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 are central for economic policy.

This Country Note presents the key findings of the OECD DynEmp project for Austria. 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 and sectors 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.

Taking advantage of the DynEmp data infrastructure, this Country Note contributes to establishing evidence that is highly relevant for policy making in Austria, taking into account the broader economic context of the country. The main results from the analysis of Austrian employment dynamics underline on the one hand the importance of providing the right conditions for start-ups, and on the other hand point towards possible shortfalls in taking advantage of the digital transformation for growth and business dynamism.

**Highlights**

- The economy is doing well, especially the manufacturing sector, which displays a size distribution concentrated into larger units that is favourable to sustaining high levels of productivity and providing employment.
- There is room for improvement in start-up dynamics especially in services, which also lag behind manufacturing on other indicators of business dynamism such as firm growth and upscaling.
- Uptake of digital technologies has been low especially among small firms in services, and business dynamism in digital-intensive sectors has been declining over time.

**Country background**

Austria has one of the highest GDP per capita levels in Europe, a high quality of life, and a high employment rate compared to other OECD countries (OECD, 2017). That said, it is not straightforward to identify the specific factors driving the observed patterns in employment dynamics from the general policy discussion, which centres on broader welfare issues such as inclusiveness and environmental concerns. Nevertheless, regulatory frameworks and reforms,
innovation strategies, and labour market policies during the crisis reveal a few idiosyncrasies of the Austrian economy that are likely to shape its employment dynamics. Furthermore, the digital transformation, geographical fragmentation of production, and demographic change are highly relevant issues for advanced and ageing countries such as Austria. European integration and competition from Eastern European markets are also especially important in the Austrian context.

The Austrian corporate sector is characterized by a relatively conservative stance on risk and entrepreneurship. That the business environment exhibits correspondingly low levels of dynamism is a well-documented finding (e.g., Johanneum Research, 2015: 108; OECD, 2016, 2017; Calvino et al., 2015). This holds true for a range of indicators of business dynamics, both across sectors and different firm types (OECD, 2013). Job reallocation rates in particular are low in Austria, which has been attributed to the high levels of employment protection and highly centralized wage bargaining (Huber et al., 2017; Stiglbauer et al., 2003). This system has proven to be a successful strategy in terms of the resilience of employment to shocks, with unemployment rising remarkably little during the 2009 economic crisis, despite a pronounced drop in GDP. Nevertheless, while keeping (un)employment fluctuation low is a policy goal in itself, preserving a sufficiently flexible and dynamic business sector is key to ensuring future growth.

This Country Note complements the well-established findings on the low levels of business and employment dynamics with the provision of trends and developments over time by exploiting long series of comparable data.

The DynEmp data show that in Austria, the employment structure in the business sector has been characterised by a rising employment concentration into larger units (>100 employees) in manufacturing, and an increasingly even distribution across firm sizes in services, with relatively many small units, as is typical for a small open European economy. Generally, developments in manufacturing prove very different from those in services.

The manufacturing sector has performed strongly in terms of exports and consolidating its competitive position. Overall, Austria has high levels of innovation activity and corporate R&D spending (OECD, 2018), which have been attributed to favourable regulations on R&D, such as tax exemptions, subsidies, and cooperation schemes put in place in the early 2000 (OECD, 2019c, 2009, 2007, 2005). Given that manufacturing plays a larger role in Austria compared to most OECD countries, creating just under 20% of value added, a substantial share of the economy appears on a sound path with respect to both current and future growth and employment provision (OECD, 2015).

Nevertheless, market services remain the main employment pillar of the Austrian economy, accounting for over one third of total employment (ILO, 2019). The Austrian service sector has been lagging behind manufacturing on a number of dimensions, including competition, investment, and productivity. It is subject to a relatively high level of regulation, which stands in contrast to the substantial progress Austria has made in deregulating product markets (Koske et al., 2013; OECD, 2015: 20). As the DynEmp data reveal, services also display relatively low employment growth rates.

The relatively modest levels of business dynamism have evidently not been detrimental to economic performance in Austria in the past (see also OECD, 2017: 9). This does not however guarantee that the characteristics of the Austrian business sector will serve as a basis for future success. Indeed, the DynEmp data for Austria show a decline from already rather low levels of employment dynamism in general, and in digital-intensive service industries in particular. This development might be considered alarming given that the rapid pace at which technology is evolving, with digitalisation and automation changing business models and operations in fundamental ways. The potential of the digital transformation is substantial, but reaping its benefits crucially depends on the business sector’s ability to flexibly react to these new challenges. New digital technologies are typically associated with faster upscaling, as the marginal cost of digital products tends to be much lower than that of traditional industries (OECD, 2017: 32). As setting up new businesses becomes easier and quicker, the institutional environment as well as business culture should be prepared to support the corporate sector in responding to the increasing pace of dynamism.

In Austria, there is room to improve start-up dynamics in particular, ranging from the expansion of financing instruments and opportunities, to creating a more risk-friendly entrepreneurial environment, to reducing administrative burdens for starting a business. A number of measures were taken by the government from 2008 onwards to mitigate the financing constraints caused by the crisis, many of which were targeting SMEs and young firms. More recently, the government has also launched further programs under the umbrella of the “Gründerland-Strategie” (country of founders strategy), comprising a comprehensive set of measures (BMWFU, 2015) to encourage new business activity, as summarized in the OECD (2016) SME scoreboard report. Remaining barriers for start-ups pertain to FDI and regulation in professional services, and administrative burdens on start-ups – which are precisely the areas where Austria still scores low compared to other OECD countries (IMF, 2017). Stigmatization
of entrepreneurial failure, e.g. through lower probabilities of getting credit for subsequent business endeavours, has been pointed out as another factor discouraging entrepreneurship (IMF, 2014; EU, 2016). A recent reform in personal bankruptcy law lowering the penalties for failed entrepreneurs (OECD, 2017: 31) is a step towards lowering disincentives to entrepreneurial risk taking.

**Employment dynamics in Austria**

**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. It can also serve as a starting point for more detailed analysis of the most relevant groups for the economy. Bearing in mind that the Austrian data exploited for DynEmp is at the plant- rather than the firm level, relative proportions of large vs. small plants may partially reflect the division of larger firms into smaller local units. Evidence from the OECD Structural Business Statistics, relying on firm-level data, indicates that the Austrian firm size distribution is typical of that of a European country, with a relatively large proportion of small- and medium-sized enterprises, and an above-average share of large firms in manufacturing (OECD, 2013, 2019b). Investigating the evolution of the plant size distributions over the 2000s nevertheless provides interesting insights into the structural dynamics of the Austrian business sector over time.

**Figure 1. Size distribution**

Manufacturing and non-financial market services

(a) Production unit distribution

(b) Employment distribution

*Note: This figure reports the size distribution in Austria in 2015 and 1999, for six size groups, separately for manufacturing and non-financial market services. Shares are calculated in terms of (a) plant units, and (b) employment.*

*Source: OECD DynEmp3 database, January 2019.*
Figure 1 shows the average size distribution of plants with two or more persons engaged (i.e., with at least one employee), in 1999 and 2015 (last year of data). The upper panel (a) treats plants as units, while the bottom one (b) weighs them by employment so that the figure reflects the employment distribution rather than the distribution of plants.

A development common to both manufacturing and services is the decrease in the share of micro units (2–9 persons engaged), which is clearly visible in the plant distribution (a) and explains the observed patterns at the lower end of the employment distribution (b). The employment distribution itself shows very different dynamics between manufacturing and services over time.

### 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. 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 Austria is the INDI DV dataset from WIFO, the Austrian Institute of Economic Research. 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 that allow a meaningful cross-country comparison; for Austria, this is 1999–2015. To allow an evaluation of Austria’s performance relative to that of other countries, the Austrian results on employment and business dynamics are compared to a “benchmark” group of countries for which DynEmp data are available: Belgium, Brazil, Costa Rica, Finland, France, Hungary, Italy, Japan, the Netherlands, Norway, Portugal, 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.

In manufacturing, the distribution has clearly shifted towards larger plants, with the bottom two size categories (below 50 employees) showing clear decreases and the top two size categories (250 or more employees) now accounting for around 45% of all manufacturing employment (an increase of almost 10 percentage points since 2002). In services on the other hand, the employment distribution across plants has become less concentrated compared to beginning of the data period when over one third of employment was in very small plants. In 2015, both extremes have lost employment shares at the expense of the middle size categories (between 10 and 500 employees).

The shape of the plant size distribution has implications for productivity. Larger businesses are typically more productive in manufacturing, and the employment distribution in Austria appears favourable in this regard. The service sector on the other hand exhibits rather different relationships between firm size and productivity. Large firms in services are not necessarily more productive than their smaller counterparts, with a flat relationship between size and productivity after a threshold of around 20 employees (Berlingieri et al., 2018) which has been found in Austria as well (OECD, 2019a). Given this more complex relationship between size and productivity in services, the shift towards more medium-sized businesses observed in services in Austria might reflect productivity enhancing resource reallocation. For industrial policy, this implies that the whole size distribution of businesses should be considered when designing targeted programs. Upscaling opportunities and access to finance should be equally available to businesses of all sizes, and the regulatory environment should appropriately accommodate the needs of smaller firms, as productivity and firm performance does not necessarily hinge on expanding continuously, or beyond a certain size. Nevertheless, ensuring fast growth for those firms requiring it is crucial, in particular with respect to the increasing importance of information and communication technology (ICT) and the digital transformation, discussed in more detail below.

**Age-size distribution and trends in employment creation**

Given the importance of SMEs for the Austrian economy, the age structure of small units is of particular interest. They can be typically divided into two broad groups of firms, with opposite interpretations for business dynamism: on the one hand, new entrants (which tend to be small) are indicative of a dynamic business sector. At the other end
of the spectrum are small old units that did not upscale, indicative of less dynamism. If the latter group is large, this potentially raises policy concerns, as old SMEs tend to destroy jobs, rather than create them (Criscuolo et al. 2014). The 2015 age distribution of small units in Austria reveals a share of start-ups and young plants just above the benchmark in the smallest size category, but a below-average share of young units, and particularly few start-ups, in the remaining ones (below 250 employees). This profile is more pronounced in services. Given that part of the newly registered units are new plants of incumbent firms, this means that the share of young firms is even lower.

Figure 2. Age distribution by size
Manufacturing and non-financial market services

Note: This figure reports the share of start-ups, young, and old units by size class of firms with employment between 2 and 249, in manufacturing and non-financial market services in 2015.


There are two factors related to start-up regulations that might help explain these patterns. On the one hand, the regulatory burden for start-ups in Austria has been relatively large, especially in the service sector (OECD 2009), leading to the well-documented low entry rates of new firms in Austria, with values of just under 5% in manufacturing, and under 10% in services (Eurostat, 2019). Besides regulatory requirements, barriers to inward FDI and limited access to non-bank sources of financing represent further obstacles to new firm foundations, which might also lower the average entry size.

On the other hand, the minimum capital requirement for limited liability firms were high until 2015 (OECD, 2009), which might further explain the differential patterns in the age composition of firms of different sizes. According to the World Bank’s “Ease of Doing Business” indicators, Austria scores very well on all dimensions except “Starting a business” and “Getting credit” (World Bank, 2019). Combined with the fact that the difficulties of starting a limited liability company are specifically related to the high minimum capital requirements, limited access to credit exacerbates the barriers to entry for these types of firms. As they tend to be larger than their sole proprietorship counterparts to which the minimum capital regulations do not apply, this might have skewed the distribution of entrants towards smaller units.

Figure 3 plots net employment creation of the different size and age groups, with the first panel showing Austria in comparison to the benchmark, and the second panel showing the contribution of young (0-5 years) and old (6 years and above) firms to net job creation within Austria. Values below zero represent net job destruction, and positive values indicate net job creation of the respective group.

Again, very different patterns emerge for services and manufacturing, which are in stark contrast to those in the benchmark. The large positive rates of net job creation of larger units in manufacturing reflect the large, and growing, share of these units between 1999 and 2015, accounting for around 45% of Austrian manufacturing employment in the final year (see Figure 1 b). Notably, both young and old large units contribute to job creation with small, but positive rates (panel b). This is remarkable, given that old firms tend to destroy jobs, as is visible also in the Austrian plant data for all other categories.
Figure 3. Net job creation by size class and size-age class
Manufacturing and non-financial market services
(a) By size class (Austria vs. benchmark countries)
(b) By size-age class (Austria)

Note: This figure reports the 1999-2015 average relative contribution of net job creation in each group (size class in panel (a) and size-age class in panel (b)) to aggregate employment change in 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 average total employment in two periods in the macro-sector.


At the other end of the size distribution, the negative rates for small firms in manufacturing are in line with their shrinking share in employment (Figure 1), with job destruction by old units more than outweighing the small positive contribution of young ones. More concerning might be the large levels of net job destruction observable for old micro units in services, shown in panel (b). Given that micro units represent 80% of all units and account for over 30% of service sector employment, their role for the overall economy is significant. The high rates of job destruction by small, old units might be indicative of problems to upscaling and firm growth, which is investigated in more detail in section 3 below. Austria appears to be underperforming in terms of job creation through small units in services, especially given the fact that some of these units are likely to belong to larger firms, making the gap to the benchmark even wider. There may be different explanations for the limited net job creation through small firms in services. Difficulties in access to finance might curb both firm entry and upscaling. The high level of regulation in services (OECD, 2017) is likely to stifle entry rates, whereas structural changes in the firm composition in a few large service industries explain the large proportion of small exiting units. The two largest industries in Austria, “Wholesale and Retail” and “Hotels and Restaurants”, both have negative net entry rates over the 1999-2015 period and at the same have very small average unit sizes of less than 10 employees. Both sectors nevertheless positively contribute to employment creation, implying an increase in average firm size.

While the numbers discussed thus far rely on averages over the entire 1999-2015 time period, some interesting trends emerge when changes over time are considered. Figure 4 plots the relative contribution of the different size groups to net job creation. Even though large units are the motors of job creation of the Austrian manufacturing sector, they seem to exhibit a certain degree of volatility. Indeed, volatility in relative job creation rates appears to be positively related to unit size. This is in line with findings by Huber et al. (2017), who find net job creation rates
of large firms to drop substantially during the 2009 crisis, whereas those of small firms remain rather stable. This is not surprising given the extensive support during the 2009 economic crisis by the Austrian government to firms, and in particular to SMEs, to prevent negative consequences on employment (Hofer et al. 2014). The variability of large firm employment may also reflect the fact that larger units are more likely to export, making them more susceptible to external events and circumstances. That employment in large units in manufacturing, which is typically more engaged in exporting, is more affected than in services supports this hypothesis. Dependence on external financing, which was severely constrained during the crisis, has been cited as one of the main reasons for differential exposure to the crisis at the sectoral level (IMF, 2017: 22), and may have played a role at the firm level as well.

In services, the findings regarding volatility of larger units are similar (yet at a lower magnitude), but it is the units between 10 and 50 employees which consistently contribute positively to employment growth in services. Because these may partly be subsidiaries of larger firms, this finding cannot be directly translated into the performance of the size group at the firm level. Nevertheless, it is clear that smaller units play a larger role for job creation in services than in manufacturing. Their contribution to net job creation is significant and stable, making them a key group to be considered in policies aiming at employment creation.

**Figure 4. Relative net job creation by size class, 1999-2015**

Manufacturing and non-financial market services

Breaking these patterns down by age instead of size in Figure 5 highlights that the dip in manufacturing net job creation during the 2009 crisis was driven by old units (6 years and above). Interestingly, Austria has very low rates of job destruction by old units after the crisis period. The particular timing of the marked drop in 2009 and the sustainably modest levels of job destruction thereafter suggest that the crisis may have provided a window of opportunity to sweep the manufacturing sector clear of old, unproductive units. Another factor which may have contributed to increasing competitive pressure and opportunities in manufacturing is the accession of the Central Eastern European economies to the EU, putting Austria in a favourable position as a hub between Eastern and Western Europe. Participation in global value chains can boost productivity through a number of channels (Criscuolo and Timmis, 2018), and Eastern European countries represent both important markets and competitors to Austria.
The manufacturing sector has successfully adapted to this changing environment, reflected for instance in increased innovation efforts (OECD, 2009: 41, 2017: 6). In line with lower competitive pressures in the sector, these patterns are less pronounced in services.

Nevertheless, the DynEmp data show that age seems to be strong predictor of net job creation rates in Austria across sectors. Start-ups (0-2 years old) generate the most jobs, and their net job creation rate remains stable over time. Growth dynamics are not particularly high in Austria (as shown in the next section), and the contribution to net job creation through new plants is primarily created at the time of entry. The contribution of entrants to employment creation is considerably larger in services than in manufacturing, though decreasing since 2010. The importance of the youngest units warrants a closer look at their growth rates and survival probabilities, with special emphasis on the service sector.

**Figure 5. Relative net job creation by age class, 1999-2015**

![Graph showing relative net job creation by age class for manufacturing and services](image)

*Note:* This figure reports net employment creation/destruction in each age class relative to aggregate employment (average over years t and t-1) in manufacturing and non-financial market services.


### Dynamics and growth of new and incumbent firms

New businesses not only play an important role in job creation, but they are also crucial for the long-term development of the economy. They are the engines of creative destruction, and enabling new units to grow and expand is important for aggregate economic growth and productivity. Removing barriers to growth means allocating resources efficiently to their most productive uses.

While young firms have much higher exit probabilities than older ones, they are also the ones that grow fastest and create the most jobs (Haltiwanger et al., 2013; Criscuolo et al., 2014). This holds true also for Austria (Huber et al., 2017; Hözl, 2013). Given the low firm-level entry rates of less than 5% in manufacturing, and less than 10% in services (OECD, 2019d), enabling those firms that do enter to grow and upscale is crucial not only for employment creation, but also for ensuring competitive pressures and innovation.

The DynEmp data reveal that, despite the positive contribution of new entrants to job creation found above, new units grow less in Austria than in the benchmark (Figure 6). While the growth gap had been closing before the 2009 crisis, it appears to be widening rapidly thereafter. This is on the one hand due to the increasing growth rates...
in the benchmark countries, but on the other hand – and more alarmingly – due to stagnating, or even decreasing, firm growth in Austria.

Possible reasons may relate to the abrupt interruption of the evolving venture capital market through the financial crisis, leading to a shift from seed- to later-stage provision of risk capital (Joanneum Research, 2015). Another explanation may be that micro firms, constituting the overwhelming majority of units in Austria, are still suffering from the crisis, and the avoidance of downsizing during the crisis could be mirrored in a lack of upscaling of new firms post-crisis. This hypothesis is consistent with the fact that survival rates of firms founded pre-crisis has remained remarkably stable, which stands in contrast to a pronounced drop in the benchmark.  

Figure 6. Average growth of entrants over different time horizons

Austria vs. benchmark countries

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Note: This figure reports the average employment growth rate of surviving establishments founded in different years (t=2001, 2004, 2007 and 2012) after 3, 5, 7, 10 and 14 years.


Low levels of digital technology uptake have been mentioned as another reason for the relatively low growth dynamics in Austria since 2010. Given the importance assigned to digitalisation and to the use of information and communication technology for future growth, the note takes a closer look at how digital-intensive industries fare in comparison to low-digital ones.  

Sectoral focus: The digital divide

The DynEmp data show that, like in most countries, digital intensive industries are more dynamic than their low-digital counterparts in Austria. However, the developments over time indicate a marked decrease in the relative dynamism of these industries vis-à-vis the rest of the economy. Figure 7 reveals that the traditionally low job reallocation rates in Austria are almost at the benchmark level for digital-intensive industries at the beginning of the data period. What is more, despite the level differences in job reallocation rates observable between Austria and other countries, trends have followed those of the benchmark rather closely in the non-digital intensive sector, especially after the crisis in 2009. In digital intensive industries, however, job reallocation rates have decreased even beyond the well-documented decline of dynamism in the benchmark (Calvino and Criscuolo, 2019). Further analysis of the DynEmp data reveals that the decline in dynamism is driven primarily by services, and by incumbent units rather than new entrants. Focusing on firm entry and exit, findings by Joanneum Research (2015) confirm that ICT-intensive industries have been relatively less dynamic in Austria after 2009.
The decline in dynamism in line with low labour productivity growth in ICT sectors, documented also in ongoing OECD work on productivity. Uptake of digital technologies has been below that of similar countries, especially among small firms (OECD, 2017). In the labour force, digital skills are comparatively low as well (OECD, 2017). Austria has recognized these obstacles and aims at improving the digital skills of the population, as well as the digital infrastructure (OECD, 2017) e.g. through its 2017 “Digital Roadmap”.

**Figure 7. Absolute changes in job reallocation rates over time by digital intensity**

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 average total employment between periods t and t-1, within industries in Austria, and within country-industry pairs in the set of benchmark countries, taking the first year as the baseline. Regressions are conducted separately for high digital intensive and low digital intensive industries.\(^{18}\)


Another factor related to ICT uptake is firm size, with larger and more professionally managed firms absorbing ICT applications more quickly. The relatively small average unit size in the Austrian service sector might be one explanatory factor for the low uptake of digital technologies (OECD 2017: 36, 2018). Again, facilitating fast upscaling of firms is a measure that would be conducive to ICT diffusion as well. Combined with the finding that in the service sector, firm size and productivity are not strongly linked (above a certain threshold), programs fostering ICT uptake for SMEs could be a relevant policy tool, especially in the Austrian context. Targeting medium-sized firms would provide continuity in terms of preserving the traditional business structure in Austria while ensuring a successful digital transformation by building on the current firm size distribution. In addition, Austria has an impressive history of developing a strong R&D and innovation policy from initially relatively low levels (OECD 2005, 2018). Its strengths lie in the strong innovation performance of SMEs, with good links between academic and corporate research as well as private-public enterprises and cooperation between firms of different sizes. Gearing this system more towards digital technologies might provide straightforward policy option (see also OECD 2017: 32), especially because a large part of R&D expenditure stems from public funds (OECD 2018, 2019c).
Notes

1 The specific government programs aimed at alleviating employment effects of the crisis (such as short-time work benefits and other programs) (Böheim, 2017) played a major role as well.

2 Due to the nature of the data for Austria, which is at the level of the individual production plant rather than the firm, comparisons to the benchmark (containing mainly firm-level data) of the size distributions need to be taken with caution. In general, because large firms are more likely to consist of several production plants than small ones, the size distribution – if interpreted as firms – tends to overestimate the number of, and employment concentration in, small firms, and underestimate the respective numbers for large firms. Nevertheless, taking into account the direction of this bias, employment is still found to be concentrated in large units at the plant level. This is in line with results from other data sources from the OECD and Eurostat (employing different size categories). In services, the concentration pattern is less pronounced, but Austria still ranks in the bottom tercile in terms of the employment share of very small firms (OECD 2013).

3 Manufacturing accounts for just under 19% of value added since 2009 (OECD, 2019d), which is the second-highest value among Western European OECD countries.

4 The figures for non-market services (corresponding to the sectors included in DynEmp) are 35% in 2000, and have steadily increased to 37.8% in 2015. Including financial as well as non-market services, the number rises to around 70% of total employment.

5 Low IT investment and technology uptake have been mentioned as reasons for the decrease in the growth rate of (labour) productivity since the mid-2000s, as documented in recent reports by the OECD (2017) and the IMF (2014).

6 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, 2005, 2017, 2019, and Blanchard and Portugal, 2017) provide the interested reader with complementary policy-relevant findings.

7 Owing to methodological differences, figures may deviate from officially published national statistics.

8 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.

9 These numbers refer to the 2008-2015 time period only, due to a break in the series before 2008. The rates refer to firm units and are well below those observed when plants are used instead, with rates of around two percentage points higher in manufacturing, and one percentage point higher in services, on average, for plant-level data.

10 These have been lowered after the end of the data period considered in this Country Note.

11 The counterpart to this argument is that the very small contribution to job creation by larger units in services may be conflated through the contribution by single plants within larger firms, which are likely to fall in the small and medium size categories. It is also less of a cause for concern given the relatively small and declining share of these types of units in aggregate employment.

12 The figures are not shown for the sake of brevity, but are available upon request.

13 Part of the growth gap might be due to establishment-level data, with high-growing firms opening new plant, which are counted as separate new units rather than growth of the existing firm. This would lead to an underestimation of growth both at the level of the smaller, and the level of the larger unit. However, this cannot explain the over-time differences observed within Austria.

14 The digital intensity 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 & Accounting, Scientific R&D, Marketing and Services, and Administrative & Support Services (in services).

15 Job reallocation rates are particularly high – with levels above those of the benchmark – in Scientific R&D, and Telecommunications.

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

17 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 Austria 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 aggregate productivity and job creation. 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.

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