Portugal: Business Dynamics

Business and employment dynamics play a central role in market economies. Understanding the characteristics and potential of businesses that populate the economy, in different sectors of activity and over time, and the extent to which they contribute to job creation and reallocation is central for economic policy.

This Country Note presents the key findings of the OECD DynEmp project for Portugal (Box 1) and contributes to establish evidence that is highly relevant for policy making in Portugal, especially in the context of the broader economic situation of the country.

**Highlights**

- Small firms are very important in Portugal, especially for employment in the manufacturing sector.
- Between 2002-15, digital service sectors have generated more positive employment growth, and have a large potential to continue doing so due to good quality digital infrastructure in Portugal.
- A crucial factor for long-term growth of the digital-intensive industries is (digital) skill upgrading.
- Ensuring the right conditions to enable jump-starting businesses as well for new firms to expand quickly is important. Providing an efficient legal framework and financial services that are able to facilitate both firm growth as well as liquidation in a rapid manner is a key challenge for Portugal in this regard.

**Country background**

Portugal’s economic challenges are shaped on the one hand by its country-specific economic history, and on the other hand by developments common to most industrialised countries, such as demographic change and digitalisation.

The academic and policy discussion on Portugal’s economic performance is still to a large degree centred around the problems that unfolded during the 2009-12 financial and resulting European debt crises, as well as the consequently derived policy recommendations to tackle them. The main topics remaining on the agenda are (1) the slow pace of productivity growth in Portugal, and low competitiveness and overregulation of the economy (in particular the service sector), (2) skill development of the workforce, (3) high levels of corporate (and private) debt, and (4) inefficiencies in the judicial system. All of these issues are directly or indirectly relevant to Portuguese employment and business dynamics, and can help explain structures and trends observed in the Portuguese firm data.

Despite a good growth performance and an almost complete recovery from the two crises, productivity growth of the Portuguese economy has been slow over the last two decades, especially in non-tradable sectors. In manufacturing, reforms fostering competitiveness, such as product market deregulation, reducing administrative burdens for
businesses, as well as lowering barriers for FDI, have taken effect in recent years. This is reflected in a better exporting performance in tradable sectors (OECD, 2019) and higher productivity in manufacturing, as well as more dynamism at the firm level in terms of exit and job reallocation rates (Monteiro 2017). Consequently, concerns have shifted to the non-tradable service sector, which is hampered by overregulation as well as skill shortages and is lagging behind manufacturing, where productivity increases have been observed.

Demographic change with an ageing society is a prospect Portugal shares with most of the industrialised world, and is highly relevant for the discussion on skill development (IMF, 2018). Portuguese rates of secondary and tertiary education are below OECD average, also for those parts of the population expected to remain in the labour force for the near future. Digital skill levels and participation rates in lifelong learning activities are also low, as is the utilisation of digital services in businesses (OECD, 2019). At the same time, the digital infrastructure in the country is well developed, and digital services exhibit a high degree of dynamism, as revealed by the DynEmp data (Calvino and Criscuolo, 2019). This implies a large untapped growth potential, where targeted policies especially in the areas of digital skill development can have large returns.

Another challenge for the performance of start-ups and the dynamism of the Portuguese economy relates to the inefficiencies within the judicial system, which, as shown by the DynEmp Project, disproportionately affect the growth of start-ups (Calvino et al., 2016). Backlogs and excessive trial duration times adversely affect the entire business environment. Despite substantive progress in reducing the number of open court cases and creating out-of-court settling mechanisms, the average trial duration is still one third above the EU average. These inefficiencies, that are the subject of intense discussion in Portugal, result, at least partly, from the regulation of the legal profession, as emphasised by the 2019 OECD economic survey.

A related issue is the high level of debt, and in particular of non-performing loans (NPLs), peaking at a share of 20% in 2016 (and declining ever since) (IMF 2018). This high level of NPLs has direct implications for firm dynamics. As found by Adalet McGowan et al. in a series of papers (2017 and the references therein), weak insolvency regimes coupled with high bank forbearance lead to the prevalence of “zombie firms”, i.e., firms which would exit the market under competitive conditions. Because these firms stay in the market, they not only pull down aggregate productivity, but also bind resources that would otherwise be available to new firms or more productive incumbents, thereby also constraining future growth. Evidence by Carreira et al. (2019) suggests that these types of firms are relatively widespread in Portugal.

The rest of this Country Note is organised as follows. First, the analysis of the DynEmp data focuses on the aggregate size distribution and age distributions by size class, in manufacturing and (non-financial market) services. Second, patterns of net employment creation by size and age class are presented. The attention then shifts to firm growth and the role of sectoral specificities in driving net job creation, focusing on the dynamics of digital intensive sectors.

**Employment dynamics in Portugal**

**Size distribution**

Knowing the size and employment distribution of firms within an economy is important for policy makers. It allows understanding the structure of the economy and provides an indication on the role of large and small firms for the country’s production system. It can also serve as a starting point for more detailed analysis of the most relevant groups of businesses for the economy under consideration.

Figure 1 shows the average size distribution in Portugal of firms with two or more persons engaged (i.e., units with at least one employee), over the period 2002-15. The upper panel (a) treats firms as units, while the bottom panel (b) weighs them by employment. The numbers show that, while the firm unit distribution does not differ much from that of the benchmark countries, Portugal’s employment in manufacturing is clearly highly concentrated in small and medium-sized firms. In manufacturing, very large firms (>500 employees) play a much smaller role than in other countries.
A large share of small firms is a peculiarity of the Portuguese economy that has been documented since the late 1980s (Braginsky et al., 2011). Different explanations have been put forward, but only those that imply that firms operate below their (size) potential are cause for concern. The previously identified strict labour market regulations have been loosened during the labour market reforms of 2009, but nevertheless, labour market efficiency could be improved, with Portugal ranking 64th (out of 138) in the World Economic Forum’s 2016/17 World Competitiveness sub-score (World Economic Forum, 2016). In particular, firms with less than 10 employees are exempted from the labour code (ILO, 2019), implying incentives for firms just below the threshold not to cross it.

As firms with less than 250 employees currently constitute the main employment pillar of the Portuguese economy, subsequent analysis of this note on employment dynamics will pay special attention to micro, small, and medium-sized firms (henceforth referred to as “small”).
Box 1. The DynEmp project

The DynEmp project provides a unique comprehensive overview of employment and business dynamics across countries over the last two decades. The main contribution of the project is the creation of a harmonised micro-aggregated database with which business and employment dynamics can be analysed across countries in a comparable way. The data are based on administrative records with quasi-universal coverage (such as business registers or social security records). Assessing employment and business dynamics in comparison to those of an appropriately defined benchmark group of countries can further inform and orient policy intervention.\(^3\)

The DynEmp database generally covers most sectors of the economy, but in order to enhance cross-country comparability, the country profile focuses on manufacturing and non-financial market services (or “services” for brevity). The data source for Portugal is the “Quadros de Pessoal” from the Ministry of Labour, Solidarity and Social Security. See Desnoyers-James, Calligaris and Calvino (2019) for more details on the underlying data.

All presented numbers rely on averages for the period for which data are available; for Portugal, this is 2002-15. To allow an evaluation of Portugal’s performance relative to that of other countries, the Portuguese results on employment and business dynamics are compared to a “benchmark” group of countries for which DynEmp data are available: Austria, Belgium, Brazil, Canada, Costa Rica, Finland, France, Hungary, Italy, Japan, the Netherlands, New Zealand, Norway, Spain, Sweden and Turkey. Unless indicated otherwise, all findings presented also hold when the benchmark set is restricted to a more homogeneous group consisting only of EU countries.

Age-size distribution and trends in employment creation

The age structure of small firms is of particular interest. A large number of small firms can originate from many small entrants (indicative of a more dynamic economy), but also from a large number of old firms that did not upscale. The latter would be indicative of a less dynamic economy and potentially raises policy concerns, as old SMEs tend to destroy jobs, rather than create them (Criscuolo et al. 2014). The age distribution of small firms in Portugal reveals a relatively large share of younger firms in the smaller size categories compared to the benchmark, both in manufacturing and services.\(^4\) The presence of many entrants in the smaller size categories is a first positive indicator of dynamism in the economy. However, although the size-age distribution of firms looks promising in Portugal, an analysis of employment dynamics paints a different picture.

Net job creation (or destruction) rates indicate that employment by small firms in manufacturing has been declining over the 2002-2015 period.\(^5\) This trend should not be interpreted as a negative development per se, as it is in line with policy efforts aiming at increasing the competitiveness and export performance of the manufacturing sector, with less competitive firms going out of business.\(^6\) However, in Portugal the extent of net employment creation by small firms in services is particularly low. It is virtually zero over the period under consideration and stands in contrast to small but positive rates of around 0.5% for a group of benchmark countries.\(^7\) This is in line with broader concerns over the service sector in the Portuguese economy. When distinguishing further by different age groups, it becomes clear that start-ups (less than 2 years old) are the main net employment creators, whereas old firms (over 5 years of age) tend to destroy jobs.\(^8\) These patterns of net job creation by age are not only visible for small firms (as depicted in Figure 2), but are almost identical for the Portuguese business sector as a whole.\(^9\)

Figure 2 shows that, while young firms contribute positively to employment creation (for new entrants, which are included in the category, this is the case by definition), the rate is substantially lower than that observed in the benchmark, especially in services. At the same time, job destruction by old shrinking firms (>6 years) is very high, both in services and manufacturing.\(^10\) These findings corroborate concerns about slow business dynamics, in particular in terms of new entrants in services. This goes hand in hand with the observed low levels of productivity and competition in the sector (OECD, 2015). A likely explanation is related to the high levels of regulation in services in general (OECD, 2019) and in some key professions, such as law, in particular. The latter has repercussions on the broader legal system. The inability of the Portuguese court system to liquidate dying firms quickly is likely to lead to a large share of shrinking firms that remain in the market. The large share of non-performing loans, of which the majority is concentrated in SMEs (IMF, 2018) is reflective of this problem. Slow liquidation procedures also tie up resources, which could be put to more productive uses such as investment in new firms and the upscaling of incumbents. Besides financial barriers to upscaling, the exemption of firms with less than 10 employees from the labour code is also likely to contribute to keeping firms small.
However, significant changes have characterised more recent years. Measures implemented in the course of the post-crisis reform efforts (including a one-time concerted action in which almost 50% of pending court cases were resolved) were widely successful. The time trends in net job creation rates by size and age class in the service sector (Figure 3) mirror this positive trajectory, with net job destruction of small, old firms declining rapidly, and job creation of small start-ups picking up.

As for large firms in the service sector, net job creation (by both young and old firms) has been small, but positive and steady throughout the entire 2002-15 period (Figure 2), with little fluctuation over time (Figure 3). While this positive trend is encouraging, there is room for facilitating faster upscaling of younger firms, which is clearly below the benchmark average (although fairly close to that of other European countries).

Again, this underscores the importance to continue with both the reduction plans on non-performing loans that have already been put in place, and with streamlining the legal system in general, and the duration of legal processes of bankruptcy and liquidation in particular.

Besides the abovementioned ongoing efforts of addressing NPLs (which have been reduced by over 35% since the peak in 2016) (OECD, 2019), the Portuguese government has put in place alternative (i.e., out-of-court) fast-track procedures for facilitating corporate insolvency and restructuring, as well as early warning mechanisms for banks. Monitoring, improving, and consolidating these measures is key to sustaining the positive trend in NPL reduction and improving the resilience and capacity of the banking system more generally. The EU “Action Plan to Tackle Non-Performing Loans in Europe” launched in 2017 is going to help keep the topic on the agenda for the near future. NPL specific measures should be accompanied with appropriate regulatory or governance changes correcting banks’ incentives to identify risky loans in the future (Blanchard and Portugal, 2017).

**Figure 2. Net job creation by size and age class**
Manufacturing and non-financial market services
Portugal vs benchmark countries, 2002-15

Note: This figure reports the contribution of net job creation to aggregate employment change by size (with a cut-off at ≥ 250 employees) and age (with a cut-off at ≥ 6 years) for manufacturing and non-financial market services. It is defined as net job creation (i.e., the difference of total employment at time t and t-1) of the particular group over total employment in the macro-sector on average over the period 2002-15.

Source: DynEmp database, August 2019.
Portugal has also made significant progress in reducing in-court insolvency procedures, and trial length in general. Average trial length has been reduced from above 400 to below 300 days in first instance courts, but remains above the European average (OECD, 2019). An efficient legal system is not only directly relevant for firms going out of business, but also has repercussions on loan conditions for new firms when collateral recovery rates are affected. As pointed out by Calvino et al. (2016), strong contract enforcement reduces risks for entrepreneurs more generally, thereby contributing to paving the way for a more dynamic start-up scene as well, given that it directly and indirectly affects the entire range of firms, and the overall business environment.

Dynamics and growth of new and incumbent firms

The issues just discussed are likely to also affect the growth potential of new firms. New firms are the engines of creative destruction, and enabling them to grow and expand is important for aggregate economic growth and productivity. Removing barriers to firm growth implies allocating resources efficiently into their most productive use.

As Figure 4 shows, new firms grow less in Portugal than in the group of benchmark countries. The gap relative to the benchmark average is larger in services, than in manufacturing, where firms founded after 2004 having achieved almost the same growth profile as their benchmark counterparts over longer time horizons. This is likely related to the reforms introduced in the manufacturing sectors. In services, the growth gap appears to become smaller for more recent cohorts of entrants (and also closer, but still below, the European average), but it remains to be seen whether this holds true for longer time horizons as well.
Besides the legal and financial barriers to firm growth discussed above, skill shortages are another relevant factor that hampers the growth dynamics of young firms. Almost 50% of the labour force is low-skilled, which is far above the European average (IMF, 2018). At the top end of the skill distribution, Portugal is lacking linkages between the corporate R&D sector and public research activities. Participation in lifelong learning activities is also low, implying room for targeted programs to enable skill upgrading, in particular for older generations (OECD, 2019).

When investigating growth dynamics at the industry level within services, a few industries (in particular, “Computers and electronics”, and “Transport equipment”) stand out, with persistently high growth rates over a variety of time horizons and across starting years. Something these sectors have in common is a high share of information- and communication technology (ICT) in production. Given the importance assigned to digitalisation and to the use of information and communication technology for future growth (supported by the Portuguese government for instance through the 2017 “Indústria 4.0” program), this country note therefore takes a closer look at how digital-intensive industries fare in comparison to the rest of the economy.11

---

**Figure 4. Average growth of cohorts of entrants over different time horizons**

Portugal vs benchmark countries

Manufacturing

Services

Note: This figure reports the average employment growth rate by firms founded in different years (t =2001, 2004, 2007 and 2012) after 3, 5, 7, 10 and 14 years. The 3-year growth rate of firms founded in 2007 is missing because the year 2010 has been omitted for Portugal due to inconsistencies in the underlying data.

Source: DynEmp database, August 2019.
Sectoral focus: the digital divide

As is the case in most countries, the DynEmp data show that digital intensive industries are more dynamic and create more jobs than their low-digital counterparts in Portugal. Differentiating between manufacturing and services, the digital-intensive service sector proves much more dynamic than the rest of the economy, as shown in Table 1 below. Again, this is in line with what one could observe in other countries as well, but Portugal is in fact outperforming the benchmark across a number of indicators of business dynamics. Most importantly in the context of employment dynamics, digital-intensive services are the only industries that have generated positive job growth over the 2002-15 period.

Table 1. Business dynamics indicators by macro sector and digital intensity

<table>
<thead>
<tr>
<th></th>
<th>Manufacturing</th>
<th>Services</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>PRT</td>
<td>Benchmark</td>
</tr>
<tr>
<td>Job reallocation rate (incumbents)</td>
<td>11.1</td>
<td>12.6</td>
</tr>
<tr>
<td>Entry rate</td>
<td>4.5</td>
<td>4.7</td>
</tr>
<tr>
<td>Exit rate</td>
<td>6.6</td>
<td>5.5</td>
</tr>
<tr>
<td>Net entry rate</td>
<td>-2.0</td>
<td>-0.9</td>
</tr>
<tr>
<td>Net job creation rate</td>
<td>-2.3</td>
<td>-1.1</td>
</tr>
</tbody>
</table>

Note: Job reallocation rate (incumbents) is defined as the sum of job creation and job destruction in a sector over its average employment between periods t and t-1, focusing on incumbent firms only. Entry and exit rates are defined as the number of entering (exiting) units over the sum of entering (exiting) and incumbent units in a sector. The net entry rate is the difference of the entry and exit rate. The net job creation rate is difference of job creation and job destruction in a sector over its average employment between periods t and t-1.

Source: DynEmp database, August 2019.

Nevertheless, additional analysis\textsuperscript{13} suggests that the growth of new firms in the same sector is just below the benchmark.\textsuperscript{14} This indicates difficulties for young firms to break into new markets and upscale, even in the more dynamic digital-intensive industries. Ensuring a competitive level playing field so that young firms are able to compete with incumbents should be a priority to exploit the potential of the high level of dynamism observed in the sector.

Barriers to growth for firms who have consolidated their position in the market appear to be less of a problem. Despite the dynamism in terms of new firm entries, the role of incumbents is an important one, with incumbent firms creating almost as many jobs as new firms in digital-intensive services.\textsuperscript{15}

Like overall firm growth (see previous section), the slow pace of upgrading observed for young and small firms might partly be driven by skill shortages, with older and more established firms drawing in most of the talent. Only 50% of the population possess basic or higher digital skills (OECD, 2019), and figures are lower the older the generation considered. The Portuguese National Initiative on Digital Competencies is a first step to tackle these challenges, but making sure the program targets and reaches those parts of the population – in particular, adults with low digital skills that will remain part of the labour force for the foreseeable future – is crucial (OECD, 2019).

Despite the high level of dynamism in digital-intensive industries compared to the rest of the economy in most countries, the trends over time have shown a decline along several indicators of business dynamics in many countries (Calvino and Criscuolo, 2019). However, the DynEmp data reveal that such a decline in dynamism is not as pronounced in Portugal (Figure 5). To the contrary, in the second half of the data period, but especially after the end of the Euro crisis, employment dynamics is picking up again in Portugal in the digital-intensive industries.\textsuperscript{16} It is worth noticing again that not all market participants contribute equally to the positive trend, with incumbents dominating the employment creation side of the equation.\textsuperscript{17}
Overall, the digital intensive sectors appear rather dynamic, and trends over time look promising for Portugal. Given the well-developed digital infrastructure in the country owing to large investments in digital networks over the past decade (OECD, 2019), the growth and employment potential of digital-intensive services appear significant.

**Figure 5. Absolute changes in job reallocation rates over time by digital intensity**

Digital-intensive sectors

![Chart showing job reallocation rates over time for digital-intensive and other sectors.](chart)

**Note:** This figure reports the estimated year dummies from a regression of the job reallocation rate, defined as the sum of job creation and job destruction in a sector over its average employment between periods t and t-1, within industries in Portugal, and within country-industry pairs in the set of benchmark countries, taking the first year as the baseline. Regressions are conducted separately for digital-intensive sectors and other sectors.\textsuperscript{8}

**Source:** DynEmp database, August 2019.

**Notes**

\textsuperscript{1} Despite improving substantially over the post-crisis years, consolidating competitiveness in tradables remains on the agenda. Next steps that have been suggested are, e.g., addressing high costs in energy and other network industries, such as transport (IMF 2018).

\textsuperscript{2} Note that in services, the employment distribution approaches one with fewer employees in small firms and more concentration in large (>500 employees) firms over time.

\textsuperscript{3} Additional OECD cross-country studies based on the DynEmp database (such as Criscuolo et al., 2014; Calvino et al., 2015, 2016) or country-specific analyses (such as OECD, 2014, 2017, 2019, and Blanchard and Portugal, 2017) provide the interested reader with complementary policy-relevant findings.

\textsuperscript{4} This figure is not reported for brevity, but is available upon request. The age distribution is computed in the most recent available year (2015). Firm age is defined on the basis of the reported birth year or on the first year of appearance with positive employment. Left censoring of the underlying microdata is taken into account. Benchmark country averages are based on the latest available year for each country, see Desnoyers-James et al. (2019) for a coverage table.

\textsuperscript{5} This is true for all firms in manufacturing, with negative rates of just over -0.5 for the smallest (2-9 employees) and largest (>250 employees) firms and just over -1 for SMEs.

\textsuperscript{6} The Portuguese data does not contain information on exports, which would allow for a further investigation of this hypothesis.

\textsuperscript{7} Rates are around 0.5% for all firm sizes in the benchmark, but close to zero for all firm categories with less than 250 employees.

\textsuperscript{8} Net job creation of young firms (between 2 and 5 years old) is negligible (this figure is not reported for brevity, but is available upon request). In the subsequent analysis, the age group is therefore not retained separately, but instead merged with start-ups into a single “young” age category.

\textsuperscript{9} This figure is not reported for brevity, but is available upon request.
De Matos and Parent (2016) find the same patterns in Portugal already for the 2000-07 time period, but without comparing them to a benchmark to assess how the country fares in relative terms.

The ICT classification employed here is based on Calvino et al. (2018), who propose an industry-based taxonomy based on four dimensions: a technological component (share of ICT investments and intermediate purchases), required human capital (ICT specialists in total employment), market operations (share of turnover from online sales), and automation (robots per employee). Industries classified as digital-intensive are Computers and electronics, Machinery and equipment, and Transport Equipment (in manufacturing), and Telecommunications, IT, Legal and accounting, Scientific R&D, Marketing and services, and Administrative and support services (in services).

The net entry rate is the result of a relatively high level of both firm entries, as well as exits. Again, this is in line with Portugal scoring well on an array of available indicators of dynamism in the digital-intensive service sector, both compared to other sectors in the Portuguese economy as well as in relation to the benchmark countries.

This analysis is not reported for the sake of brevity, but is available upon request.

This holds for a variety of different time horizons (3, 5, 7, 10, and 14-year growth) and birth years (2004, 2007, 2010, and 2012). There is the notable exception of the previously mentioned digital intensive manufacturing sectors “Computers and electronics” and “Transport equipment”. Identifying the regulatory framework and surrounding conditions in these sectors might prove useful in identifying best-practice examples that might provide guidance for policy in other sectors.

This figure is not reported for the sake of brevity, but is available upon request.

This is even more evident when Portugal is compared with a smaller set of European countries only, which not only display a more pronounced decrease in job reallocation rates, but also level out at around two percentage points below Portugal since 2012.

The average job reallocation rate of incumbents is around 16% over the sample period.

The absolute values (levels of job reallocation) in the start year are 23.5 and 23.7 in digital-intensive and 18.3 and 20.75 in other sectors for Portugal and the benchmark, respectively.
References


OECD Insights on Productivity and Business Dynamics

The global productivity slowdown and the simultaneous decline in business dynamism has prompted widespread policy concern. Productivity is the ultimate driver of living standards improvements in the long run, whereas a dynamic business environment is key in enabling job creation. Persisting negative trends can increase earnings inequalities and exacerbate pressures on governments’ budgets, thus threatening social cohesion and political stability.

While most existing analysis of productivity and business dynamics rely on macro-aggregated data, the OECD MultiProd and DynEmp projects utilise a distributed microdata methodology to construct unique sets of harmonised micro-aggregated statistics from confidential firm-level data. The resulting databases allow studying the role of individual firms in driving aggregate outcomes and explaining the observed macro trends across countries and over time.

OECD Insights on Productivity and Business Dynamics is a series of country profiles with a focus on the microdrivers of productivity and business dynamics. It makes available, to wider audiences, analytical material from the MultiProd and DynEmp databases that was prepared for use within the OECD.

Comment on this country profile is invited, and may be sent to OECD, 2 rue André Pascal, 75775 Paris Cedex 16, France, or by e-mail to dynemp@oecd.org.

The contribution to the DynEmp project of Paulo Jorge Martins Dias from the Portuguese Ministry of Labour, Solidarity, and Social Security (GEP) is gratefully acknowledged.

Please cite this country profile as:


This project has received funding from the European Union’s Horizon 2020 research and innovation programme under grant agreement No. 811181.

The findings, recommendations and conclusions expressed in this paper are those of the authors.

Neither the OECD nor the European Commission are responsible for any use that may be made of the information contained herein.

Stay informed by subscribing to our newsletter: OECD News on Innovation, Science, Technology and Industry: http://oe.cd/stinews
@OECDInnovation
http://oe.cd/dynemp
Contact us at: dynemp@oecd.org

© OECD, 2019.

This document, as well as any data and any map included herein, are without prejudice to the status of or sovereignty over any territory, to the delimitation of international frontiers and boundaries and to the name of any territory, city or area. This work uses research datasets which may not exactly reproduce National Statistics aggregates.

Find out more about our work at http://www.oecd.org/sti/dynemp.htm

You can copy, download or print OECD content for your own use, and you can include excerpts from OECD publications, databases and multimedia products in your own documents, presentations, blogs, websites and teaching materials, provided that suitable acknowledgment of OECD as source and copyright owner is given. All requests for public or commercial use and translation rights should be submitted to rights@oecd.org. Requests for permission to photocopy portions of this material for public or commercial use shall be addressed directly to the Copyright Clearance Center (CCC) at info@copyright.com or the Centre français d’exploitation du droit de copie (CFC) at contact@cfcopies.com