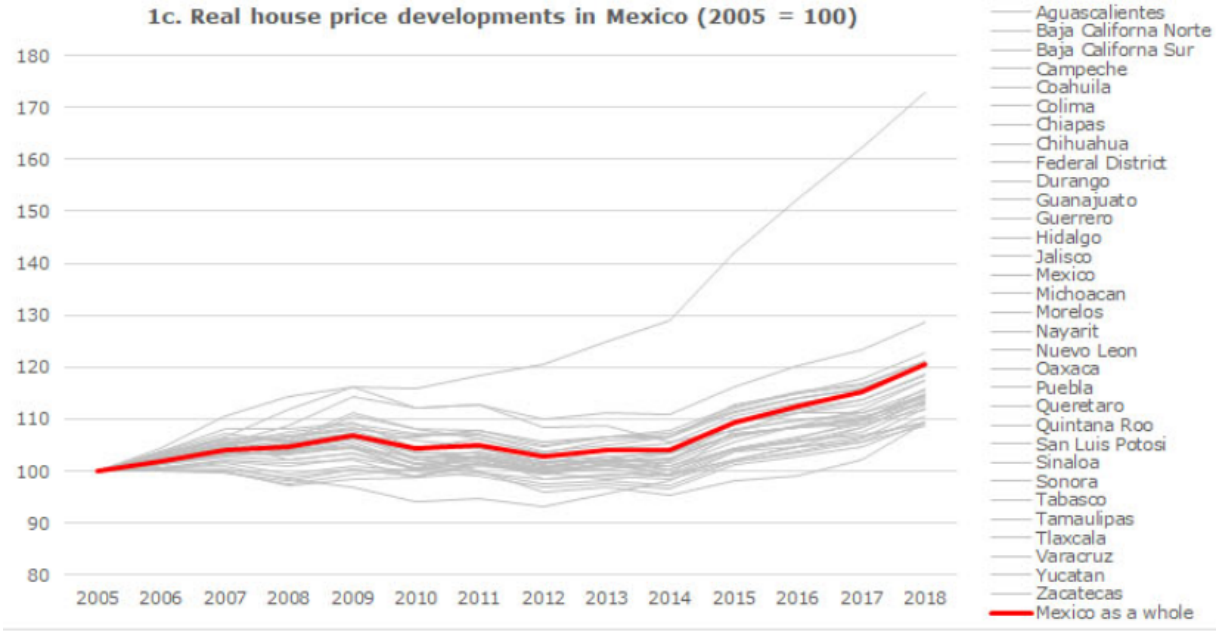
… but also within countries.

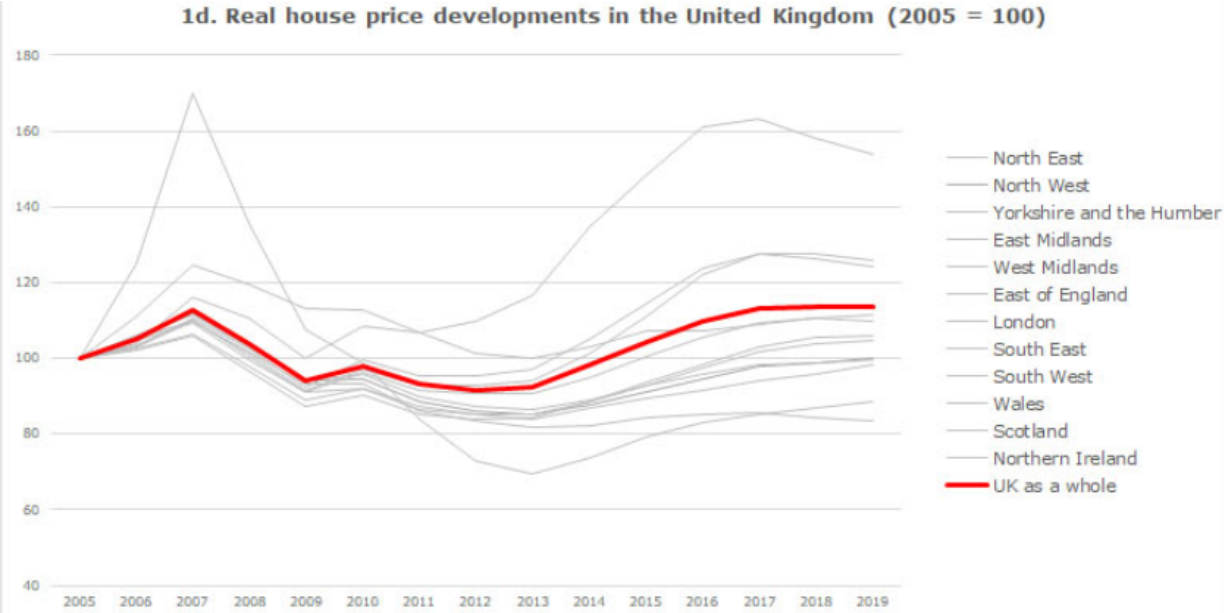
A focus on national price developments does not however tell the full story. Significant differences in the evolution of house prices also exist within countries. For example, while real house prices in Spain declined by 40% on average between 2007 and 2013, and then began to recover, in 2019 they remained nearly 50% lower in Navarra but only 15-20% lower in the Balearic Islands, Ceuta and Melila (Figure 1b). In Mexico, most regions show limited variation around the national average, with real increases ranging from around 10% in the Hidalgo region to around 30% in Yucatan between 2005 and 2018 but this is not universally true. The Federal District for example, which includes Mexico City, saw real prices rise by more than 70% over the same period (Figure 1c). In the UK, Northern Ireland and the region of London show much wider fluctuations in house prices than the rest of the country (Figure 1d).

Figure 1: Real house price developments across OECD countries, and within Spain, Mexico and the United Kingdom


1a. Real house price developments across OECD countries (2005 = 100)
250
200
150
100
50
0
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
Australia
Austria
Belgium
Canada
Chile
Colombia
Denmark
Estonia
Finland
France
Germany
Greece
Iceland
Ireland
Israel
Italy
Japan
Korea
Mexico
Netherlands
New Zealand
Norway
Portugal
Slovak Republic
OECD - Total


1b. Real house price developments in Spain (2007 = 100)
110
100
90
80
70
60
50
40
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
Galicia
Asturias
Cantabria
Basque Country
Navarra
La Rioja
Aragon
Madrid
Castile and Leon
Castile - La Mancha
Extremadura
Catalonia
Valencia
Balearic Islands
Andalusia
Region de Murcia
Ceuta
Melila
Canary Islands
Spain as a whole


1c. Real house price developments in Mexico (2005 = 100)
180
170
160
150
140
130
120
110
100
90
80
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
Aguascalientes
Baja California Norte
Baja California Sur
Campeche
Coahuila
Colima
Chiapas
Chihuahua
Federal District
Durango
Guanajuato
Guerrero
Hidalgo
Jalisco
Mexico
Michoacan
Morelos
Nayarit
Nuevo Leon
Oaxaca
Puebla
Queretaro
Quintana Roo
San Luis Potosi
Sinaloa
Sonora
Tabasco
Tamaulipas
Tlaxcala
Varacruz
Yucatan
Zacatecas
Mexico as a whole



Note: The evolution of real house prices is the difference between the evolution of (nominal) house prices and the evolution of consumer prices (i.e. general inflation).
Sources: OECD database on national and regional house price indices, OECD national accounts database.

In recent decades, some large cities have seen significant growth in house prices.

In recent decades, an 'urban resurgence' (Glaeser 2020), driven in part by better-paid jobs within cities, the willingness to live closer to them, and better access to cultural amenities has led to gentrification and above (national) average house price growth in some of the largest cities. For example, house price inflation in Inner London was around double that of the rest of the United Kingdom between 1995 and 2019. Similarly, house price inflation in Paris between 2005 and 2019 was around 50% higher than in the rest of France (Figure 2).

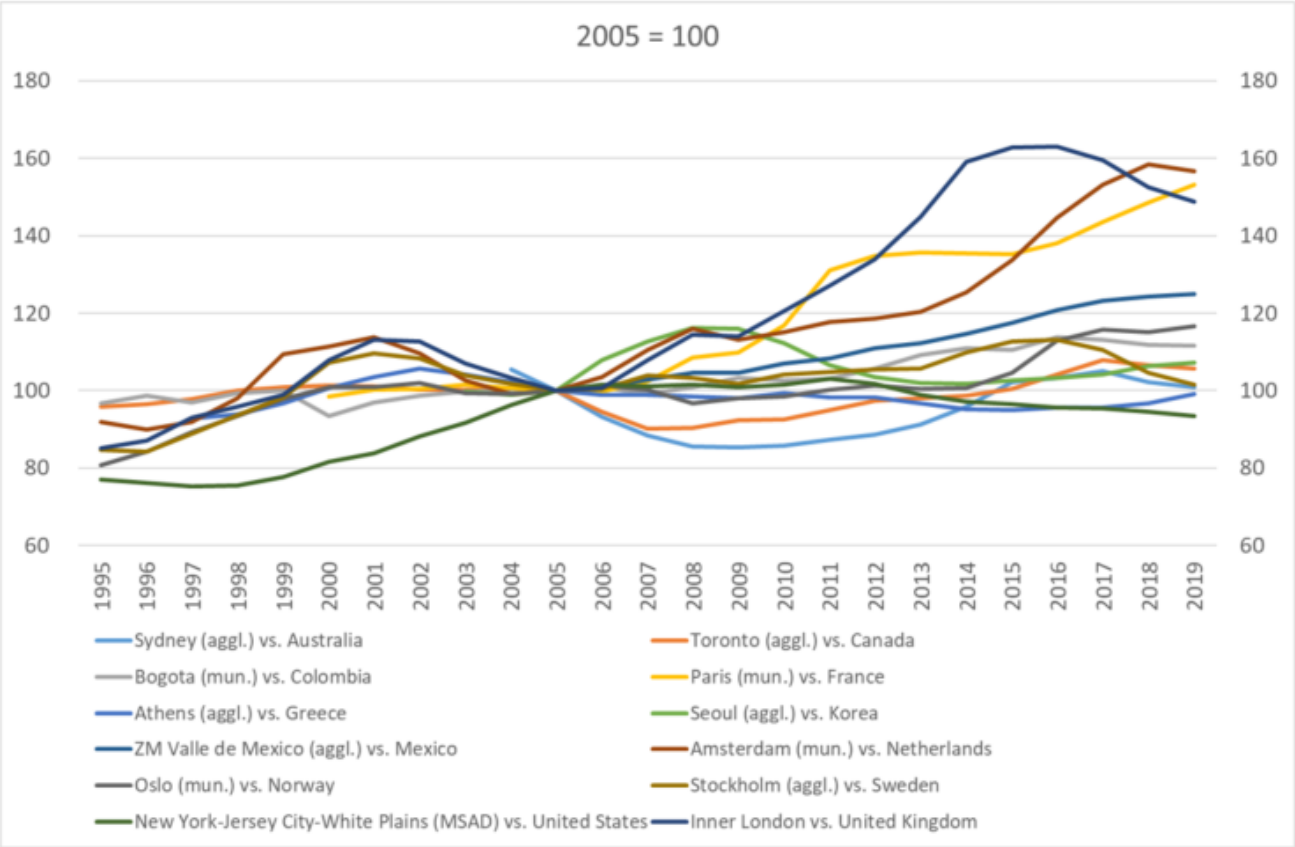
Nevertheless, this does not exclude large differences across large cities within the same country. For example, the OECD database shows that house prices in the metropolitan area of Los Angeles have grown twice as fast as in the metropolitan area of Chicago since the mid-1990s. Moreover, Glaeser et al.

(2012) also emphasise differences in house price developments within cities, with typically faster price growth in recent years in neighbourhoods closer to city centres.

Notwithstanding the fact that economic policy may be suboptimal if one ignores house price heterogeneity within a country, the impact of this heterogeneity on housing affordability may act as a barrier to mobility to households seeking employment in parts of the country where labour demand is higher but cannot always afford to do so due to differences in house prices.

In the years to come, it will be important to assess whether a more systematic use of digital tools to telework following the COVID-19 pandemic will reverse the gentrification of cities and ‘urban resurgence’ phenomena. Granular data on house price developments within countries and cities will become even more relevant for doing so.

Figure 2: Relative house price developments in the largest city and the whole country



Note: For each country, the above chart depicts the relative house price evolution in the most populated city as compared to the rest of the country. Price ratios are normalised to 100 in 2005.
Source: OECD database on national and regional house price indices.

The measure explained

House price indices are index numbers measuring the rate at which the prices of residential properties (flats, detached houses, terraced houses, etc.) purchased by households change over time. These indices adjust for quality differences between dwellings sold in the current period, relative to the reference period. In other words, they aim at measuring pure price changes. They cover both new and existing dwellings whenever possible, independently of their final use (to live in or for rent). These prices include the price of the land on which residential buildings are located and they are compiled by official statistical agencies following international statistical standards.

Calculating real house price growth, i.e. controlling for

national general inflation, allows for a more meaningful comparison of house price dynamics across countries. The deflator used is the deflator of consumption expenditure of households, compiled according to the 2008 System of National Accounts (SNA). It is important to note that the deflator is typically only available at national level, meaning that the same deflator is used for all regions within a given country, and therefore, that heterogeneity in consumer price dynamics across the different regions of a country is neglected.

Where to find the underlying data
• OECD National and regional house price indices: headline indicators
• OECD National and regional house price indices: Complete database
• OECD National accounts database

Further reading
• Glaeser E.L., J.D. Gottlieb and K. Tobio (2012): Housing Booms and City Centers. American Economic Review: Papers and Proceedings, 102(3), pp. 1-10
• Glaeser E.L. (2020): Urbanization and its discontents. NBER Working Paper26839
• ILO, IMF, OECD, UNECE, Eurostat, World Bank (eds.), (2013): Handbook on Residential Property Price Indices
• OECD (2020): OECD Territorial Grids

Statistical Insights: The ADIMA database on

Multinational Enterprises

Category: Statistical Insights,Uncategorized
written by oecdecoscope | July 27, 2020
by Graham Pilgrim, OECD Statistics and Data Directorate

Multinational Enterprises (MNEs) have been at the forefront of changes in the global economy over the last few decades, as trade and investment barriers have been removed and transportation and communication costs have declined. In a world of global value chains, understanding MNEs – where they are, how they operate, and where they pay taxes – has never been more important. However, surprisingly few official statistics are currently available on individual MNEs.
To fill this gap the OECD has begun to develop a new database – the Analytical Database on Individual Multinationals and Affiliates (ADIMA) – using a number of open "big data" sources that can provide new insights on individual MNEs and their global profiles.

What is ADIMA?

ADIMA has four components:

Physical Register: Offering a comprehensive view of each MNE and its subsidiaries.

Digital Register: Showing all websites belonging to each MNE.

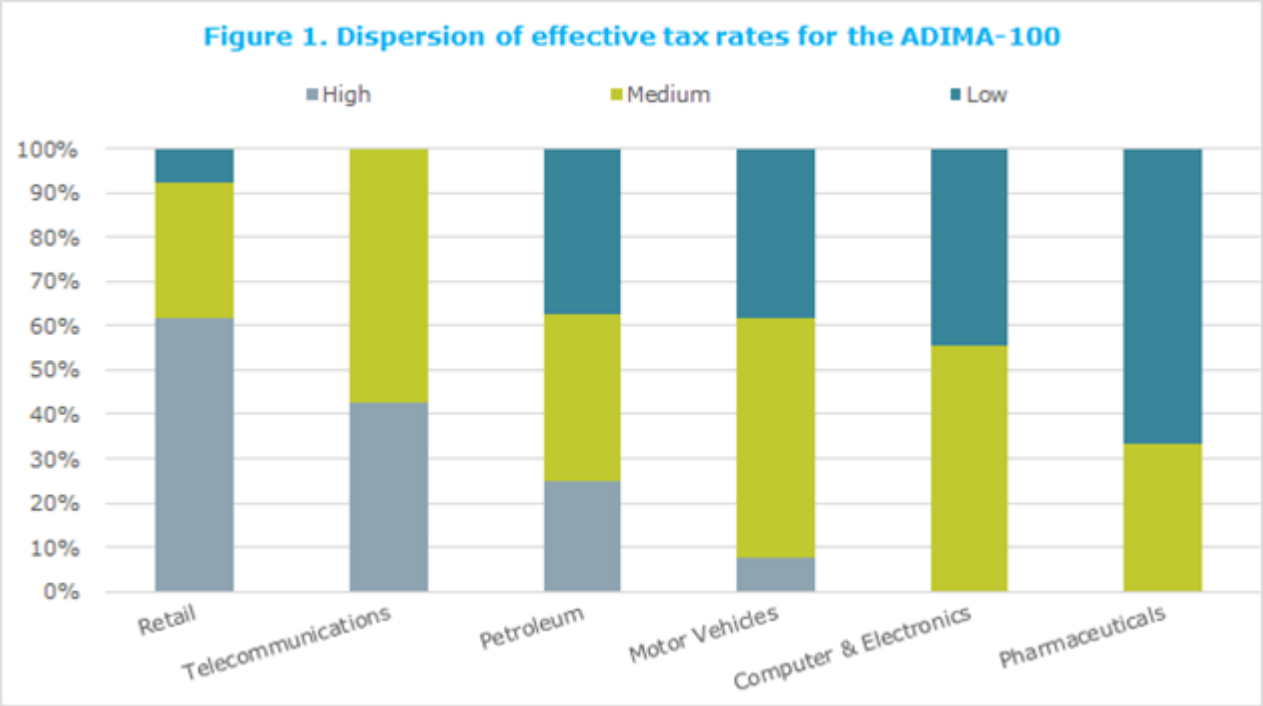
Indicators: Providing harmonised data at the global level for each MNE.

Monitor: Identifying events like large company restructurings that can give early warnings of potential significant impacts on trade, GDP and FDI data.

This information already covers 100 of the world's largest MNEs, and more will be added in future releases.

What does ADIMA tell us on taxes?

At an aggregate level, ADIMA shows that in 2016 the 100 MNEs covered in the the database (ADIMA-100) generated nearly $10 trillion in revenues (almost 20% of global GDP), earned $730 billion in profits and paid $185 billion in taxes. But you can also drill down and get more targeted information. For example, although the average Effective Tax Rate (ETR) of the ADIMA-100 was about 25%, it was significantly lower for MNEs producing computers and electronics, and pharmaceuticals, who have substantial intangible assets that they can locate in lower-tax economies (Figure 1).



Note: Low refers to ETR values less than 23%, Medium refers to ETR values between 23% and 33%, and High refers to ETR values greater than 33%. These values were chosen so that a third of the ADIMA-100 population was present in each classification.

Where are firms physically located?

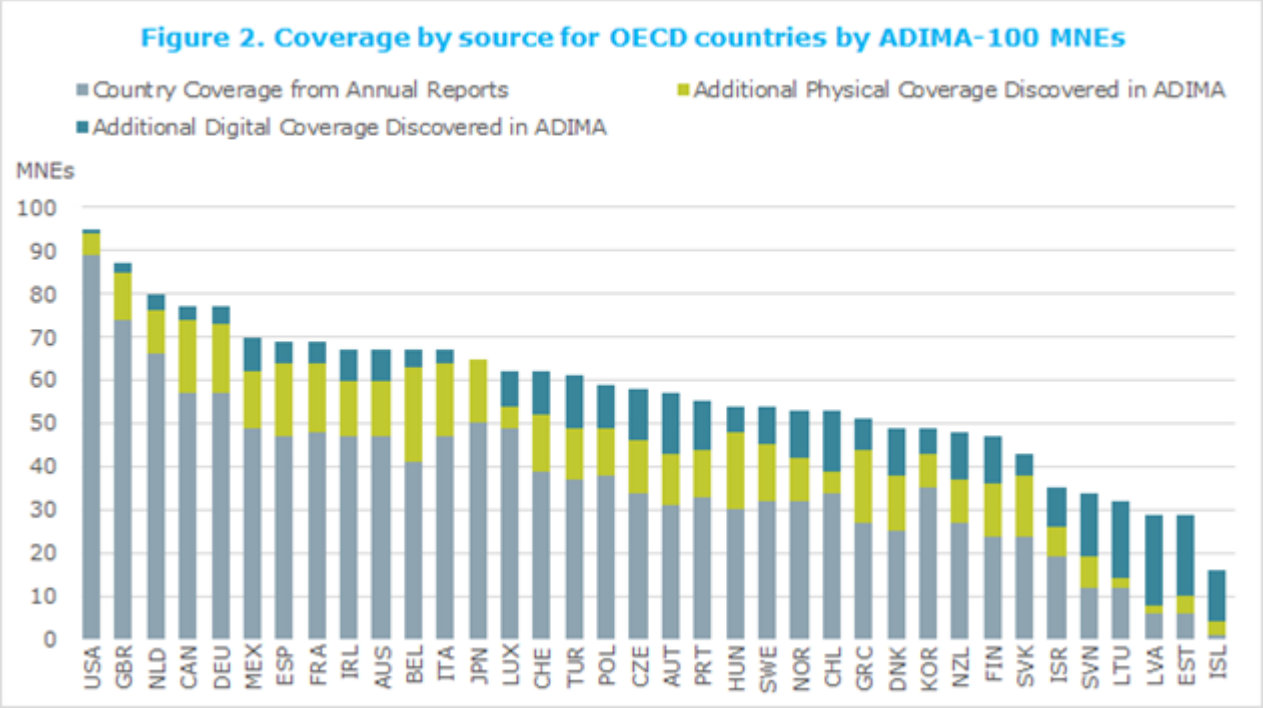
The physical register provided by ADIMA describes how MNEs structure their physical operations across countries. Here ADIMA's innovative tools and variety of data sources go beyond the information typically available in company reports (Figure 2), enabling deeper analysis and a mechanism to help profile firms and their affiliates in national and international

statistical business registers. For example, companies' annual reports show that 74 of the ADIMA-100 have a physical presence in the United Kingdom, with an additional 11 MNEs identified using complementary sources (e.g. Legal Entity Identifier, Website Hyperlink Graphs, Server Security Certificates and WikiData), bringing the number of ADIMA-100 MNEs operating in the United Kingdom up to 85.

What about MNEs' digital presence?

Physical presence may not reflect digital presence, that is, and in particular for firms whose only penetration into markets is through country-specific websites (i.e. no physical presence). This matters, especially for statistics on highly digitalised MNEs, as the provision of digitised services blurs the traditional line between companies with a foreign presence and those that trade across borders which may affect the comparability of international data on trade and national income.

Digital channels are comparable in scale to physical channels: the ADIMA Digital Register captures 20,000 websites while the ADIMA Physical Register captures 26,000 subsidiaries. In smaller countries the digital presence is often more important: for example, only 10 of the ADIMA-100 are physically present in Estonia but a further 19 mainly "digitalised" companies have an electronic presence (Figure 2).



Looking at another interesting example, annual Reports for Alphabet, Google's parent company, show subsidiaries in two OECD countries but ADIMA's physical and digital registers record subsidiaries and/or national websites in all OECD countries. For any given domain name, advertising revenue may be recorded as either a domestic or a cross-border transaction. The choice may depend on whether the country-specific site has been legally registered in that country.

Next Steps

The OECD plans to collaborate with interested official statistical agencies to improve both national statistics on MNEs and ADIMA data. The collaborations should also consolidate the tools developed in ADIMA, extend its coverage of MNEs, improve its methods and incorporate new data sources.

The measure explained

The OECD Analytical Database on Individual Multinationals and Affiliates (ADIMA) is a new data framework offering information on both the physical and digital presence of MNEs by country. It combines information from traditional sources such as companies' Annual Reports with newly emerging sources

such as the Legal Entity Identifier, Website Hyperlink Graphs, WikiData, OpenStreetMap and Server Security Certificates.

Where to find the underlying data?

- Physical Register
- Digital Register
- Indicators
- Monitor

Further reading

- Measuring Multinational Enterprises
- Measuring MNEs using big data: Introducing ADIMA (PowerPoint)
- Methodology overview
- Measuring MNEs using Big Data: The OECD Analytical Database on Individual Multinationals and their Affiliates (ADIMA)

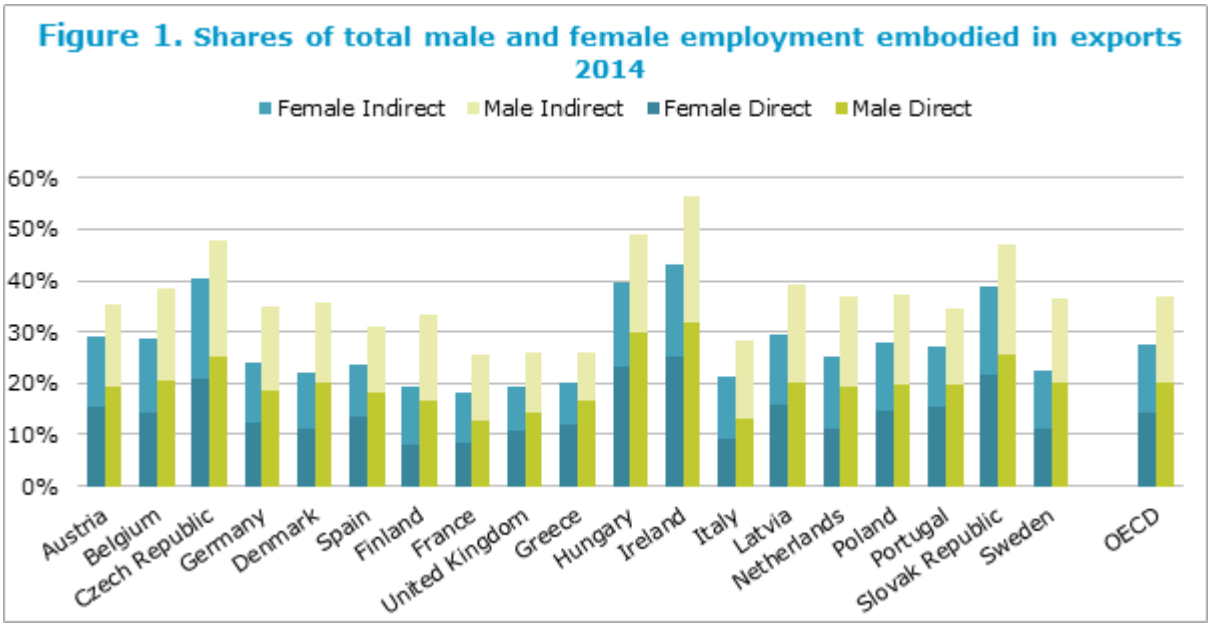
Statistical Insight: men's employment more dependent on trade than women's

Category: Statistical Insights,trade
written by oecdecoscope | July 27, 2020
by Fabienne Fortanier, OECD Statistics and Data Directorate

Concerns are growing that globalisation may have created a few big winners at the expense of many losers. This has stimulated efforts to
analyse how *trade can be made to Work for All,* for example by focusing on the skills and occupations of affected

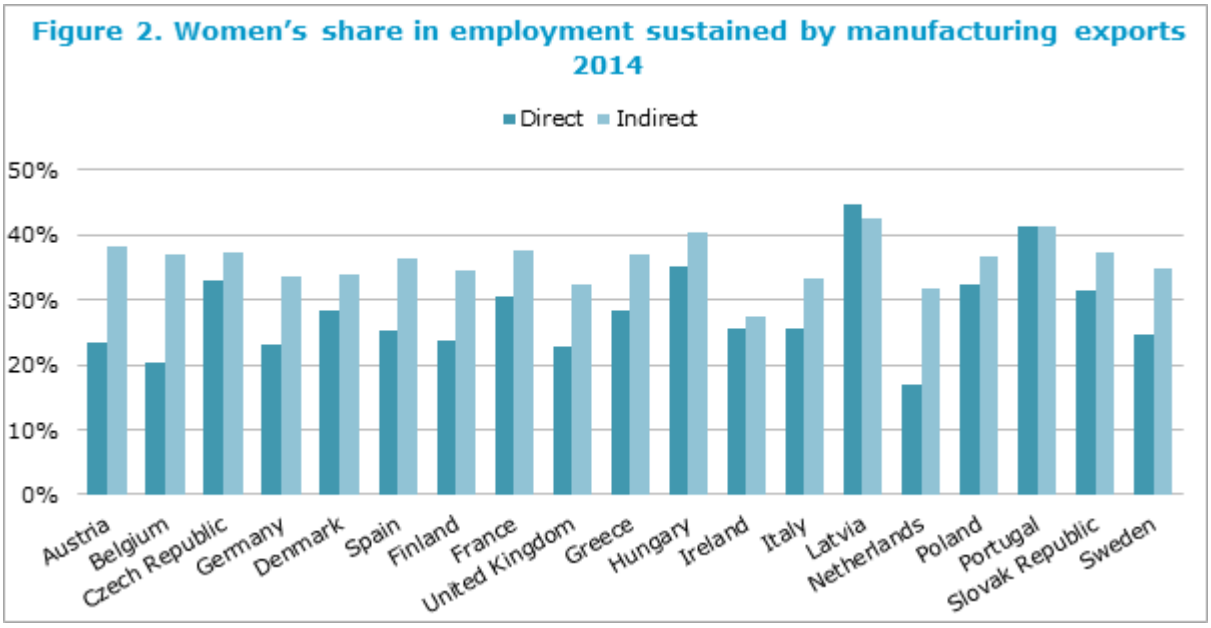
workers. However, there has been less attention to the gender dimension of
globalisation and global value chains, and in particular to whether they are
having differing effects on men's and women's work.

New analysis shows that men's employment is more dependent on international trade than women's. On average across the countries studied, 37% of men's jobs, but only 27% of women's jobs, depend on exports – either because the firms they work for export directly, or because they indirectly supply other firms that subsequently export. This compares to only 27% of women's employment (Figure 1).



Source: OECD Statistics and Data Directorate estimates, based on full-time equivalent employment.

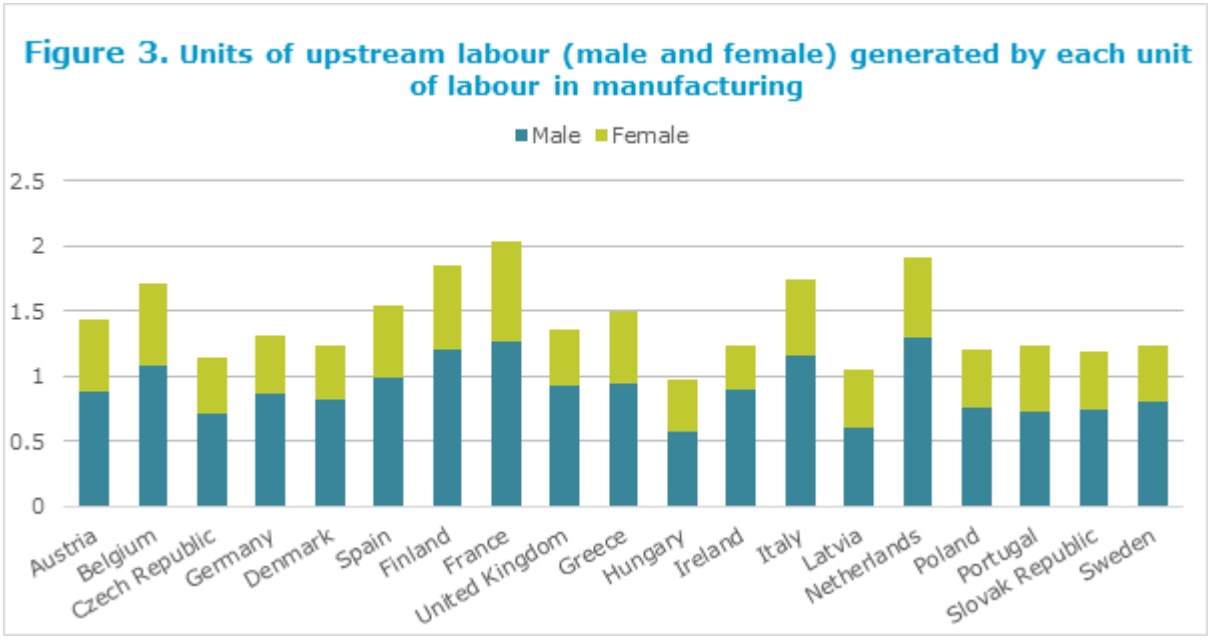
Focusing on manufacturing exports only (which account for around 70% of international trade), Figure 2 illustrates that in nearly all countries, the share of women in employment that is *indirectly* sustained by manufacturing exports is higher than the share in employment that is *directly* sustained. For example, in Germany, women's share of manufacturing jobs that is directly sustained was just over 20% in 2014 but close to 35% of indirect jobs (Figure 2).



Source: OECD Statistics and Data Directorate estimates

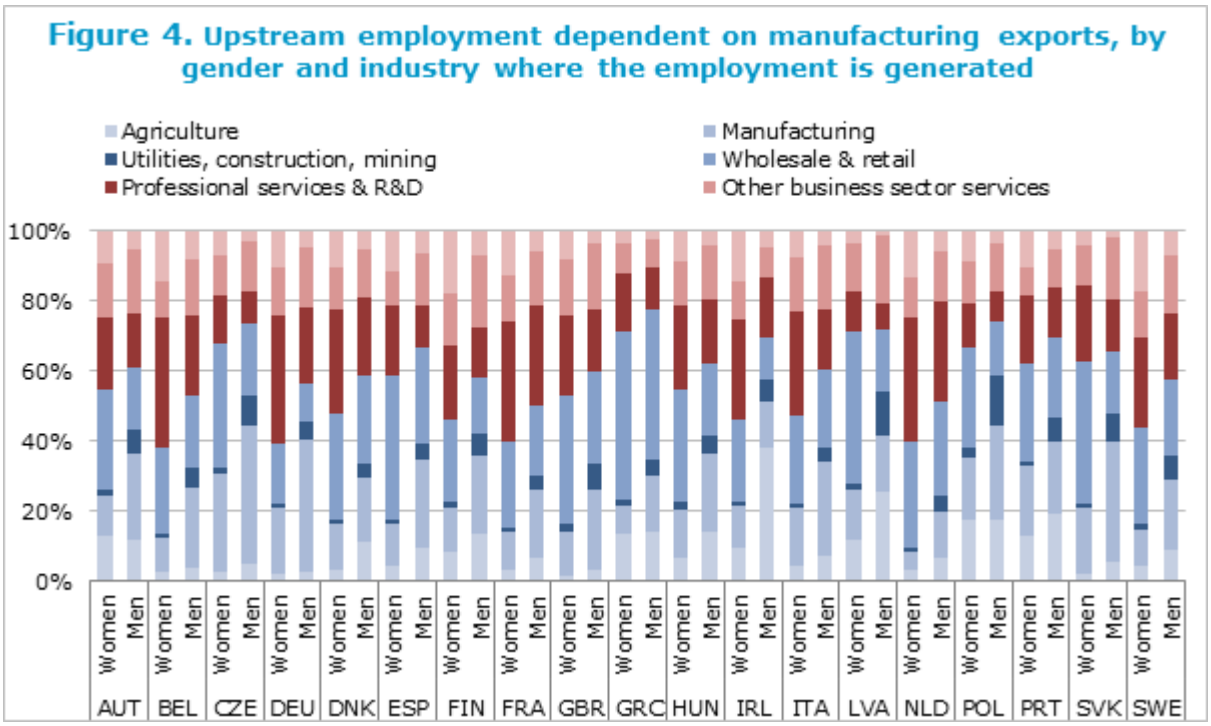
Women's jobs are thus both less dependent on trade overall, and less directly involved with manufacturing exports. These trends arise partly from differences in female labour participation across industries and partly from the relative contributions of these industries to total trade. Overall, women tend to work in business services and in other, mainly non-market, services, rather than in manufacturing, where on average they only account for a quarter of the workforce.

However, while men account for the lion's share of the work involved in manufacturing exports, that work generates a substantial number of upstream jobs held by women. As Figure 3 shows, for each unit of labour input in direct manufacturing exports, an additional 0.5 unit of female labour input is generated in the companies that supply exporters, as well as an additional 0.9 unit of male labour inputs. Put differently, each job in manufacturing exports generates on average 1.4 additional jobs upstream, a third of which are jobs held by women.



Source: OECD Statistics and Data Directorate estimates

The *nature* of the upstream participation also differs significantly between men and women. While the bulk of upstream jobs are in the services sector, this is particularly true for women's jobs. Taking again Germany as an example, Figure 4 shows that less than 20% of women's upstream jobs are in industrial and goods sectors (Agriculture, Utilities, Construction, Manufacturing and Mining), compared to 45% for men.



Source: OECD Statistics and Data Directorate estimates.

The detailed data compiled for this analysis on the export-dependency of men's and women's jobs provide an indication of the extent to which reducing gender wage gaps will depend on encouraging more women to seek employment in higher-paying sectors of the value chain.

How the indicators were constructed

The estimates of female employment in global value chains were produced by combining the TiVA ICIO (2008-2014) with data on labour input by industry, measured in hours worked as reported in the National Accounts, broken down by gender. The gender breakdown was derived from Labour Force Surveys, which is the only sufficiently detailed source to support this analysis, using a combination of total employees (male/female) broken down by industry, corrected for average weekly working hours to adjust for the fact that in many countries, women work fewer hours on average. For details on the calculations, as well as on the estimations made in case of missing data, see the accompanying background note.

Further reading

- Gender in Global Value Chains: the impact of trade on male and female employment
- Background note on women in GVCs
- Gender in Global Value Chains: how does trade affect male and female employment?, OECD Statistics Newsletter (2018), Issue 68, July 2018

How’s Life for Women in the Digital Age?

Category: Gender,Statistical Insights
written by oecdecoscope | July 27, 2020
by Fabrice Murtin, OECD Statistics and Data Directorate

How does the digital transformation affect women’s and men’s well-being? Digital technologies are radically and rapidly changing the way people work, consume, get information and communicate, but their consequences may differ for women and men. Statistics can help understand whether and how the transformation risks widening the gender gap. This Statistical Insight previews some of the evidence from *How’s Life in the Digital Age?*(OECD, 2019*),* which provides a comprehensive overview of how the digital transformation is impacting women and men’s lives.

The digital transformation creates gender gaps in some dimensions of well-being, but the overall impacts on women and men are balanced

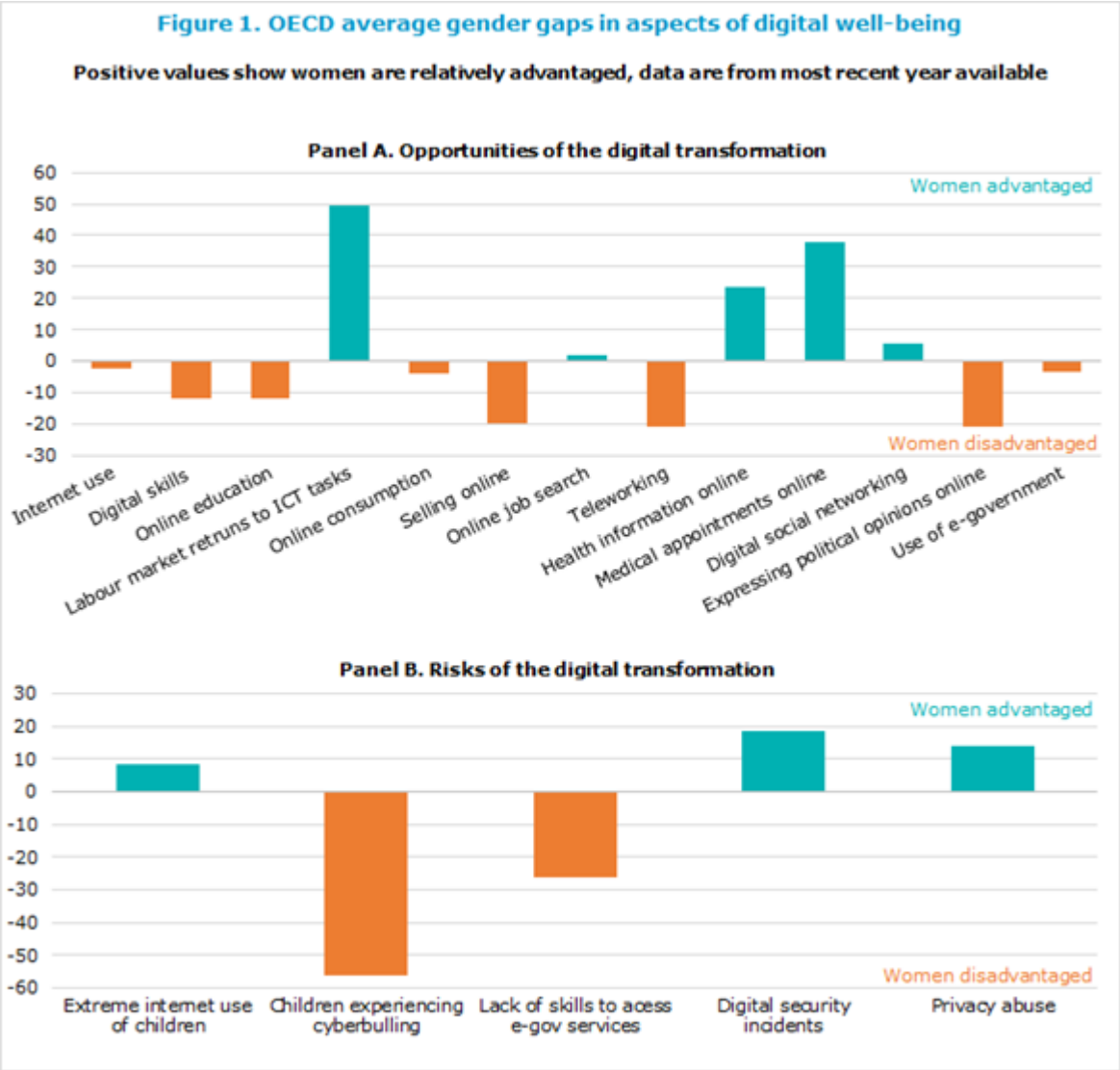
The digital transformation doesn’t just affect ICT access and usage. In reality, it entails both opportunities (see Figure 1 Panel A) and risks (Panel B) that affect all the dimensions covered in *How’s Life?,* the OECD flagship report on people’s well-being.

Overall, Figure 1 suggests that the digital transformation has mixed effects on women relative to men, with women outperforming men on 8 of the 18 indicators. Compared to

men, they make
greater use of the internet for health purposes (making medical appointments
online, seeking health information) and when searching for a job or for social
networking. Women also obtain much larger labour market returns for their
digital skills (as measured by ICT task-intensity of jobs), and are also much
less likely to experience security incidents, abuse of personal information and
digital addiction during childhood.

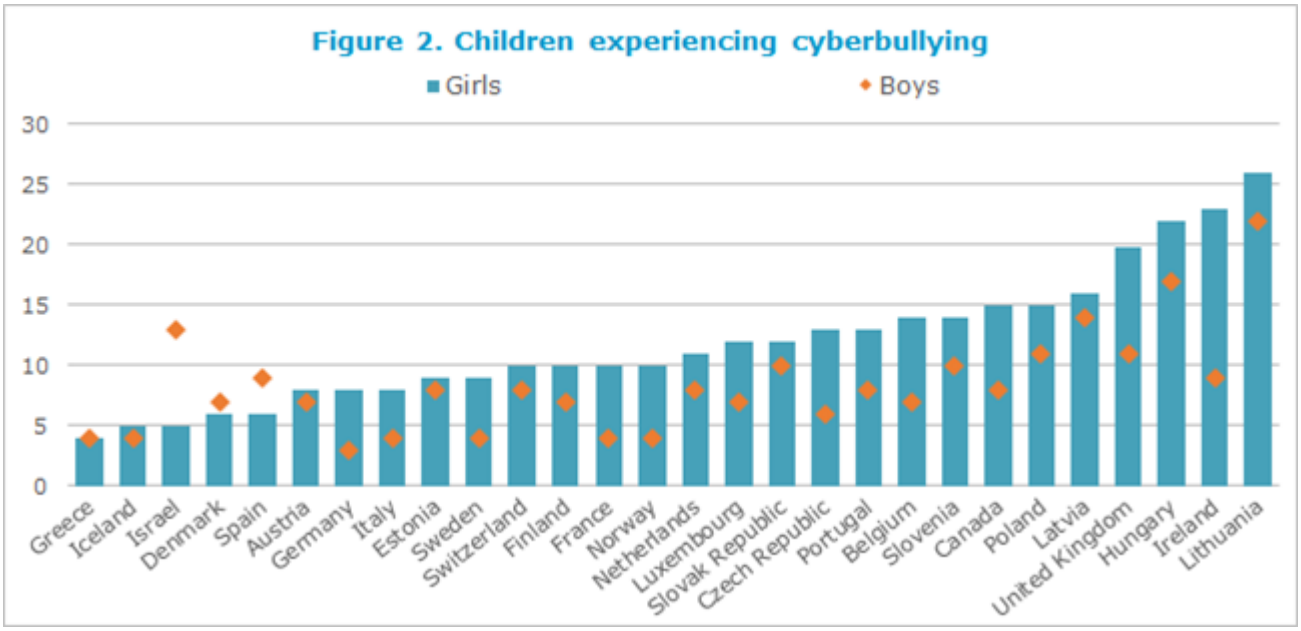
On the other hand, girls are much more likely to be victimised through cyberbullying than boys, and more women than men report that they lack the skills to use e-government services. Similarly, women use online education facilities less than men. They are also less likely to use the internet to buy or sell goods and services, or to express their political opinion. Teleworking is also much less used by women than by men.

Overall, while the digital transformation is affecting
the well-being of women and men in broadly similar ways, significant gender
gaps are emerging in some specific dimensions of education, work-life balance,
health, social connections, governance and digital security. Two specific
examples are highlighted below.



Girls are more exposed than boys to cyberbullying

The link between cyberbullying and mental health problems has been extensively documented (Lindert, 2017). On average, across OECD countries with available data, about 12% of girls report having been cyberbullied, compared to 8% for boys. Girls report victimisation more often than boys in all countries except Denmark, Israel and Spain. Cyberbullying is particularly prevalent in a number of Eastern European countries as well as in Ireland and the United Kingdom. Conversely, children in Greece and Iceland report relatively few instances of cyberbullying.

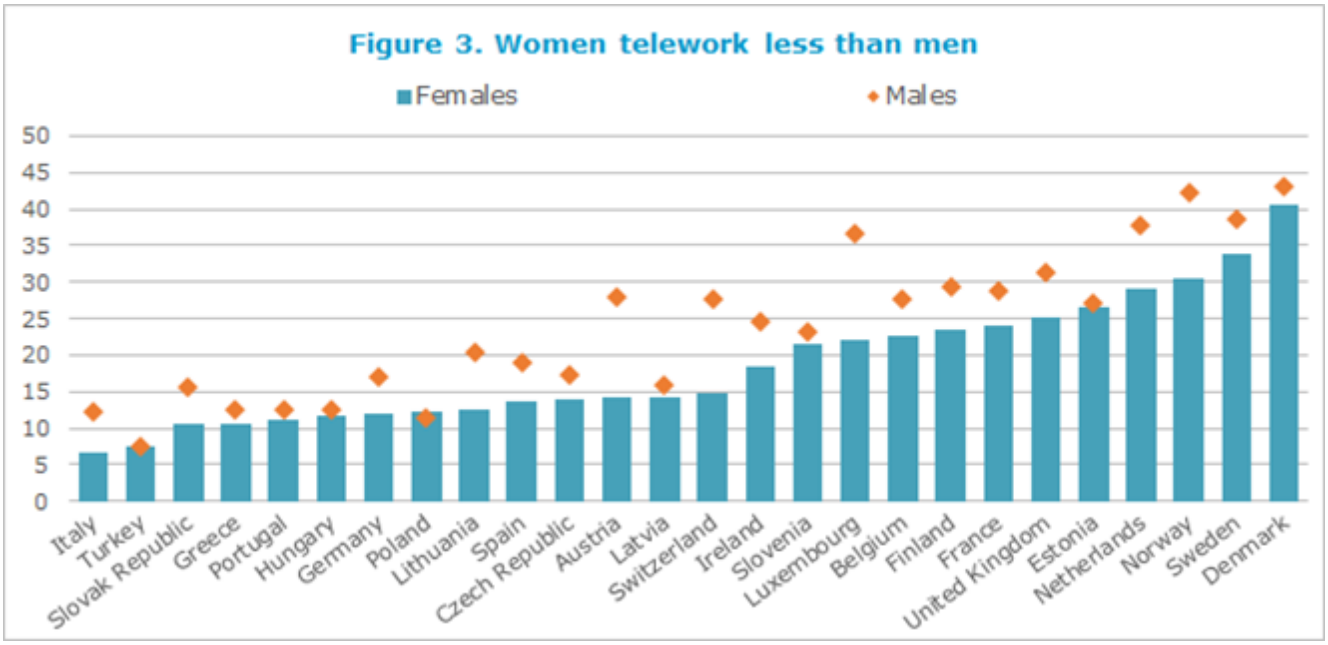


Note: Cyberbullying is measured as the share of girls and boys aged 15 who report having been cyberbullied by electronic messages at least once in their life. For the United States, self-reported cyberbullying covers a wider range of experiences, including being the subject of hurtful information online, having private information shared online, and cyberbullying while gaming. Data refer to 2013 for the United States, and to 2014 for other countries. *Source*: OECD calculations based on the 2014 Health Behaviour in School-Aged Children Study (www.hbsc.org/news/index.aspx?ni=3473) and the 2013 United States School Crime Supplement of the National Crime Victimization Survey (www.icpsr.umich.edu/icpsrweb/NACJD/studies/34980).

Women telework less than men

Teleworking provides an opportunity for better work-life balance when it improves time management and reduces the time spent in commuting. Evidence from the American Time Use Survey shows, for instance, that reducing commuting time by using the Internet increases labour force participation in the United States, in particular among married women (Dettling, 2016). However, women do not seem to have equal access to teleworking. On average, 20% of male workers reported having teleworked at least once, compared to 16% of women. The gender gap was widest in Luxembourg, Austria, Switzerland and Norway,

but very small in Estonia, Hungary and Poland.



Note: Teleworking is measured as the share of workers who report using ICTs at work at least 75% of the time and having worked outside the employer's premises at least once; in the case of the United States, the survey question asks workers if they have ever worked from their home using a computer to communicate for their job.
Source: OECD calculations based on the Gallup World Poll (www.gallup.com/services/170945/world-poll.aspx).

The measure explained

The new OECD publication *How's Life in the Digital Age?* uses the OECD *How's Life?* framework to assess the impacts of the digital transformation on 11 key dimensions of people's well-being (Income and wealth, Jobs and earnings, Housing, Health status, Education and skills, Work-life balance, Civic engagement and governance, Social connections, Environmental quality, Personal security and Subjective well-being). ICT access and use is also included as a cross-cutting aspect of the digital

transformation. Drawing on a large number of existing studies, *How's Life in the Digital Age?* shows positive impacts of the digital transformation when new technologies expand the range of available information and enhance human productivity and well-being, but also highlights risks ranging from cyber-bullying to overuse or cyber-hacking. It is based on 33 key indicators of the impacts of the digital transformation – 20 to measure digital opportunities and 13 to reflect digital risks.

Among the 18 indicators that allow for a gender breakdown, 13 refer to opportunities and 5 to risks. Altogether they span 9 dimensions of people's well-being, i.e. ICT access and usage, Education and skills, Income and wealth, Jobs and earnings, Work-life balance, Health status, Social connections, Governance and civic engagement, and Digital security.

For more reading

- OECD (2019), *How's Life in the Digital Age?: Opportunities and Risks of the Digital Transformation for People's Well-being*, OECD Publishing, Paris,https://doi.org/10.1787/9789264311800-en.
- J Lindert; Cyber-bullying and it its impact on mental health: Jutta Lindert, *European Journal of Public Health*, Volume 27, Issue suppl_3, 1 November 2017, ckx187.581, https://doi.org/10.1093/eurpub/ckx187.581
- Dettling, L. J. (2017). Broadband in the Labor Market: The Impact of Residential High-Speed Internet on Married Women's Labor Force

Participation. *ILR Review*, *70*(2), 451–482. https://doi.org/10.1177/0019793916644721

Statistical insights: Are international productivity gaps as large as we thought?

Category: Productivity,Statistical Insights,Uncategorized
written by oecdecoscope | July 27, 2020
by Nadim Ahmad, OECD Statistics and Data Directorate

Labour productivity is a key indicator of economic wellbeing, and raising it – producing more goods and services from the same or less work (labour input) – is one of the main drivers of sustainable economic growth.

Historically, comparisons of productivity across countries have shown substantial gaps, even between similar-sized economies at a similar stage of development – leaving many analysts struggling to understand the causes. However, a new OECD study has found that at least a part of these gaps disappears once we adjust for differences in how countries measure labour input.

In the case of the United Kingdom for instance, the study reveals that the gap in labour productivity levels with the United States,

is around 8 percentage points smaller than was previously thought – closing from 24% to 16%. The gap with Germany shrinks from 22% to 14% and with France from 20% to 11%.

How is labour input measured?

For productivity measures, labour input is most appropriately defined by the total number of *hours actually worked* by all persons engaged in production, i.e. employees and self-employed (OECD, 2001). Hours worked include all hours effectively used in production, whether paid or not, but they exclude hours not used in production (e.g. annual and sickness leave), even if some compensation is received for them. In practice, countries adopt one of two methods to estimate average hours worked for productivity estimates:

(i) the *direct method,* which takes actual hours worked reported by respondents in surveys, generally labour force surveys (LFS); and

(ii) the *component method*, which starts from contractual, paid or usual hours per week from establishment surveys, administrative sources or, indeed, the LFS, with adjustments for absences and overtime and indeed other adjustments that are necessary to align with concepts of output in the national accounts, for example concerning cross-border workers.

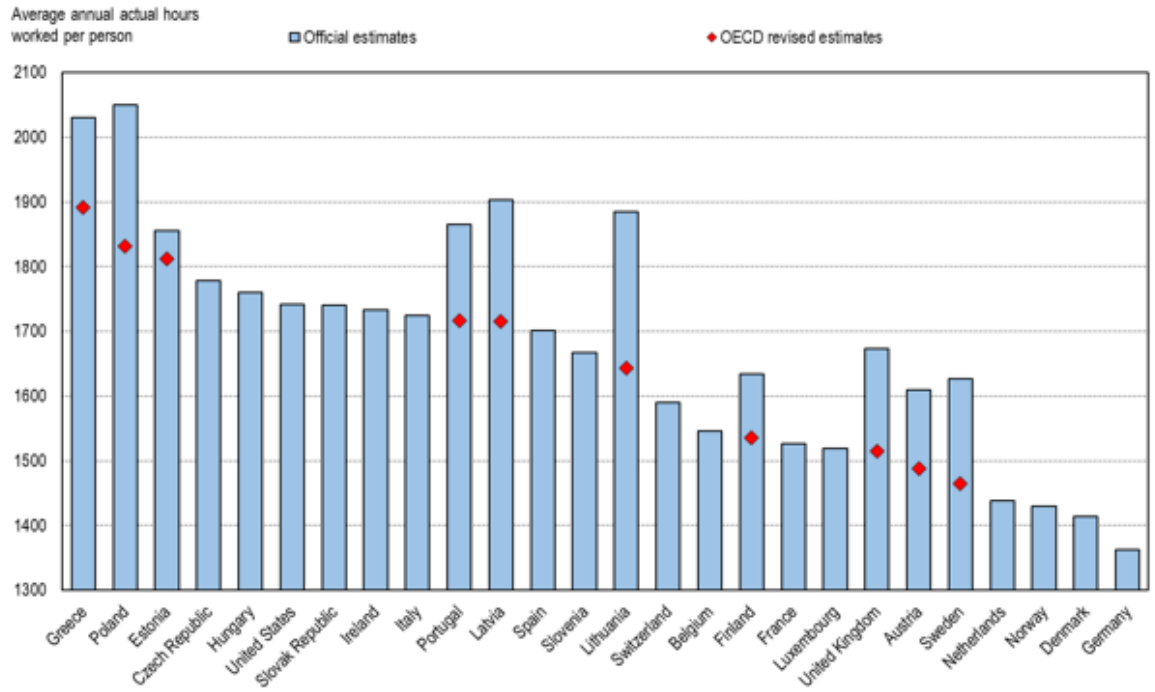
What impact do these different approaches have on international comparisons?

Whilst the ‘direct’ approach appeals due its simplicity, it depends heavily on respondent recall, cannot account for response bias, and, moreover, assumes a perfect alignment of workers and measures of output. The component approach is more complex, but it systematically attempts to address these issues. To give some sense of the potential impact of these different approaches on the international comparability of hours worked, the OECD has used the LFS and complementary sources to estimate national hours worked using both a direct approach and a *(simplified) component method*.

Our results provide strong evidence that response bias and a lack of exhaustive adjustments to align with the underlying conceptual boundary GDP, lead to systematic upward biases in estimates based on the direct method, which are, in turn, always higher than those compiled using the simplified component approach.

Figure 1 presents official estimates of hours worked in countries’ national accounts, and compares them with the OECD simplified component method estimates for those countries that currently use a direct method with minimal or no adjustments in their official statistics.

Figure 1. Average annual hours worked per person, selected OECD countries, 2016

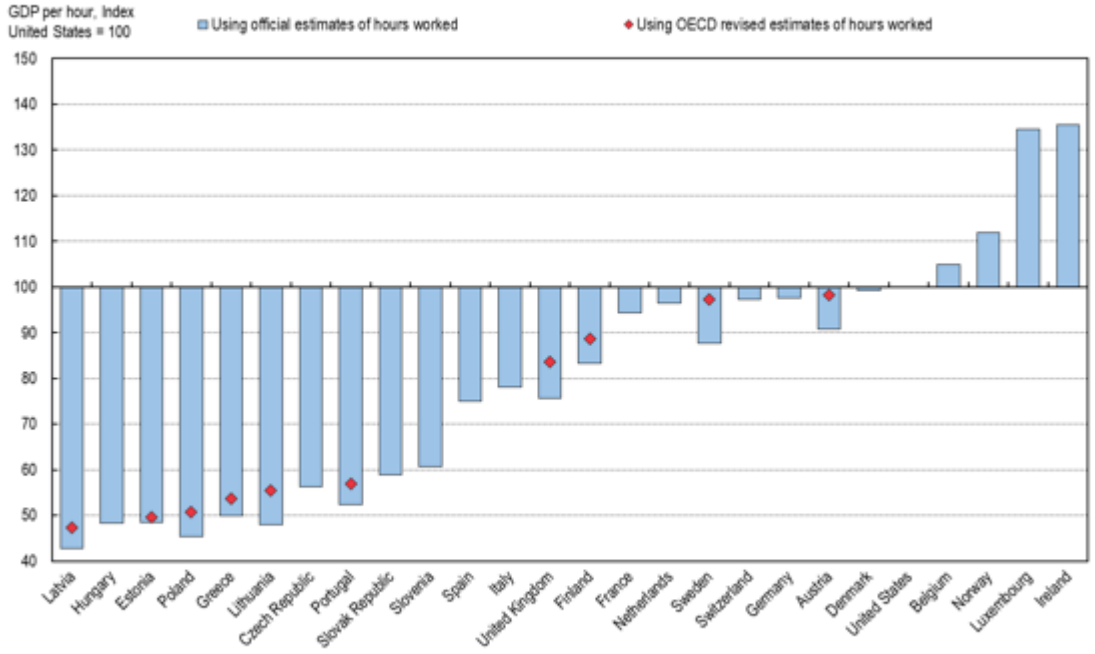


Source: Ward, Zinni and Marianna (2018)

The corollary of lower hours worked of course, is higher labour productivity levels. Figure 2 shows labour productivity levels, referenced to the United States, using official national accounts average hours worked estimates, comparing them with new results from the OECD simplified component approach for countries using the direct method.

Overall, the results point to a reduction in relative productivity gaps of around 10 percentage points compared with current official estimates in many countries. While the broad picture is maintained, notable international ranking changes see the United Kingdom outperforming Italy, and Austria moving ahead of France, the Netherlands, Switzerland and Germany.

Figure 2. International productivity gaps, 2016



Source: Ward, Zinni and Marianna (2018).

The OECD revised hours worked estimates explained

The simplified component method used in the paper takes usual weekly hours worked in a person's main job from the EU Labour Force Survey (EU LFS) and the Current Population Survey of the United States (CPS), as its starting point. Adjustments for the key components of weekly working time are made using self-reported data on overtime, flexible hours and hours on additional jobs. Finally, the method accounts for weeks not worked, i.e. holiday and vacation weeks, full and part-week absences for non-holiday reasons, and absences due to sickness and maternity.

Statutory leave entitlements are used as a proxy for actual annual leave taken in this paper. It is important to note that

this implicitly assumes that workers in all countries take, on average, all the leave to which they are entitled. However, this is not necessarily the case, as among other factors, actual take-up rates are likely to reflect differences in working cultures across countries. For this and other reasons, these new estimates should be considered only as a stop-gap for those countries currently using a direct method with minimal or no adjustments. In this respect it is important to note that most countries are already beginning to work towards improving their methodologies in line with the recommendations made as part of this research exercise, and others will begin to do so.

What's the impact on growth rates?

While the approach recommended in the paper clearly highlights the current bias in international comparisons of *productivity levels,* it does not follow that the same holds for international comparisons of *productivity growth rates;* growth estimates would only be distorted if the impact of the adjustments required showed significant disproportional change over time. Indeed, implementing the simple component approach reveals no systematic bias in growth rates.

Minor differences do occur however, and, so, to avoid introducing differences with national estimates of productivity growth (and those that can be derived from the OECD's national accounts data), the OECD will take estimates of average hours actually worked (levels) using the simplified component method in 2016 as a benchmark, and project series forwards and backwards using official (national) productivity growth rates.

How will these results be incorporated into the OECD's productivity database?

At this stage, based on the data available to the OECD, the implementation of the simplified component method will apply to the following countries: Austria, Estonia, Finland, Greece, Latvia, Lithuania, Poland, Portugal, Sweden and the United Kingdom. It is important to stress that the use of the simplified component method is intended to be only a stop-gap until such a time that these countries are able to align their estimation methods and estimates with the underlying national accounts concepts and that correct for self-reporting bias; indeed many countries are already moving in this direction.

Current efforts of the OECD are necessarily restricted to comparisons of labour productivity levels for the whole economy, but future work will look to explore whether and how labour input measures at the industry level can also be improved. In the meantime, for the 10 countries listed above, estimates of hours worked by sector will be constrained (pro-rata) to those at the whole economy level.

These changes will be incorporated into the OECD Productivity Statistics database and the OECD Average annual hours actually worked per worker dataset by the end of January 2019, along with corresponding metadata.

Further reading

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Ward, A., M. Zinni and P. Marianna (2018), "International productivity gaps: Are labour input measures comparable?", OECD Statistics Working Papers, No. 2018/12, OECD Publishing, Paris,

https://doi.org/10.1787/5b43c728-en.

Statistical Insights: An x-ray view of inflation

Category: Statistical Insights,Uncategorized
written by oecdecoscope | July 27, 2020



By Pierre-Alain Pionnier, Francette Koechlin, Anne-Sophie Fraisse and Elena van Eck.

Inflation may be present in some parts of an economy but not others. Contributions to annual inflation show how much different product groups contribute to overall inflation in a given year.

The measure is a useful tool to understand where inflation is occurring in different countries, analyse trends in inflation over time, and identify volatile and stable components of inflation. It may also help explain why consumers' perceptions of inflation sometimes differ from official figures.

This Statistical Insight uses figures for Germany, Japan and the United States (US) to illustrate the usefulness of data on contributions to inflation.

Analysing inflation by component

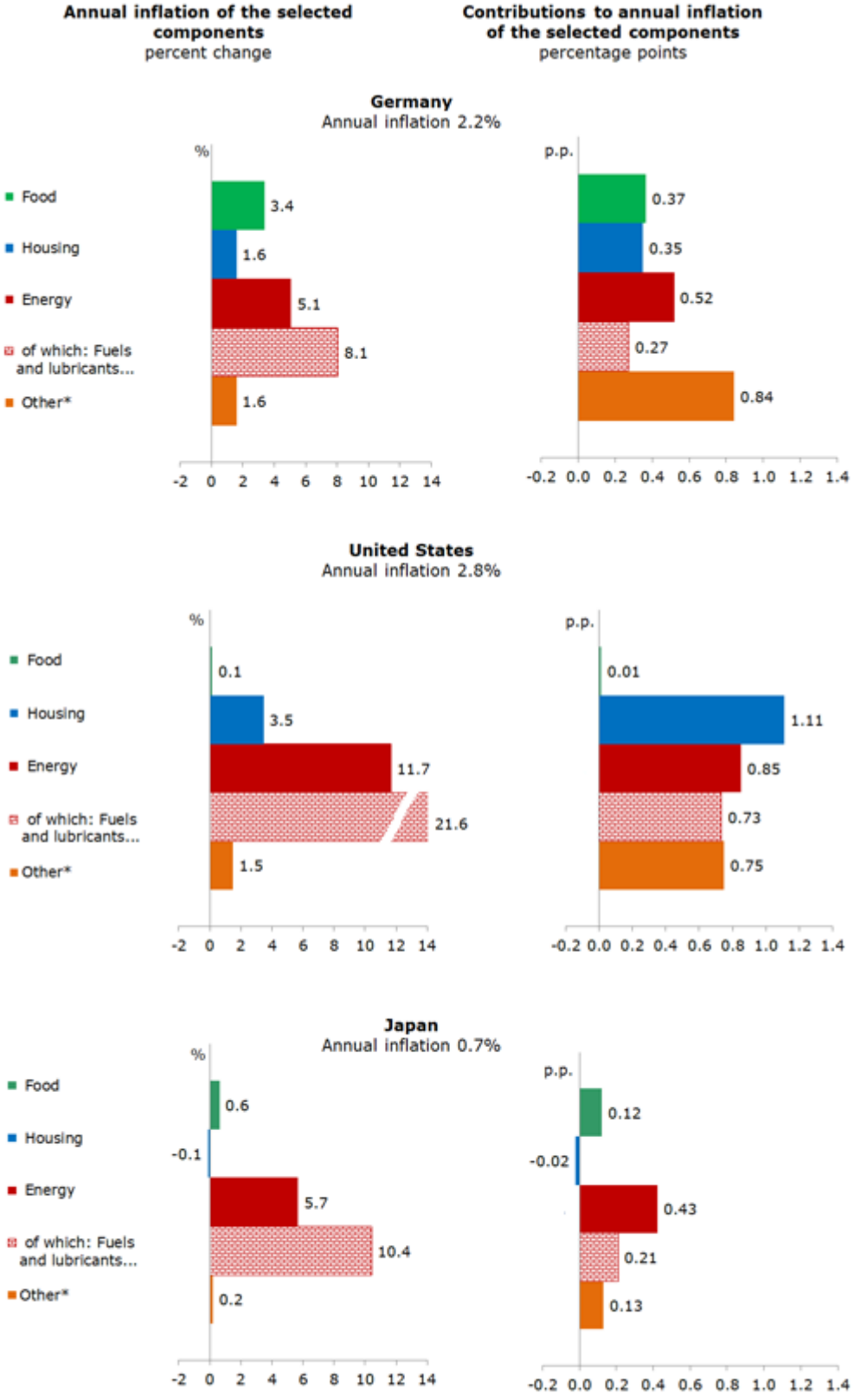
In addition to aggregate national Consumer Price Indices (CPIs), the OECD provides data on the contributions to annual inflation of 12 standard product groups and special aggregates.

Figure 1 shows that in Germany, Japan and the US, aggregate inflation hides wide variations in price movements across product groups. In Germany, while overall prices increased by 2.2% in the year to May 2018, food and housing prices increased by 3.4% and 1.6% respectively. In the US, energy prices increased by 11.7%, and gasoline prices by 21.6%, while overall prices only increased by 2.8%.

The contribution of a given product group to overall inflation depends both on the price change of the relevant product group and on its share in consumers' expenditures. The shares vary between countries. For example, households spend around 20% of their incomes on housing in Germany and Japan, but over 30% in the US. The high share of housing costs in US households' budgets meant that price changes in those costs contributed most to overall US inflation in the year to May 2018, even though energy prices rose much faster than housing prices. In fact, energy prices shot up everywhere, but only in Japan was energy the largest contributor to overall inflation.

It may also be the case that consumers are more sensitive to movements in the prices of items they purchase frequently. For example, they may feel that inflation is high if the prices of food items are rising quickly, even though food products and non-alcoholic beverages represent less than 10% of households' expenditures in the US, around 10% in Germany, and less than 20% in Japan.

Figure 1. Annual inflation rate (%) and contributions of selected components May 2018, Germany, United States and Japan



* Alcoholic beverages, tobacco and narcotics (COICOP 02), Clothing and footwear (COICOP 03) Water supply and miscellaneous services relating to the dwelling (COICOP 0404); Furnishings, household equipment and routine household maintenance (COICOP 05); Health (COICOP 06); Transport (COICOP 07 less COICOP 0702); Communication (COICOP 08); Recreation and culture (COICOP 09); Education (COICOP 10); Restaurants and hotels (COICOP 11); Miscellaneous goods and services (COICOP 12).

Source: OECD (2018) Consumer prices (database)

Recent trends in overall and core inflation (2012-2018)

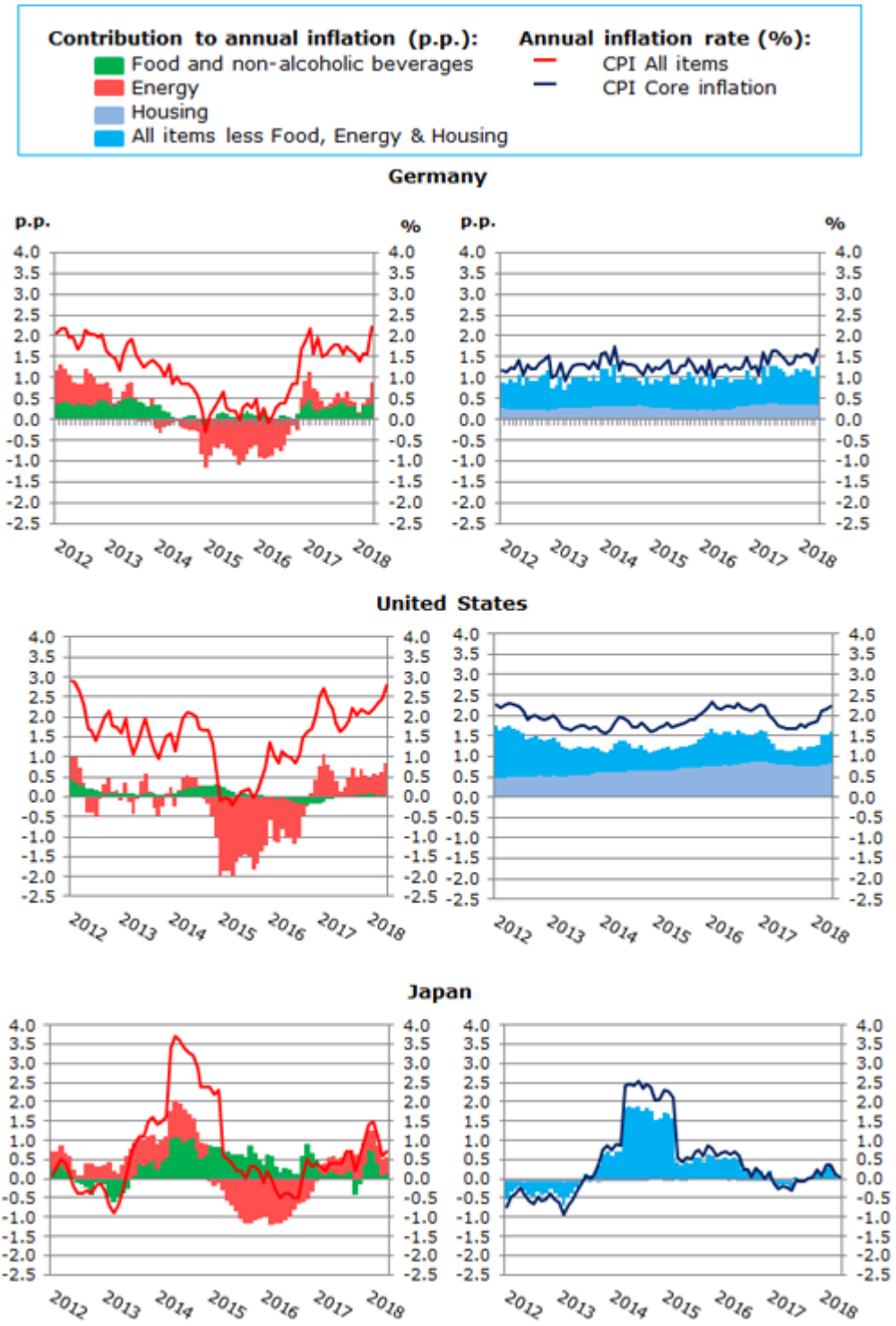
Because food and energy make volatile contributions to inflation, economists often focus on a consumption basket that excludes them in order to better understand and forecast long-term developments in inflation. The resulting numbers are called underlying, or core, inflation.

Figure 2 shows that energy contributed to the bulk of inflation fluctuations between 2012 and 2018. Changes in energy prices are dominated by movements in world crude oil prices, but exchange rate fluctuations also play a role because oil prices are usually fixed in US dollars. In 2015, for example, oil prices fell but at the same time the euro and the yen depreciated against the US dollar, so that oil prices in those currencies did not fall as much as they did in dollars. This meant that falling oil prices did not reduce inflation as much in Germany and Japan as in the US.

Even after excluding volatile food and energy prices, core inflation rates vary significantly across countries. Figure 2 shows that core inflation in Japan has long been lower than in Germany and the US, except for a blip in 2014-15 caused by a hike in value-added tax. Since 2016, core inflation in the US has also been consistently higher than in Germany. The major contributor to these differences is housing prices, which have risen faster in the US than in Germany, and faster in Germany than in Japan. Note that housing prices correspond to housing rentals (including imputed rentals for owner-occupied dwellings) and maintenance costs. This ignores the purchase prices of houses and apartments, which are considered as investments rather than consumption and are covered by separate price indices.

Figure 2. Annual inflation rates (%) and contributions of selected components (percentage points)

2012-2018, Germany, United States and Japan



Source: OECD (2018) Consumer prices (database)

The measure explained

Contributions to annual inflation represent the contributions to overall inflation in percentage points by different product groups. The contribution of each product group depends both on the price change in the relevant product group and its weight

in households’ expenditures.

The OECD calculates contributions to inflation based on national data for all countries except Austria, Chile, Finland, Mexico, the Netherlands, Poland, Sweden, and the United Kingdom, whose National Statistics Offices provide the data directly. For further information please see OECD CPI FAQs.

Where to find the underlying data

- Access contributions to annual inflation

Statistical Insights: New OECD-WTO data provides coherent and comprehensive view of Global Trade in Services

Category: Statistical Insights,Uncategorized
written by oecdecoscope | July 27, 2020
by Fabienne Fortanier, Head of Trade Statistics Section, Trade and Competitiveness Statistics Division, OECD Statistics and Data Directorate.

Services comprise a growing share of international trade. Yet detailed statistics on which countries trade which services with which partners remain patchy. Although worldwide, almost all countries provide an estimate of total trade in services as part of their balance of payments and national accounts,

only around 50 OECD and non-OECD countries provide some geographical breakdown in their services statistics. This means that we have no data at all for 90% of all possible bilateral services trade relationships, which reflect nearly half of the global services trade value. Moreover, even where data are available, asymmetries – where country A's figures on exports to country B don't match country B's figures on imports from country A – undermine their usefulness.

To mitigate these problems, the OECD, WTO and countries have been collaborating to build a transparent and replicable global dataset of coherent bilateral trade in services statistics by main services categories. The first edition of the OECD-WTO Balanced Trade in Services (BaTIS) dataset is now available.

Why are current official statistics on trade in services trade so patchy?

There are many reasons why trade in services data are unsatisfactory, especially compared to merchandise trade statistics. Among the most straightforward is the fact that they can be difficult to identify despite the plethora of international guidelines. Whereas the physical nature of goods means they are relatively easy to measure when they cross borders, the delivery of services is more difficult to observe – even more so when they are delivered in digital form. Data confidentiality restrictions, when only one or a few firms dominate trade in a certain services category, add another layer of complexity. But there are many more factors that cause measurement problems and asymmetries. For example, countries typically use model-based estimates for services that can only be observed indirectly, and these may differ across countries. Payments for services may not coincide with their delivery (for example in construction projects). And measurement can become even more complicated when the service is delivered between affiliated firms.

The measure explained

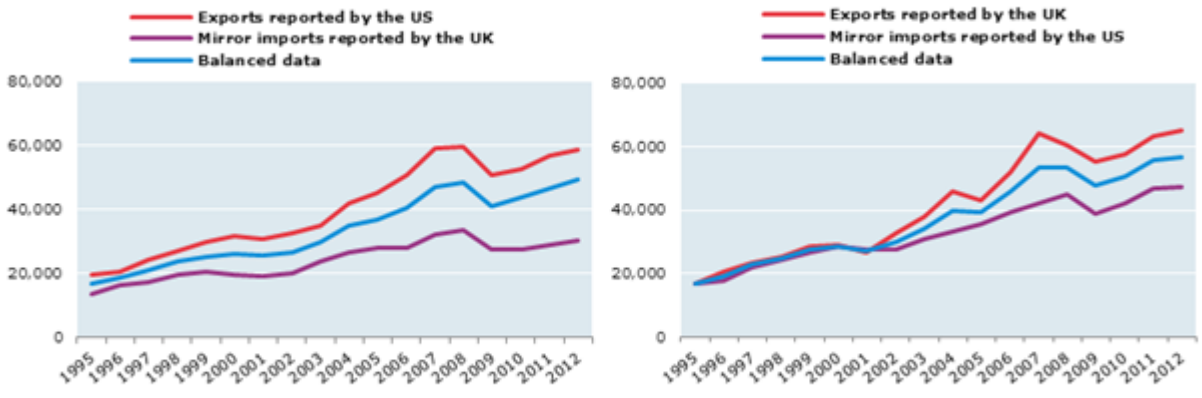
To reconcile asymmetries in bilateral trade in services statistics and to estimate bilateral flows where no statistics exist, BaTIS uses all available official data, and a variety of estimations, including linear interpolations and extrapolations, and econometric models, all of which are benchmarked to the officially reported totals and sub-totals.

Reported exports and imports are then reconciled using a "symmetry index" that gives more weight to those countries whose data more often agree with those of their trading partners (see our recent Statistical Insight on merchandise trade data). The balancing procedure also takes account of the reliability of different estimation methods, and gives preference to officially reported data over estimates.

Key findings

These adjustments mean that the final figure in the OECD-WTO BaTIS database for any given bilateral trade flow will differ from the figures reported by both countries, if these were originally asymmetric. Figure 1 below illustrates this for total services trade between the United States and the United Kingdom. Note that the balanced trade values fall between the two countries' figures, and reflect trends in both.

Figure 1. Balanced bilateral trade in services data – US to UK and UK to US

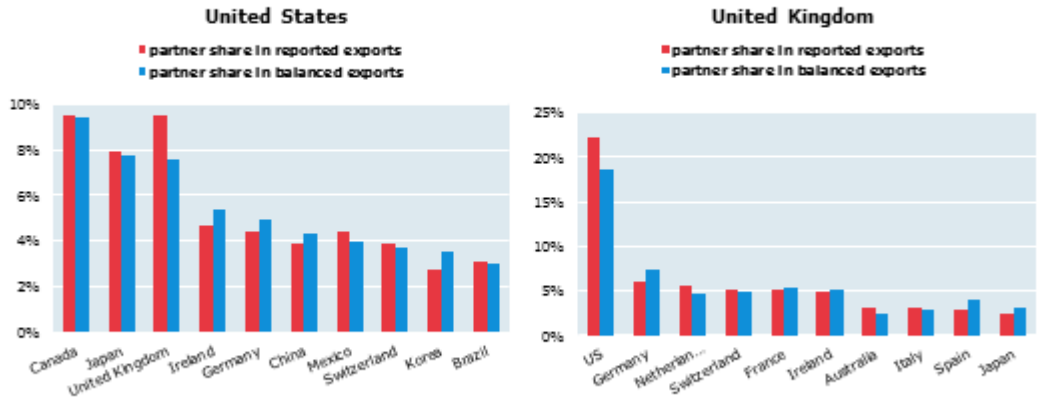


Source: OECD-WTO BaTiS database

BaTiS may also alter the ranking of a country's main trading

partners. Figure 2 illustrates this for total trade in services, again focusing on US and UK exports. For example, official data for the US put the UK on a par with Canada as the US's most important export market for services, but balanced trade data show the UK falling to third place behind Japan. Similarly, although the US remains the most important export market for the UK services, its importance is significantly smaller when seen through the lens of BaTiS, while trade with many European markets, notably Germany and Spain, is larger.

Figure 2. Top 10 destination countries for service exports, 2010: reported versus balanced trade data for the US and the UK



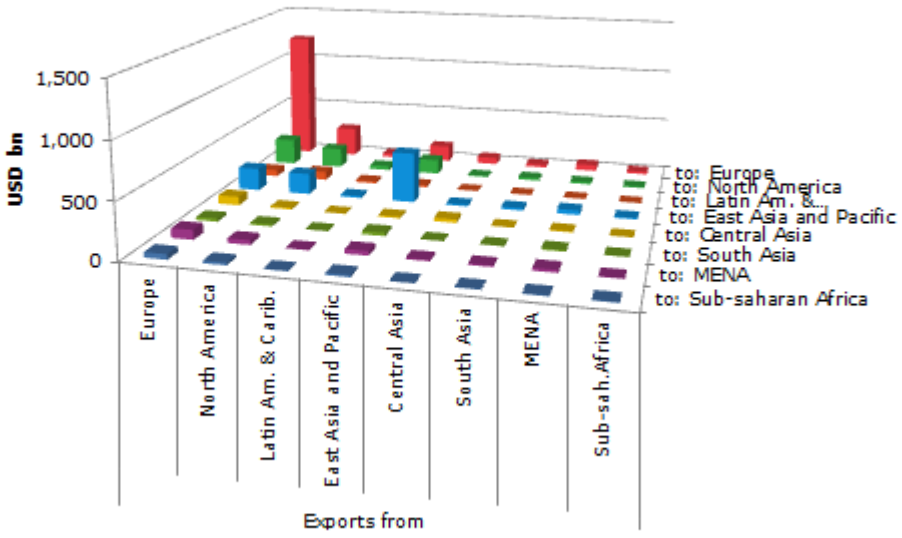
Source: OECD-WTO BaTiS database

BaTIS also provides insights on which countries systematically over- or under-report services trade figures as compared to their trading partners. One prime example is Bermuda, which reported only 1.4 bn USD of services exports in 2012, compared with 26 bn, 14 bn, and 5 bn USD reported as imports from Bermuda by the US, the Netherlands, and Ireland respectively. As Bermuda's symmetry index is much lower than those of its trading partners, total balanced services exports by Bermuda in BaTiS were 64 bn USD in 2012 – 45 times higher than Bermuda's officially reported figure. Much of these services reflected insurance and financial services (mainly imported by the US), and royalties and licence fees (mainly imported by the Netherlands).

Figure 3 summarises the global pattern of services trade as

shown in the BaTIS database. Intra-EU transactions account for 28% of global services trade, and transactions among East Asian and the Pacific countries for another 11%. North America's services exports are less focused on its own region: Europe and East Asia and the Pacific are more important destinations of exports. Other regions account for very little of global trade in services, with intra-regional trade accounting for only limited shares in most.

Figure 3. Sources and destinations of global trade in services, 2012



Source: OECD-WTO BaTiS database

Where to find the underlying data

The OECD-WTO database currently contains data for 191 countries for all 11 main service categories in the Extended Balance of Payments Services (EBOPS) 2002 classification for 1995 to 2012. A new dataset using the EBOPS 2010 classification will be released in 2018 and updated annually thereafter. Further work to reduce asymmetries in official data is under way in collaboration with national statistical offices. For example, the United Kingdom and the United States are currently undertaking joint work to reduce their asymmetries in services trade (see articles by the UK Office for National Statistics "Asymmetries in trade data – diving deeper into UK bilateral trade data" and US Bureau of Economic

Analysis “Understanding Asymmetries Between BEA’s and Partner Countries’ Trade Statistics”).

Further reading

- Fortanier, F., Liberatore, A., Maurer, A., Pilgrim, G. and Thomson, L. (2017) ‘The OECD-WTO Balanced Trade in Services Database’, OECD-WTO paper.

Statistical Insights: New evidence shows that almost 40% of people are economically vulnerable in the OECD

Category: Statistical Insights,Uncategorized
written by oecdecoscope | July 27, 2020
By Carlotta Balestra, Policy Analyst, OECD Statistics Directorate



Looking at poverty and vulnerability through an assets lens

Households' economic well-being is usually measured by income. But what if there is an interruption in the flow of income? Or an unexpected expense? Such events highlight the importance of wealth accumulation to sustain people's economic well-being. New evidence on the distribution of wealth shows that in the OECD many people, who are not considered income poor, are nevertheless economically vulnerable in the event of a sudden loss of income, e.g. through unemployment, family breakdown, or disability. If they were to suddenly stop receiving income, such people would not have enough ready assets to keep living above the poverty line for more than three months.

Key findings

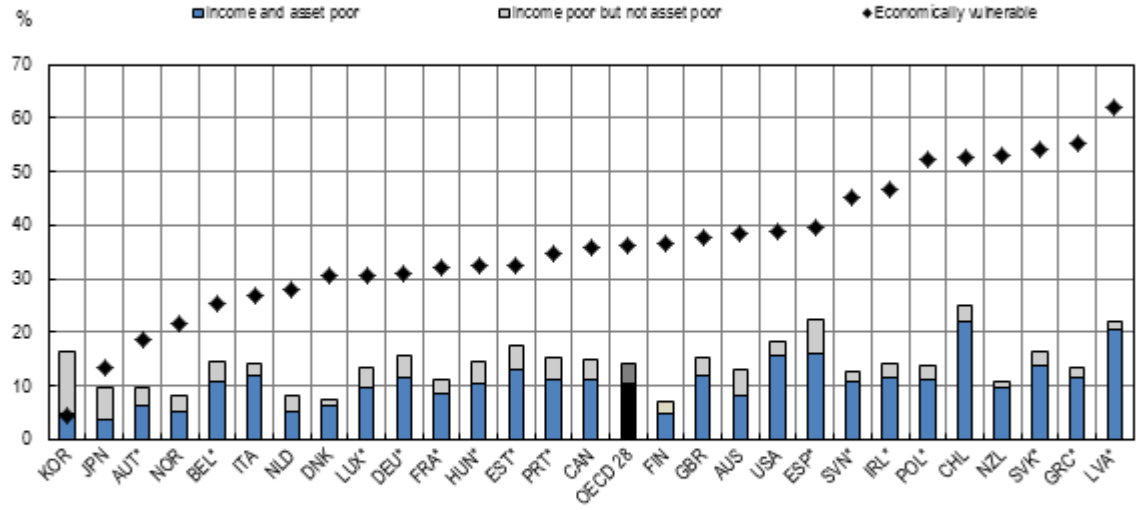
Since incomes can be saved and assets can generate returns, one might expect households' incomes and assets to be closely correlated. However, OECD data on wealth distribution shows that this correlation is far from perfect. In particular, the elderly tend to have substantial assets, but lower incomes. Overall, in the OECD area, less than one in three households belongs to the same quintiles for both income and wealth.

Figure 1 shows that, on average in the OECD, 11% of people are both income and asset poor, and another 36% are not income poor but are economically vulnerable because of insufficient

ready assets.

Figure 1. Income and asset-based poverty

Share of individuals who are income poor, asset poor or economically vulnerable, by country, latest available year



Note: Countries are ranked in ascending order of the share of individuals who are "economically vulnerable". Because of different sources and income definitions, the income poverty rates shown in this figure differ from those reported in the OECD Income Distribution Database. * means that income is defined as household gross income instead of household disposable income.

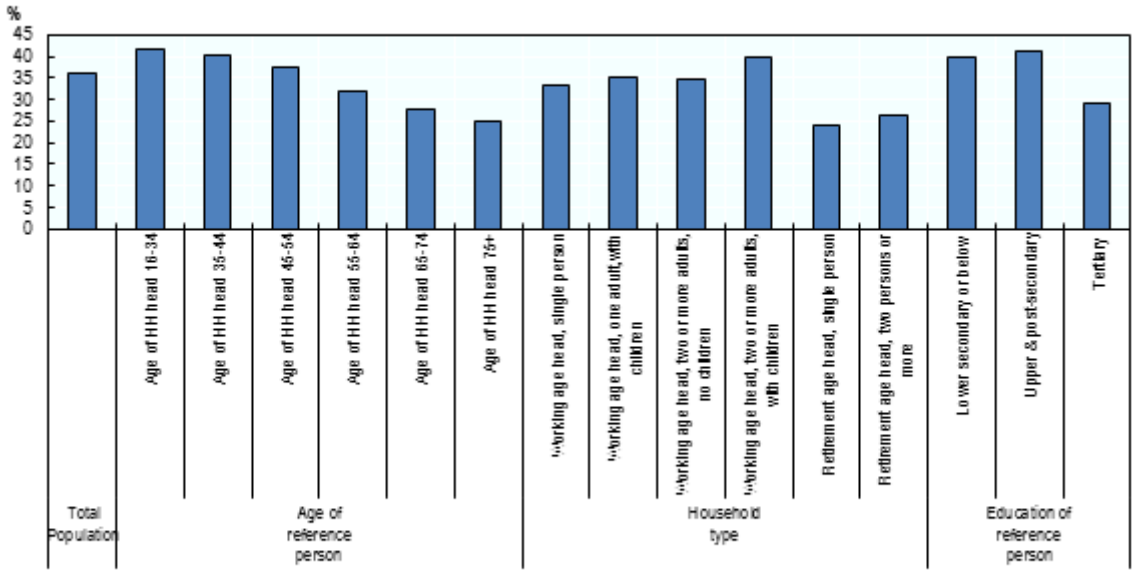
Source: OECD Wealth Distribution Database, https://stats.oecd.org/Index.aspx?DataSetCode=WEALTH

The scope of the problem varies widely across countries. In Greece and Latvia, for example, more than half of the population lacks enough liquid financial wealth to maintain just above poverty-level income for three months. By contrast, the share is much lower in Korea and Japan.

Figure 2 shows how different population groups are affected by economic vulnerability. Vulnerability tends to be highest among working-age two-parent households and those headed by a person with only a primary or secondary education. Economic vulnerability also diminishes with the age of the head of household, as assets are generally accumulated over one’s

Figure 2. Economic vulnerability by population group

Share of individuals who are economically vulnerable, by population group, latest available year, OECD average



Note: The OECD average is a simple average of the 28 countries with available information.

Source: OECD Wealth Distribution Database, https://stats.oecd.org/Index.aspx?DataSetCode=WEALTH

life.

The fact that so many individuals who are not income poor are still vulnerable to sudden losses of regular income – whether from losing their jobs, family breakdown, disability or other causes – needs to be factored into policies. One issue that may need addressing is waiting periods. While most OECD countries have social safety nets, access to relief may involve a significant delay to establish or assess eligibility, during which families may incur significant distress.

The measure explained

Definitions of asset-based poverty vary, depending on which assets are considered, what income level is deemed necessary for an adequate standard of living, and how long that income level could be maintained from cashing in available assets. We define relevant assets as excluding housing wealth, since people still need a place to live even when they have no income. An adequate income level is defined as the standard OECD poverty line of 50% of median disposable income; and we assume that assets would need to yield three months of that

income. So individuals are "asset poor" if they do not have enough liquid financial wealth to keep them above the standard poverty line if their incomes stopped for three months. Evidence on alternative asset-based poverty measures is available in the *OECD Wealth Distribution Database*.

In the *OECD Wealth Distribution Database*, household net wealth means the real and financial assets held by private households resident in the country, net of liabilities. Assets and liabilities are classified based on the nomenclature in the *OECD Guidelines for Micro Statistics on Household Wealth*, which distinguishes five categories of non-financial assets, eight categories of financial assets, and three categories of financial liabilities. The data in the *OECD Wealth Distribution Database* are by household, rather than by persons or adults: contrary to the convention when analysing household *income*, no adjustment is made for differences in household size.

Where to find the underlying data?

OECD Wealth Distribution Database, https://stats.oecd.org/Index.aspx?DataSetCode=WEALTH

Further reading

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Murtin, F. and M. Mira d'Ercole (2015), "Household wealth inequality across OECD countries: new OECD evidence", *Statistics Brief*, No. 21, June, http://www.oecd.org/std/household-wealth-inequality-across-OECD-countries-OECDSB21.pdf

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Statistical Insights: Merchandise trade statistics without asymmetries

Category: Statistical Insights,Uncategorized
written by oecdecoscope | July 27, 2020
by Fabienne Fortanier, Head of Trade Statistics Section, OECD Statistics Directorate



To properly understand global trade patterns we need high quality, consistent and harmonised statistics on international merchandise trade. Currently available statistics, however, fall short of this standard. In theory the exports of country A to country B should mirror the imports of country B from country A, but in practice this is rarely the case. To tackle this issue the OECD, through its Working Party on International Trade in Goods and Services Statistics, bringing together over 40 countries, has developed a transparent and replicable approach for reconciling international merchandise trade statistics. The first version of the resulting dataset is now available.

How large are trade asymmetries?

Table 1 shows some of the largest asymmetries in reported global trade, by main product category. And they are very large. For example, the US reports USD 35 billion more imports of electrical machinery from China than China reports as exports to the US; accounting for around one-third of the actual value traded. The twelve top discrepancies alone (out of nearly 100 products and over 200 countries), account for USD 182 billion, or 1% of global merchandise trade.

Table 1. Examples of large trade asymmetries (reported imports and mirror exports), by product 2014, million USD

Reporter country	Partner country	Product (HS chapter number)	Reported imports	Mirror exports	Imports -/- Exports
Netherlands	Russia	Mineral fuels and oils (27)	21 650	57 294	-35 644
USA	China	Electrical machinery, equipment and parts (85)	127 093	92 550	34 543
China	Korea	Electrical machinery, equipment and parts (85)	76 674	51 182	25 492
China	Japan	Electrical machinery, equipment and parts (85)	40 572	25 751	14 820
USA	China	Nuclear reactors, machinery & mechanical app. (84)	105 279	90 883	14 396
Germany	China	Electrical machinery, equipment and parts (85)	28 804	14 458	14 346
Germany	Norway	Mineral fuels and oils (27)	8 137	20 105	-11 968
France	China	Electrical machinery, equipment and parts (85)	14 397	5 551	8 846
France	Russia	Mineral fuels and oils (27)	11 641	4 132	7 509
Netherlands	China	Nuclear reactors, machinery & mechanical app. (84)	15 695	22 019	-6 323
Spain	France	Vehicles and parts (87)	10 664	5 105	5 559
Spain	Russia	Mineral fuels and oils (27)	6 971	3 421	3 550

Source: UN Comtrade

Why do trade asymmetries exist?

Asymmetries in international merchandise trade statistics exist for a variety of reasons. First of all, exports and imports are valued differently: exports are valued ‘free on board’ (FOB), but imports include the ‘costs of insurance and freight’ (CIF). This margin however averages just 5% of international trade flows (Miao and Fortanier, 2017) and so explains only a small part of the discrepancies. Differences in customs regimes and methodologies also have an effect, as do differences in confidentiality policies, product classifications, and time of recording.

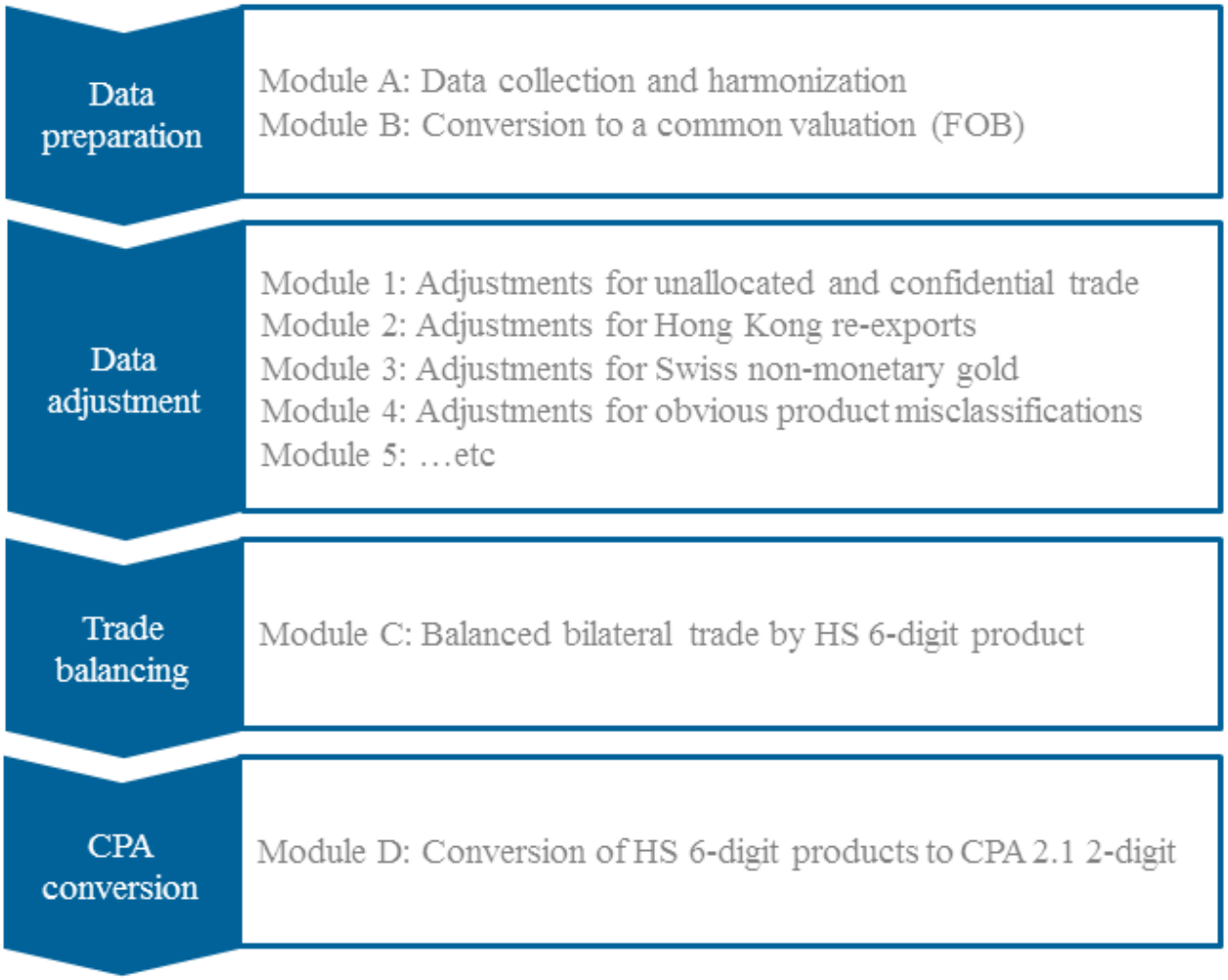
But the most important source of discrepancy is the convention that merchandise trade statistics record imports by country of origin and exports by country of last known destination. This inevitably means that import data will not mirror export data – and the gaps are steadily widening as global production chains become more complex.

Resolving asymmetries – the measure

explained

The OECD has developed a four-step process to reconcile merchandise trade asymmetries (Figure 1). First, data are collected and organised, and imports are converted to FOB prices to match the valuation of exports. Secondly, data are adjusted for several specific large problems known to drive asymmetries. Presently these include ‘modular’ adjustments for unallocated and confidential trade, for re-exports by Hong Kong, China, for Swiss non-monetary gold, and for clear-cut cases of product misclassifications. The list of modules is expected to grow over time. In the third step, adjusted data are balanced using a ‘Symmetry Index’ that weights exports and imports, giving a higher weight to the country with less asymmetry in its reported bilateral trade flows. This Index reflects the share of a reporter’s bilateral trade for which the absolute difference with the reported mirror flow is 10% or less of the sum of these two flow values. All calculations are made at the detailed product level (HS 6-digit), and the dataset is available at this level. However, in a final step, the data are also converted to Classification of Products by Activity (CPA) products to better align with National Accounts statistics, such as in national Supply-Use tables.

Figure 1. Schematic overview of the steps involved in creating the balanced merchandise trade dataset



As a concrete example of how adjustments are made, take re-exports by Hong Kong, China (hereafter Hong Kong). Hong Kong is a major hub for international merchandise trade, and re-exports account for no less than 96% of its total exports. This leads to large asymmetries, because, following international methodological standards, Hong Kong reports exports to those countries where the products are sent, but the same countries report them as imports not from Hong Kong, but from the country in which they were originally produced.

These asymmetries can be reduced by using the Hong Kong Census Office's detailed 6-digit data on the country of origin of its re-exports. Table 2 illustrates this in the case of data for 2011 on trade in Harmonised System product category 851762 ("Machines for the reception, conversion &

transmission/regeneration of voice, images and other data"). The first data column shows the reported figures by each respective country, and the second column, the adjusted figures. The first column shows that China recorded nearly USD 5 billion of exports to the US, with Hong Kong exporting a further USD 2.1 billion, virtually all of which (USD 1.9 billion) were re-exports from China. In contrast, and consistent with the country of origin principle, the US recorded virtually all of its imports of these goods as coming from China (nearly 9 billion USD), with negligible amounts from Hong Kong. The second column reattributes US imports passing through Hong Kong as imports from Hong Kong, reducing imports attributed to China by the same amount. Note that this does not change China or Hong Kong's reported exports, or the total value of the US's reported imports. But changing the geographical attribution of US imports reduces the asymmetry between China and the US by almost half, and practically eliminates the asymmetry between Hong Kong and the US.

Applying this method reduces asymmetries between Hong Kong exports and partner country imports by 60% overall, and to practically zero for many partner countries. Asymmetries between country pairs like the US and China that trade significantly via Hong Kong are also reduced by 5-10%.

Importantly, by tracking the physical flow of goods, the approach adopted in the database provides a means to better highlight the port and transportation services, related to 'entrepôt' transactions, in trade in value added statistics.

Table 2. Example of trade asymmetries between China and the US where re-exports from Hong Kong are important, before and after re-export adjustment (thousand USD, 2011)

	HS 851762*	HS 851762* adjusted
(1) Exports of China to the US	4 975 623	4 975 623
(2) Exports of Hong Kong to the US	2 097 909	2 097 909
(3) of which re-exports originating from China	1 920 029	1 920 029
(4) Imports of the US from China	9 482 884	7 562 855
(5) Imports of the US from HK	138 023	2 058 052
China-US asymmetry (abs)	4 507 261	2 587 232
Hong Kong-US asymmetry (abs)	1 959 886	39 857

*HS 851762: Machines for the reception, conversion & transmission/regeneration of voice, images and other data

Where to find the underlying data

The database currently contains data for 83 countries for all 2-digit CPA products for the period 2007 to 2014. More countries and years (from 2002 to 2016) will be added in Q1 2018 and updates will be conducted on an annual basis from hereon in. The plan over the next two years will be to accelerate the production process such that the most timely data are available with a lag of no more than one year to the reference period. Further work to reduce asymmetries in official data, including through bilateral and multilateral meetings, is under way in collaboration with national statistical offices and other international organisations.

- Access the database

Further reading

- Miao, G and F. Fortanier (2017), “Estimating Transport and Insurance Costs of International Trade”, *OECD Statistics Working Papers*, 2017/04.

- Fortanier, F (2016), 'Towards merchandise trade statistics without asymmetries', *The OECD Statistics Newsletter*, issue 64.

Statistical Insights: What does household debt say about financial resilience?

Category: Statistical Insights,Uncategorized
written by oecdecoscope | July 27, 2020



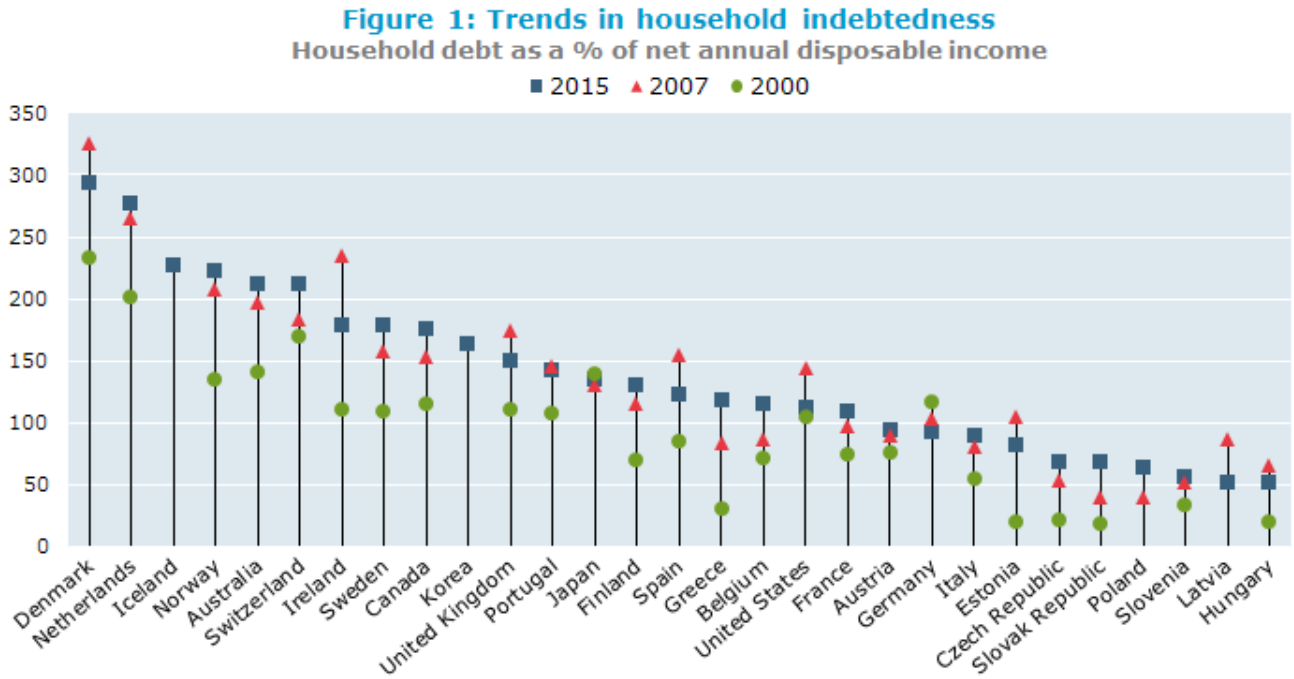
by Isabelle Ynesta, Financial Statistics Statistician and Matthew De Queljoe, Statistician, OECD Statistics Directorate

Household debt levels increased rapidly in many economies in the run-up to the 2007-2008 financial crisis, fuelled in part by easy credit and rising property prices. Ratios of debt to annual income – used by lenders to determine households'

repayment capacity – then reached record highs across OECD countries. These debt levels have since continued to rise in most OECD countries, albeit at a much slower pace, both in real terms and as a multiple of annual disposable income. What does this say about households' financial resilience?

Household indebtedness ratios have trended up since 2000, but the rise has slowed considerably since 2007 in most OECD countries

Household indebtedness ratios have been trending up since 2000 in nearly all OECD countries, with the notable exceptions of Japan and Germany. Most of the accumulation of debt occurred in the run-up to the financial crisis, in the period 2000-2007, when households increased their borrowings in response to greater access to credit and increasing house prices, most spectacularly in Ireland where indebtedness went from 111% of annual disposal income in 2001 to 234% in 2007 (figure 1). Following the crisis, the increase in indebtedness slowed considerably in many OECD countries, and even reversed in some of them, as households redeemed their debt and limited new borrowings. The sharpest falls were in Ireland (down 56 percentage points from 2007), Latvia (down 34 percentage points), Spain (down 33 percentage points), Denmark (down 32 percentage points), and the United States (down 31 percentage points).



Note: For Iceland and Korea, the square points refers to data from 2014 instead of 2015. For Ireland and Slovenia, the dot points refers to data from 2001 instead of 2000.

Loans, predominantly mortgage loans, make up the largest component of household debt. When real estate prices increase, households must borrow larger amounts to buy a house. Existing homeowners may also feel richer and borrow against their increased collateral to fund spending on consumer goods and services (Statistical Insights: Blowing bubbles? Developments in house prices). Both phenomena were observed in countries where housing bubbles occurred, and contributed to increasing household debt levels in countries such as Denmark, the Netherlands, Spain, the United States, and the United Kingdom.

On the other hand, Japan and Germany did not experience housing booms and their household debt levels fell over the period 2000-2015. Japanese households tended to accumulate large down-payments before borrowing to buy a house, and existing owners did not extract equity from their houses by increasing their mortgages. In Germany, a key factor is a low home ownership rate relative to other OECD countries.

Household indebtedness ratios can vary widely across countries

Figure 1 also shows that Danish households had the highest

indebtedness ratio in 2015 at 293% of annual disposable income, followed by the Netherlands at 276%, whereas Hungary had the lowest at 51% (figure 1). These ratios, however, may not be the best measure of households' financial resilience, which must also take account of factors such as the level of interest rates, whether mortgages are at fixed or floating rates, and whether tax breaks apply to mortgage interest. In the Netherlands, for example, households can deduct interest paid on mortgage loans from their taxable income, which may partly explain why Dutch mortgages are among the highest in Europe in relation to the value of the underlying collateral.

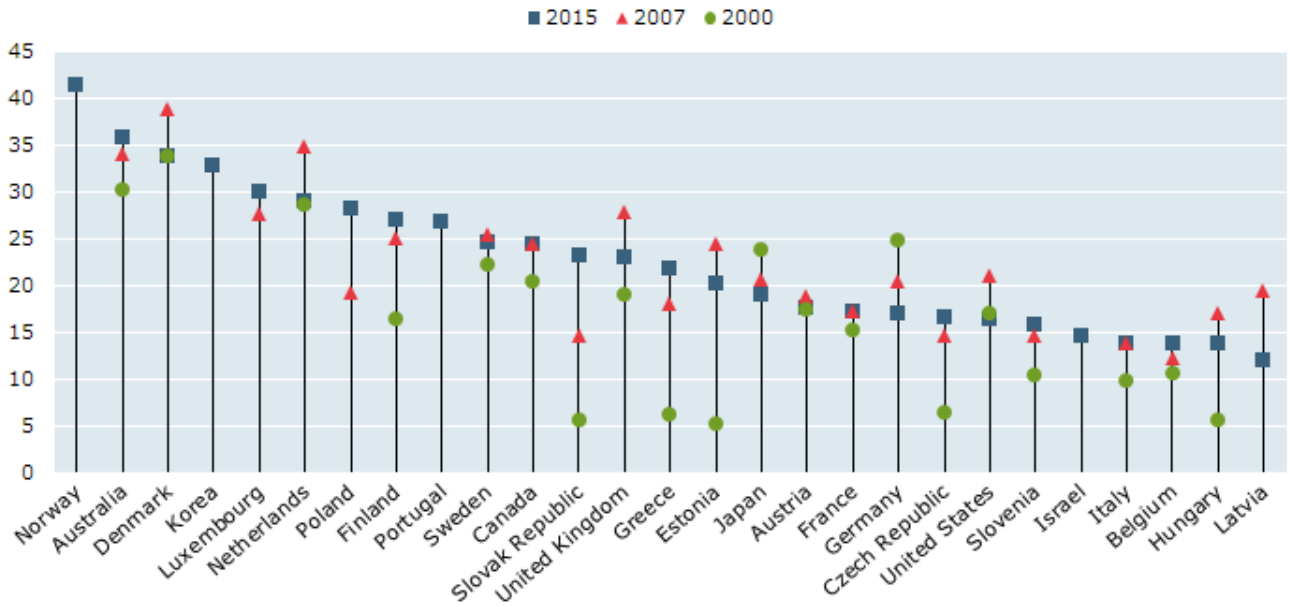
But to better understand households' financial resilience assets matter too

To gain a better understanding of households' vulnerability to economic shocks – such as becoming unemployed – one should also look at the assets they have available to pay down debt. Clearly, having a low debt-to-assets ratio will increase households' resilience to shocks. However, the assets side of the ratio can be significantly affected by how pension systems work in various countries. Where future pension liabilities are already funded, this will increase households' assets. This is the case in the Netherlands and Australia, where funded pension schemes are well developed, and pension assets represented 60% and 56%, respectively, of households' total financial assets in 2015. At the other end of the spectrum, Belgian households' pension assets only accounted for 6.5% of their total financial assets, since most pensions are funded on a pay-as-you-go system.

Household debt-to-assets ratios rose after 2000 in most OECD countries,
but the picture is mixed since 2007

Figure 2: Trends in debt-to-total assets

Household debt as a % of total assets



Note: For Belgium, Estonia, Greece, Hungary, Latvia, Norway, Poland, Portugal, the latest data available is 2014 instead of 2015. For Slovenia, the dot point refers to data from 2001 instead of 2000.

The debt-to-assets ratio in 2015 for Denmark, the Netherlands and the United States, countries that experienced a housing bubble, was more or less the same as in 2000 and around 5 percentage points less than in 2007. On the other hand, the debt-to-assets ratio increased considerably between 2000 and 2015 in the Slovak Republic, Greece and Estonia, although from a low base. In the Slovak Republic, the easing of credit restrictions, and the launching of mortgage banking in 2000, made loans more readily available. Since 2007 the debt-to-assets ratio has continued to increase in the Slovak Republic and Greece whereas it fell in Estonia. Household financial resilience depends on the distribution of assets, liabilities and income and the institutional factors prevailing in each country, but in general, debt-to-assets ratios that are trending up indicate that households are becoming less resilient to shocks.

A final remark concerns the distribution of assets and debt. While a country's average numbers may look comforting, the distribution of assets and debt could be skewed, making certain groups in society very vulnerable to various types of economic shock. The OECD therefore invests considerable effort

in obtaining information broken down by various household groups. Preliminary results of this work can be found in "Measuring inequality in income and consumption in a national accounts framework, OECD Statistics Brief, November 2014 – No. 19″ and "Household wealth inequality across OECD countries: new OECD evidence, OECD Statistics Brief, June 2015 – No. 21″.

The measures explained

Household net disposable income: Total annual income received by households after deducting taxes on income and wealth and social contributions, and including monetary social benefits (such as unemployment benefits). This measure thus represents the amount left at the disposal of households for either consumption or saving. It is called "net" because amounts needed to replace capital assets (dwellings and equipment of unincorporated enterprises) are already deducted.

Household indebtedness ratio: Households' total outstanding debt divided by their annual net disposable income. The debt of households largely consists of loans, primarily home mortgage loans, but also other types of liabilities such as consumer debt (e.g., credit cards, automobile loans).

An indebtedness ratio above (below) 100 percent indicates that the household debt outstanding is larger (smaller) than the annual flow of net disposable income.

Household debt-to-total-assets ratio: Households' total outstanding debt divided by their total assets. The total assets of households consist of both financial assets (saving deposits, shares and other equity, pension entitlements etc.) and non-financial assets (predominantly residential real estate including both dwellings and land, though due to data limitations, only the value of dwellings is included in the figures shown here).

The higher (lower) the debt-to-total-assets ratio, the higher (lower) is the level of households' leverage, and the weaker

(stronger) is their financial position.

Where to find the underlying data?

- Financial Dashboard: this dataset contains data on households' financial wealth and on households' debt
- Household Dashboard includes indicators related to the household sector published on a quarterly frequency

Household annual and quarterly financial accounts and financial balance sheet data can be found at:

Annual data

- Financial accounts – non consolidated
- Financial balance sheets – non consolidated

Quarterly data

- Non-consolidated financial transactions by economic sector (Quarterly table 0620)
- Non-consolidated financial balance sheets by economic sector (Quarterly table 0720)
- Households' financial assets and liabilities present a more granular breakdown of households' financial assets and liabilities.

Further reading

- European Commission; IMF; OECD; UN; and World Bank (2009), "System of National Accounts 2008"
- Lequiller, F. and D. Blades (2014), Understanding National Accounts: Second Edition, OECD Publishing, Paris.

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