FOSTERING INNOVATIVE BUSINESS INVESTMENT IN SPAIN

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ABSTRACT/RÉSUMÉ

Fostering innovative business investment in Spain

Spain has chronically low productivity growth, which undermines its ability to generate higher living standards. Important contributors to low productivity growth are the misallocation of capital to low productivity firms and under-investment in knowledge-based capital. To foster a better allocation of capital a first priority is to better tune bank, capital market and government financing to the needs of new innovative firms. This could be done through better small and medium-sized enterprises (SMEs) bond and loan securitisation tools, reallocating public financing to early stage finance and making it easier for firms to access public innovation funding by shifting some funding from loans to grants for research and development (R&D) projects. Attracting more foreign capital and improving the regulatory framework to increase the return on investment would also help. This could be done by reducing regulatory barriers that hold back competition, improving the neutrality of the tax system, improving pricing signals and reforming insolvency laws.


JEL codes: E22;G24;G28;O5;O16;O38;O44;O47

Keywords: Business investment, bank lending, bonds, capital, capital markets, capital allocation, competition, equity, FDI, financing, firms, innovation, insolvency, investment, productivity, R&D, securitisation, SMEs, Spain, stock market, tax, tax neutrality

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Favoriser des modèles innovants d’investissements des entreprises en Espagne

La productivité reste toujours très basse en Espagne, ce qui limite sa capacité à faire progresser les niveaux de vie. Parmi les facteurs contribuant de manière importante à la faiblesse des gains de productivité, on peut citer l’affectation inopportune de capital à des entreprises peu productives et un sous-investissement dans le capital intellectuel. Pour améliorer l’allocation du capital, il est urgent de mieux adapter les financements, qu’il s’agisse de financements bancaires ou publics ou de financements par les marchés de capitaux, aux besoins des nouvelles entreprises innovantes. Pour ce faire, on pourrait affiner les instruments de titrisation des obligations et des prêts des PME, réaffecter les fonds publics à des financements au stade du démarrage et faciliter aux entreprises l’accès au financement public de l’innovation en transformant certains prêts publics en subventions de projets de R D. Il pourrait aussi être utile d’attirer davantage de capitaux étrangers et d’améliorer le cadre de la réglementation pour accroître la rentabilité des investissements. Réduire les obstacles réglementaires qui freinent la concurrence, favoriser la neutralité du système fiscal, améliorer les signaux transmis par les prix et réformer le droit des faillites sont autant de mesures qui pourraient y contribuer.


Classification JEL : E22;G24;G28;O5;O16;O38;O44;O47

Mots-clés : Les investissements des entreprises, les prêts bancaires, obligations, capital, les marchés financiers, la concurrence d’allocation du capital, l’équité, IDE, financement, les entreprises, l’innovation, l’insolvabilité, l’investissement, la productivité, R & D, titrisation, PME, Espagne, bourse, l’impôt, la neutralité fiscale
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FOSTERING INNOVATIVE BUSINESS INVESTMENT IN SPAIN

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Poor business investment allocation is hampering productivity growth

Investment is recovering but capital misallocation remains strong

Spain’s trend growth rate has fallen to around only 0.5% per annum in the current recovery between 2013 and 2015 (Figure 1) constraining sustainable growth in living standards. The contribution from labour utilisation and capital deepening has declined, exposing chronically low productivity growth by international standards (Figure 2). The current decline in unemployment will help to increase the contribution from labour to growth in the short-term. However, with an ageing population, raising trend growth in the medium-term requires boosting the quality of investment and productivity growth. Boosting the quality of investment will help to generate higher quality jobs that are needed to spread the benefits of growth wider. However, higher quality investment should be complemented by policies to raise skills and labour market participation so these jobs can be filled (Jin et al., 2017).

Following the end of the pre-crisis construction boom, investment as a share of the economy has declined from 29% of gross domestic product (GDP) in 2008 to 20% of GDP in the third quarter of 2016 (Figure 3, Panel A). This was due to falls in both public and private investment (Figure 3, Panel B and C), but especially residential investment (Figure 3, Panel B). Non-residential investment also fell substantially but

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1. Contributions to growth are calculated using a weight of 0.67 for potential employment and 0.33 for productive capital; multifactor productivity is calculated as a residual. Productive capital excludes investment in housing.


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1. David Haugh, Muge Adalet McGowan, Dan Andrews, Aida Caldera Sanchez and Gabor Fulop are members of the OECD Economics Department and Pilar García Perea was on secondment from the Bank of Spain to the OECD Economics Department at the time of writing this paper. The authors would like to thank Álvaro Pereira, Robert Ford, Pierre Beynet, Balázs Egert, other colleagues in the Economics Department, the Centre for Tax Policy and Administration, the Directorate for Science, Technology and Innovation, the Directorate for Financial and Enterprise Affairs and the Environment Directorate for helpful comments on this paper. The authors also would like to thank Sylvie Ricordeau for administrative support (also from the Economics Department).
has started to recover (Figure 3, Panel D), investment in equipment has been very dynamic in recent years and is already very close to pre-crisis levels.

**Figure 2. Spanish productivity growth is low**

Average annual multifactor productivity growth, percentage

1. The OECD aggregate is calculated as the unweighted average of the data shown.


**Figure 3. Total investment remains below pre-crisis level, but non-residential private investment has recovered**

Gross fixed capital formation, as a percentage of GDP

1. The Euro area aggregate refers to euro area countries that are also OECD members.
2. Data for non-residential private investment refer to total investment minus government and housing investment. Since data for housing investment for Spain and Portugal may also include government housing, the series for non-residential private investment may be underestimated.
3. Data refer to government gross fixed capital formation.
However, despite these declines, a low level of investment does not appear to be the cause of low productivity, as total investment flows have been around the OECD average (Figure 4, panel A). Public investment is below the OECD average but similar to other large European countries, including Germany and the United Kingdom. Although it has fallen, total business sector investment appears to be on the higher side of a sample of the United States and European countries. Solid growth in demand and profits of non-financial corporations, as well as easier access to finance, will all help to underpin total investment growth. The capital stock per worker that has resulted from these investment flows is a bit below the OECD median but the required level depends on the production structure (Figure 4, Panel B). Services are the dominant activity in the Spanish economy and these tend to be less capital intensive.

Figure 4. Investment and capital stock per worker

A. Total Spanish investment is around the OECD average
As a percentage of GDP, 2015

B. The non-residential capital stock volume per worker is a bit below the OECD median
USD thousand, 2014

However, Spain appears to have under-performed in capital allocation by under-investing in assets with high productivity returns, such as information and communication technology (ICT) (Figure 5). Recent empirical work suggests improving capital allocation and productivity are inter-linked challenges. Capital misallocation across sectors, especially an excessive flow of capital to the construction sector, appears to be a relatively minor explanation for Spain’s poor productivity performance (Mora-Sanguinetti and Fuentes, 2012; García-Santana et al., 2016). Rather, capital appears to be misallocated in Spain due to underinvesting in some asset types, especially knowledge-based capital, and misallocation within all
sectors to low productivity firms (Andrews and Criscuolo, 2013; Gopinath et al., 2015; García-Santana et al., 2016).

Figure 5. Capital allocation to ICT matters for productivity

Annual average 2000-2015

2. Gross fixed capital formation in information and communication technology (ICT) equipment.


García-Santana et al. (2016) estimate that during the economic and credit boom between 1995 and 2007, cross sector and within sector capital misallocation together lowered productivity growth by around 1¾% per annum. In other words, if capital misallocation had not worsened over 1995 and 2007, Spanish productivity growth would have been close to 2% and among the best performers in the OECD. Low productivity growth has been correlated with a declining ability of more productive firms to attract capital and grow. From 2000 through to 2008 the positive difference in the amount of capital going to high and low productivity firms halved, correlating with the decline in multifactor productivity (MFP) at an aggregate level (Figure 6).

Figure 6. The efficiency of capital allocation deteriorated in the boom

Percentage point difference in capital stock growth of high and low productivity firms

1. High/low productivity firms are defined by being one standard deviation above/below the industry mean multifactor productivity (MFP). The chart shows the sensitivity of firm capital growth to the lagged level of MFP, based on a firm level regression of the growth in the real capital stock on the lagged deviation of firm MFP from its industry-year average, interacted with time trends (trend and trend-squared). The regression also controls for firm age, firm size classes, industry and year fixed effects.

Capital misallocation can also indicate that weak firms that would typically exit in a competitive market are surviving. Recent OECD research indicates that the prevalence of “zombie” firms – defined as old firms that have persistent problems meeting their interest payments – and the resources sunk in these firms have significantly risen in Spain since the mid-2000s, implying the increasing survival of low productivity firms (Adalet McGowan, Andrews and Millot, 2016; and Figure 7). For example, in 2013, 10% of firms were classified as zombie firms, while the share of capital stock and employment sunk in zombie firms was 13% and 11%, respectively. This share diminished from 2014 onwards (see Banco de España, 2016a).

**Figure 7. The rise of the zombie firms**

Percentage of firms over 10 years old and with interest costs exceeding operating income for at least three consecutive years

1. Capital stock and employment refer to the share of capital and labour sunk in zombie firms.


On top of being not very productive themselves, zombie firms also constrain the growth of other more productive firms. OECD evidence extending the empirical evidence provided by Caballero et al. (2008) for Japan to a broader sample of OECD countries, among them Spain, shows that a higher share of industry capital sunk in zombie firms is associated with lower investment and employment growth of a typical non-zombie firm. The results imply that the rise of zombie firms in Spain between 2008 and 2013 imposed a significant drag on labour productivity growth: business investment by the typical non-zombie firm would have been about 3% higher in 2013, on average, had the zombie share not risen from pre-crisis levels (Figure 8).

**Figure 8. Impact of zombie firms on non-zombie firm performance**

Cumulative investment and employment loss of a typical non-zombie firm due to a rise in the zombie share after 2007, percentage

1. This figure shows the cumulative investment and employment loss between 2008 and 2013 due to the presence of zombie firms. The counterfactual is to keep the zombie shares at their 2007 level for the period 2008 to 2013. The average refers to the unweighted average of the data shown.

Spain’s investment is not oriented enough towards innovative firms

Spain’s investment is not directed enough towards innovation as evidenced by a low share of investment in intangibles (Figure 9, Panel A). Investment in construction even post-crisis is high (Figure 9, Panel B). Encouragingly, given its link with higher labour productivity growth, machinery and equipment investment is also above the median (Figure 9, Panel C). The still strong focus on tangibles investment is not obviously related to strong physical capital shortfalls in terms of underdeveloped infrastructure or other needs. Spain has high quality infrastructure and is ranked 9th in the world in this domain (WEF, 2015). Indeed, in some areas, such as regional airports, there is over-capacity.

**Figure 9. Investment in intangibles is too low**

Business sector excluding real estate

A. Ratio of investment in intangibles relative to tangibles
   Percentage

```
+-----------------+-----------------+-----------------+
| Country         | 2013            | 1995-2010 average |
+-----------------+-----------------+-----------------+
| USA             | 120             | 100             |
| FR1             | 100             | 80              |
| SWE             | 80              | 60              |
| BEL             | 60              | 40              |
| ITA             | 40              | 20              |
| ESP             | 20              | 10              |
| GRC             | 10              | 5               |
+-----------------+-----------------+-----------------+
```

B. Investment in construction
   As a percentage of gross value added

```
+-----------------+-----------------+-----------------+
| Country         | 2013            | 1995-2010 average |
+-----------------+-----------------+-----------------+
| USA             | 18              | 16              |
| FR1             | 16              | 14              |
| SWE             | 14              | 12              |
| BEL             | 12              | 10              |
| ITA             | 10              | 8               |
| ESP             | 8               | 6               |
| GRC             | 6               | 4               |
+-----------------+-----------------+-----------------+
```

C. Investment in machinery and equipment
   As a percentage of gross value added

```
+-----------------+-----------------+-----------------+
| Country         | 2013            | 1995-2010 average |
+-----------------+-----------------+-----------------+
| USA             | 18              | 16              |
| FR1             | 16              | 14              |
| SWE             | 14              | 12              |
| BEL             | 12              | 10              |
| ITA             | 10              | 8               |
| ESP             | 8               | 6               |
| GRC             | 6               | 4               |
+-----------------+-----------------+-----------------+
```

D. Investment in intangibles
   As a percentage of gross value added, 2013

```
+-----------------+-----------------+-----------------+
| Country         | 2013            | 1995-2010 average |
+-----------------+-----------------+-----------------+
| USA             | 18              | 16              |
| FR1             | 16              | 14              |
| SWE             | 14              | 12              |
| BEL             | 12              | 10              |
| ITA             | 10              | 8               |
| ESP             | 8               | 6               |
| GRC             | 6               | 4               |
+-----------------+-----------------+-----------------+
```

1. Data refer to business sector excluding real estate (i.e. all activities except for real estate activities (L), public administration and defence, compulsory social security (O), education (P) and human health and social work activities (Q)). Investment refers to gross fixed capital formation. Investment in intangibles refers to all knowledge-based capital (KBC) assets. KBC assets that are consistent with the definition in the System of National Accounts (SNA) 2008 include: software, R&D, entertainment, literary and artistic originals, and mineral exploration. Other KBC assets include: design, new product developments in the financial industry, brands, firm-specific training and organisational capital. Investment in tangibles refers to gross fixed capital formation in construction and machinery and equipment.


Of most concern is that the level of investment in knowledge-based capital (KBC) – a broad measure of investment in knowledge, which includes computerised information, innovative intellectual property and economic competencies – remains low. It is less than half than in countries such as the United States and France with stronger productivity growth, and similar to those with poor trend productivity and growth problems, such as Greece, Italy and Portugal (Figure 9, Panel D). Investment in KBC has higher potential returns than tangible capital because of its characteristics that generate economies of scale. For example, fixed costs of investment in knowledge such as R&D can be recombined with many other inputs in multiple applications giving rise to increasing returns. In addition, knowledge is often only partially excludable resulting in spill-overs for other firms, i.e. the more knowledge is diffused, the more it gives rise to new ideas. OECD empirical work shows that investing in innovation is strongly linked with increasing productivity and growth (Box, 2009). Indeed, investment in KBC does appear to be more correlated with higher productivity growth than in tangible assets providing crude evidence of this type of spill over effects (Andrews and de Serres, 2012; OECD, 2013a; Figure 10, Panel A and B).

**Figure 10. Investment in knowledge-based capital (KBC) pays higher returns**

1. Labour productivity (i.e. output per hour worked) growth can be decomposed into the contribution of capital deepening and the contribution of multifactor productivity. The average refers to the unweighted average of the data shown.
2. Average proficiency scores of managers in literacy refer to the unweighted average of the proficiency scores of managers in each country across all industries. The OECD aggregate is calculated as an unweighted average of the scores of managers in the 22 OECD countries available in the PIAAC sample.

There are also important complementarities between managerial capital and ICT capital investment (Bloom et al., 2012). In order to extract the maximum benefit from ICT, firms typically need to adopt ICT as part of a “system” of mutually reinforcing organisational changes (Brynjolfsson et al., 1997), which will be easier to accommodate in firms with better organisational capital. Unfortunately, managerial quality is very low in Spain by OECD standards, both in terms of the use of cutting edge managerial practices in manufacturing (Bloom et al., 2014) and the skills of managers as measured by proficiency scores in the OECD Survey of Adult Skills across the broader economy (Figure 10, Panel C). This is likely to reduce returns to investing in ICT, which may explain Spain’s poor performance in this area.

Existing financing channels do not favour enough innovation and risk

There is evidence that resource reallocation to innovative firms is relatively weak in Spain, especially in the case of capital (Andrews, Criscuolo and Menon, 2014). Firms in Spain that increase their knowledge stock (measured as patents) do not attract as much capital as their counterparts in other countries with stronger productivity performance such as Germany and the United States (Figure 11).

Figure 11. Capital is not flowing to innovative firms

<table>
<thead>
<tr>
<th>Percentage change in a firm's capital stock following a 10% increase in its patent stock, 2002-2010</th>
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<tbody>
<tr>
<td>Estimated coefficient</td>
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<td>SWE</td>
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1. The confidence intervals vary across countries due to differences in the number of observations.


How to read this figure: The chart shows the average percentage change in a firm’s capital stock following an increase in the firm’s patent stock by 10%. For example, a firm that increases its patent stock by 10% in Spain will on average only increase its total capital by 0.5%.

In this context, wider and deeper range of financing channels, both bank and capital market, are required if Spain is to better allocate capital to innovative investments on a large scale. This requires ensuring the financial system addresses the needs of firms across their life cycle from an idea to mature multinationals. In Spain, despite reform progress, the strongest priorities for improving capital allocation and productivity should be on further deepening financial markets, especially by improving the functioning of capital markets including venture capital, and further improving the insolvency law.

A first important complement to bank finance is capital markets that provide financing options to firms of all sizes and stages of development. The role of capital markets is particularly crucial for funding innovative firms because these markets help to match innovators and new firms with investors with a higher risk appetite and expertise in bringing new products and services to markets. They also provide an important conduit for foreign investment. Making improvements in capital markets, for example in the securitisation of SME debt, can also help to improve the flow of bank credit (Nassr and Wehinger, 2015).

Spain has significant potential to further develop capital markets, including venture capital, equity and bonds, especially for new and innovating firms. More developed seed and early stage venture capital markets increase financing flows to young innovative firms (Andrews et al., 2014) and are linked with higher investment in intangibles (Corrado, et al., 2012) (Figure 12).
Figure 12. Intangible investment and early-stage venture capital

As a percentage of GDP, 2013

1. Venture capital is a subset of private equity (i.e. equity capital provided to enterprises not quoted on a stock market) and refers to equity investments made to support the pre-launch, launch and early stage development phases of a business. Early-stage venture capital investment includes pre-seed, seed, start-up and other early stage venture capital.

2. Data refer to business sector excluding real estate (i.e. all activities except for real estate activities (L), public administration and defence, compulsory social security (O), education (P) and human health and social work activities (Q)). Investment in intangibles refers to knowledge-based capital (KBC) assets that are consistent with the definition in the System of National Accounts (SNA) 2008 (including software, R&D, entertainment, literary and artistic originals, and mineral exploration) and other KBC assets (including design, new product developments in the financial industry, brands, firm-specific training and organisational capital).


A well-functioning stock market with robust Initial Public Offering (IPO) activity is an important complement to earlier stage equity finance, allowing venture capitalists to exit and recycle their funds into new companies (OECD, 2014a). It also provides an important channel for existing companies to raise new capital and increases the transparency and visibility of companies that are listed and helps to enhance the supporting financial ecosystem (equity research, market making, etc.), with positive repercussions (Nassr and Wehinger, 2016). There is also empirical evidence that shifting the composition of finance towards more stock market financing increases growth (Cournède et al., 2015).

Finally, the government has a role to play in facilitating capital flows to innovative firms because capital market imperfections tend to be more acute for new and innovative firms: asymmetric information problems are stronger and firms investing in knowledge based capital often lack traditional tangible capital that is easily priced (Andrews and Criscuolo, 2013). Government intervention is also justified by the high growth spill-overs from facilitating capital flows to new innovative firms (OECD, 2014a).

The remainder of this chapter will focus on two key policy issues to boost innovative business investment. The first is how to release financing constraints when firms want to invest but cannot finance their projects, in particular for innovative investment. The second is how to increase expected returns on investment so that firms that do not have financing constraints but are unsure about the benefit of investing do so.

Financing innovative investments

The level of corporate indebtedness in Spain has decreased (Figure 13) and is currently around the euro area average. Consequently the level of corporate indebtedness is a smaller obstacle for investment decisions than during the crisis. Recent research suggests that debt overhang explained about a third of the decline in investment observed during the crisis in the euro area (Kalemli-Ozcan et al., 2015) and financial constraints adversely affected investment, particularly for Italy, Portugal, and Spain (Barkbu et al., 2015).
Figure 13. Corporate non-financial sector debt has declined from high levels

As a percentage of GDP

1.

Debt is calculated as the sum of the following liability categories, whenever available / applicable: special drawing rights; currency and deposits; debt securities; loans; insurance, pension, and standardised guarantees; and other accounts payable.


Lending to SMEs has significantly improved but obstacles remain

The European Central Bank’s (ECB) non-standard monetary policy has helped to reduce bank lending rates significantly (Banco de España, 2016b; ECB, 2016). This has reduced fragmentation of Spanish bank lending markets from the core euro area countries, with lending rates spreads between different categories of borrowers converging to those in the core (Figure 14). There has also been compression on lending rates for all loan categories, including a decline in loan rejection rates.

Figure 14. Differences in interest rates on new loans between small and large companies are decreasing

A. Interest charged by loan size in Spain
B. Interest rate differential between loans up to and over EUR 1 million

1. At floating rate and up to 1 year initial rate fixation.
2. Data refer to 12-month average. EMU: Euro area.


Lending to the domestic private sector fell substantially during the crisis and continued declining during the recovery, but the speed of contraction is moderating. Gross credit flows have shown positive growth rates in most segments since early 2014. One exception is new lending to large companies, which has declined recently. This reflects that large companies rely now more on market financing as the cost of...
market-based debt has declined more significantly than the cost of bank lending, in part thanks to the ECB asset purchase programme.

Access to finance for SMEs has eased significantly since 2013 both in terms of costs and the availability of funds as indicated by surveys on the access to finance by enterprises (ECB, 2016). In the beginning of the recovery only small banks increased the flow of new loans to SMEs, while large banks have been significantly reducing the flow of loans to SMEs, a tendency that has changed only recently (Figure 15). There has also been an increase of credit to SME companies that export, helping to boost Spain’s export performance. Evidence from the Bank of Spain further suggests lending is flowing to a greater extent than it did before the crisis to financially sounder and more productive firms (Banco de España, 2015; European Investment Bank, 2016). This is a welcome development. To strengthen future productivity lending needs to flow to newer, innovative and fast growing companies that often face additional constraints in accessing lending because of their lack of collateral or track record.

**Figure 15. New lending is weak and mainly driven by small banks**

Index Q1 2005 = 100

<table>
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<tr>
<th></th>
<th>Big banks</th>
<th>Small banks</th>
<th>Foreign banks and subsidiaries</th>
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**Source:** Banco de España.

**Developing tools to facilitate SMEs’ access to lending**

Improving access of SMEs to lending should be a priority given the high share of employment accounted for by SMEs in the Spanish economy and their poor productivity performance compared to peers elsewhere (Figure 16). One of the main challenges for financial institutions is to assess the credit quality of businesses in a way that minimises the credit-rationed to productive and innovative business, generally new SMEs with an innovative project (OECD, 2006, 2013). To help tackle these issues the government has implemented the *Law on the Promotion Business Financing* adopted in April 2015, devoted to improving access to bank credit and developing non-bank financial intermediation (discussed below). The law strengthens the position of SMEs vis-a-vis banks. Specifically, if an SME’s credit line is going to be cancelled or significantly reduced the credit institution must notify the firm at least three months in advance. To improve transparency of information if a credit line is going to be cancelled or significantly reduced the banks are required to provide SMEs with an assessment of their financial position and creditworthiness, including payment history and credit scores. In this context the Bank of Spain has developed a standardised SME credit assessment framework for SMEs, as recommended in the 2014 *OECD Economic Survey of Spain*, which the commercial banks are required to use in making their assessment. In addition, SMEs have the right to demand this assessment. This process aims at facilitating the search by SMEs for alternative sources of financing, if need be. The banks should be obliged to publicise that SMEs have this right.
Figure 16. The importance of small firms in overall employment and productivity

A. Employment by enterprise size class
As a percentage of all persons employed, 2013

1. 2014 for Canada, Israel, Korea and Mexico, 2012 for Japan, 2011 for Ireland. Data refer to total business economy. All countries present information using the enterprise as the statistical unit except Korea and Mexico, which use establishments. Data for Canada, Israel, Japan, Korea, Switzerland and the United States do not include non-employer enterprise counts. The size class "20-49" refers to "20-199" and the one with "250+" employees refers to "200+" for Australia. The size class "50-249" refers to "50-299" and the one with "250+" employees refers to "300+" for Canada, Japan and Korea.

2. Small firms are defined as those with less than 50 employees.

3. Industry-level purchasing power parities (PPP).

Source: OECD (2016), Entrepreneurship at a Glance 2016; and calculations based on the ORBIS database.

A rating for SMEs will lower information costs and increase transparency reducing banks’ reliance on subjective information and helping to reduce the perceived riskiness when approaching SME finance. This measure should help to encourage – specifically in large banks – granting loans to viable SMEs on the basis of their expected future cash flow. One way to do this would be to favour instruments like equity loans, a financial innovative loan where the interest incurred depends on the profit made by the company and with the main advantage that it is granted without collateral depending only on the viability of the project being financed.

Securitisation, if carried out prudently, can also facilitate credit risk management by banks and help revive credit, including towards SMEs. Combining the client knowledge of banks with the risk spreading capabilities of bond markets securitisation can overcome the information asymmetry that hinders greater financial flows to small innovative firms. This can be achieved by the securitisation of bank credit and listing in bond markets. A step in the right direction is the new European framework for securitisation in the EU Action Plan on Building a Capital Markets Union (EC, 2015). This should help facilitate SME
lending by providing differentiated prudential treatment for "simple, transparent and standardised" (STS) securitisation, including reduced bank capital charges and would take advantage of ECB measures to broaden the eligibility of SME-backed securities as collateral.

Securitisation of SME debt could be further encouraged by the government providing guarantees to SME bond funds that are also mutually guaranteed by the debt issuing companies. This type of arrangement has been used in France for a bond fund (GIAC) that purchases firm issued bonds as low as EUR 500 000 (OECD, 2015b). Such a fund could also purchase securitised SME bank lending. However, to avoid moral hazard it would be important that the originating banks retained a stake in the securitised assets or the bond fund itself, in particular a first loss. The debt repayment risk would be spread across the originating banks, SME bond fund purchasers, the government and the borrowing firms, which would help to encourage banks to lend more to SMEs. It would also be important that before taking such steps, evaluation practices of publicly supported credit guarantee arrangements are improved. Recent OECD work assessing evaluation practices of publicly supported credit guarantee schemes for SMEs suggests that evaluation of the costs and benefits of such schemes lag behind those in other countries (OECD, 2016).

Mutual Guarantee Schemes (MGS) are a limited liability society owned by SMEs as well as local authorities, banks and chambers of commerce that guarantee bank loans. They can also play a role in facilitating SME lending by spreading risk. If well-designed they can help to revitalise the credit channel to SMEs by expanding joint risk-sharing financial instruments. In Spain MGS are spread throughout the territory but with a very low volume of outstanding guarantees (Figure 17) and there is scope for consolidation of the industry.

**Figure 17. The Spanish guarantee schemes are underdeveloped**

![Figure 17](image)

Financial guarantees given as a percentage of total assets, 2015

1. Data refer to domestic banking groups and stand-alone banks.


Improvements are foreseen in the 2015 *Law on the Promotion of Business Financing* to strengthen and improve the corporate governance of the private MGS entities and reinforce the public-guarantee by further increasing the resources of the government company CERSA. There is a trade-off between efficient scale and proximity to borrowers. Local MGS know their SME members well, which historically has been MGS competitive advantage, but they are small, which boost their costs. Spain has seen a proliferation of local MGS and appears that an increase in scale through mergers or consolidation to help reduce the relative cost of the service is justified. The SME Initiative is a further and welcome guarantee scheme. It is co-financed by the European Regional Development Fund, and entails the issuance of uncapped guarantees for the benefit of lenders to cover portfolio credit risk of new SME loans (EIF, 2015).

**Facilitating access to capital markets, notably for SMEs**

Improving access to public equity markets, notably for smaller firms, can help fill the financing gap for small fast growing and innovative companies, which tend to lack property collateral and find it more...
difficult to raise finance from the banking system (OECD, 2012; OECD, 2013b). Smaller companies that want to tap public equity markets are also facing a number of important impediments, such as admission cost, listing requirements and a lack of liquidity. Therefore creating dedicated stock market segments with more flexible listing criteria, eased disclosure requirements and comparatively low admission costs for SMEs, especially for high growth companies, should have benefits that extend beyond initial access to capital (IPO) (Nassr and Wehinger, 2016). Nevertheless, proper investor protection should always be ensured.

Equity markets also give access to a large potential funding pool if they are open to retail and institutional investors worldwide. In a welcome sign, total IPO activity was strong in international comparison in 2015 (Figure 18). An alternative stock market, Mercado Alternativo Bursátil (MAB), was set up in 2008 to provide a vehicle for smaller companies to list with less onerous listing requirements. However, growth in company IPOs and secondary capital raising on the MAB are a small percentage of total Spanish stock-market financial flows but in a promising sign grew fast in 2014 (BME, 2015). A reduction in the minimum estimated free float below EUR 2 million could be carried out to increase the number of eligible SMEs for listing (OECD, 2014b).

Figure 18. IPO activity has been strong recently

As a percentage of GDP, 20151

1. 2014 for Austria, the Czech Republic, Greece, Hungary and Portugal. IPO: Initial public offering.

Important barriers to the expansion of stock market financing are illiquidity of SME equity markets and information asymmetry. To tackle illiquidity and asymmetry, there needs to be a strong supporting “ecosystem” of equity research, market makers (firms that stand ready to buy and sell at a publicly quoted price) and broker/dealers specialising in SMEs (Nasser and Wehinger, 2016). To improve liquidity, the government should study whether the stock exchange should incentivise greater market making by requiring a compulsory market maker and lowering trading fees for them as has been done in Poland, which after less than 10 years in operation has the second largest secondary market in Europe by listing numbers after the United Kingdom’s (Harwood and Konidarlis, 2015). This could be usefully complemented by increasing investor flow of funds to SME equities by encouraging the formation of Exchange Traded Funds (ETFs) and mutual funds specialised in SME funds.

Another fundamental regulatory barrier to equity finance is asymmetric tax treatment of debt and equity. In particular tax deductibility of interest payments on debt from taxable income in Spain as in many countries, puts equity financing at a disadvantage (Nasser and Wehinger, 2016). This in turn favours certain business types that are more suited to debt than equity financing, in turn biasing capital allocation away from innovative new investments in knowledge. Firms with property assets as collateral will find it easier to raise debt and thereby gain the tax advantage relative to innovative new firms whose main asset is knowledge capital. There is also evidence that this bias increases corporate leverage and thereby raises the risk of financial instability (CTPA, 2015). In addition fostering a greater share of equity financing would help to promote growth (Cournède et al., 2015). It would also reduce the risk of over-leveraging, bad loans and financial instability created by an over reliance on debt finance by corporations.
Spain should consider further limiting the deductibility of interest from its corporate tax base. Action 4 of the Base Erosion and Profit Shifting (BEPS) project (OECD, 2015a) recommends a fixed ratio rule which limits an entity’s net deductions for interest and payments economically equivalent to interest to a percentage of its Earnings before Interest Tax Depreciation and Amortisation (EBITDA). The recommended approach includes a corridor of possible ratios between 10% and 30%. As a minimum this should apply to entities in multinational groups, but countries could apply the same rule to third party financing, as is the case in Spain. The approach can be supplemented by a worldwide group ratio rule which allows an entity to exceed this limit in certain circumstances. Action 4 of the BEPS report also includes factors that countries should take into account in setting their fixed ratio within this corridor.

Spain currently limits interest deductibility by applying a maximum deduction of 30% of EBITDA, although the EBITDA definition which Spain applies, which includes dividend income that qualifies for the participation exemption, differs from the definition under Action 4 of the BEPS project. This difference in the definition should be resolved. Given the country’s history of excessive corporate debt and poor capital allocation, Spain could consider lowering the ratio of 30% in order to further reduce the tax-induced incentives for excessive leverage.

Some countries, including Belgium and Italy, grant deductibility to both debt and equity by applying an Allowance for Corporate Equity (ACE). This provides a deductible allowance for corporate equity in computing the corporation’s taxable profits but the disadvantage is that it narrows the tax base and in order to raise the same amount of corporate tax revenue could result in a higher corporate tax rate (CTP, 2014). Unless it is applied only on new equity, it could lead to windfall gains for the investment undertaken before the introduction of the ACE. The ACE could also lead to strategic tax planning if not designed adequately and accompanied by specific anti-avoidance measures. In recent international policy debates, it has been advocated that countries could use a combination of both a partial ACE and limits to the interest deductibility (European Commission, 2015).

More public support is needed for innovative start-ups

Government programs to support finance to firms should prioritise providing seed capital and early-stage financing of the small innovative start-ups that typically rely on intangible assets and where the gap in private financing is higher. As traditional debt finance offers moderate returns for lenders, it is particularly ill-suited for these types of companies, which have a higher risk-return profile but are at the forefront in job creation and are especially relevant for expanding the technology frontier (OECD, 2015b).

One potential way to increase funding to innovative start-ups is through the Centre for the Development of Industrial Technology (CDTI), the largest public innovation funding agency in Spain. CDTI is a public business entity that seeks to foster the technological and innovative capabilities of Spanish firms, including SMEs, and their internationalisation. It channels funding and provides loans to R&D projects. The CDTI Innvierte program provides venture capital and seed capital together with private investors and CDTI also provides direct grant support to start ups (Neotec programme).

Empresa Nacional de Innovación, SA (ENISA) is a public national innovation company that is granting funding to SME business projects that typically have an innovative component and high potential growth. Private investors report that ENISA plays a complementary co-financing role to the private sector, helping to provide finance to start-ups at an early stage and allowing them to have a long enough track record to convince private investors and venture capitalists to invest more. This is a welcome initiative but ENISA’s funding is very limited and should be reinforced, subject to the government’s overall expenditure review.

The stated owned bank, Instituto de Crédito (ICO), provides second floor facilities funds to SMEs where commercial banks assume credit risks of the loan. ICO should encourage banks to focus more on lending to innovative companies. ICO also provides equity capital via several instruments. One of these is a “fund of funds” public venture capital fund, Fond ICO Global, introduced in 2013. Fond ICO Global should put emphasis at the early and late stages of the venture capital cycle, where there is less provision of private capital.
Broadening the role of venture capital

Better developed capital markets would increase technology absorption from the best productivity performers, thereby helping to boost overall productivity (Figure 19). Spain appears to be around the average in terms of the amount of early stage venture capital and stock market capitalisation, but government policy programmes to support development of the financial sector can be further fine-tuned.

**Figure 19. Financial markets and productivity growth**

Estimated annual frontier spillover associated with 2% points increase in MFP growth at the global frontier by different levels of public policy settings, percentage points

1. The chart shows how the sensitivity of multifactor productivity (MFP) growth to changes in the frontier leader growth varies with different levels of framework policies and institutional environment. The diamond refers to the estimated frontier spillover effect associated with a 2% MFP growth at the frontier around the average level of the policy. The label "Minimum/Maximum" indicates the country with the lowest/highest value for the given policy indicator in a given reference year.


How to read this figure: This chart shows the increase in productivity Spain will experience if the global productivity frontier increases by 2%, which depends on characteristics of Spain’s financial markets. For example, Spain’s stock market capitalisation is around the average and so productivity would increase by around 0.2 percentage points in response to an increase in the global frontier of 2%.

Venture capital investment was hard hit in the crisis falling from EUR 3.6 billion in 2010 to EUR 1.4 billion in 2013, but has subsequently increased again as the economy has recovered (OECD, 2016a; ASCRI, 2015). The market is still small by international standards (Figure 20) but encouragingly funds are dispersed quite widely, over 80% of transactions are under EUR 5 million. In common with many OECD countries, the government has introduced a number of supply side policy initiatives to foster growth of the market, including a 1% corporate tax rate for venture capital companies registered with the Competition Authority (CNMV), and in July 2011 introduced exemptions from capital gains in smaller, younger, unlisted companies (OECD, 2016a).

In addition, in May 2013, the government set up a “fund of funds” public venture capital fund, Fond-ICO Global, to catalyse private venture capital by co-investing in private venture capital funds. Fond-ICO Global’s commitment to being a minority investor in these private funds is sound as government venture capital efforts tend to have a positive effect when they are in the minority position and managed by private investors (OECD, 2014a). This approach also increases diversification of risk, which is particularly important as risk levels with this kind of investment are high.
The Fond-ICO’s total budget of EUR 1.2 billion combined with EUR 100 million from CDTI \textit{Innvierte}, the Ministry of Economy’s fund to promote business innovation by making equity investments in innovative companies, appears small in international comparison. It is similar to public venture capital available in Ireland, for example (OECD, 2013c). However, public funds are being rapidly injected into what is a very small market. To avoid the risk of crowding out private-sector lenders, the government needs to study carefully in consultation with the private sector where there are gaps in supply of the private sector in the spectrum from early stage to later stage venture capital. Where gaps are identified the government should reduce regulatory impediments to private sector capital flow and target its funding to fill the remaining gaps. There is evidence that there is a role for the government to act as co-investor with the private sector at the lower and higher end of the scales. The private sector reports that initial financing of firms by ENISA is complementary to their activities helping new firms to develop to a point where they are ready for private venture capital but ENISA has very few funds available. At later stages, there also seems to be a gap: obtaining more than EUR 2 million from private venture capital to expand a promising ICT company is not possible in Spain because at this scale, the risk is too great for individual private investors.

\textbf{Public financing of business innovation investments}

Despite apparently high returns from R&D Spain appears to under-invest in innovation (Figure 21). Business R&D investment is below the OECD median and shows signs of weakness, including low R&D even by large corporates, and low innovation outputs in terms of patents and trademarks by international comparison (OECD, 2014b). Spain provides dedicated public financing for innovation investments in the business sector in the form of both R&D Tax Credits and government direct funding programmes. This mixed system of support is appropriate given that both types of support have advantages. R&D tax credits have the advantage that they avoid the ”picking winners” problem associated with direct grants. They also should require fewer administrative resources to operate than direct grants.

However, R&D tax incentives can protect incumbents to the detriment of new entrants (Bravo-Biosca et al., 2013). In particular, income based R&D tax incentives that provide tax relief on R&D related incomes (for example, patent boxes) tend to benefit large firms disproportionally, and have a higher risk of being used for tax avoidance and purposes other than supporting innovation (OECD, 2016b). On the more traditional expenditure R&D tax incentives side, it is important that they include carry forward provisions, cash refunds or reductions in social security and payroll taxes, so that small and young firms and basic research projects can benefit (Appelt et al., 2016). Direct support makes SMEs more likely to carry out R&D (Czarnitzki and Ebersberger, 2010). Even if R&D tax incentives contain carry-over provisions and

\begin{figure}
\centering
\includegraphics[width=\textwidth]{venture_capital_investment.png}
\caption{Figure 20. Venture capital investment \newline As a percentage of GDP, 2015\textsuperscript{1}}
\end{figure}

\textsuperscript{1} 2014 for Israel and Japan. Venture capital is made up of the sum of early stage (including pre-seed, seed, start-up and other early stage) and later stage venture capital. For Korea and New Zealand only the total venture capital investment is shown since there is no internationally comparable data available for the breakdown of venture capital by stage.

\textit{Source: OECD (2016), Entrepreneurship at a Glance 2016.}
refunds, young firms may not fully benefit from the schemes if they lack the upfront funds to start an innovative project, and in these cases public funding may be more beneficial (Busom et al., 2014).

Figure 21. Business R&D and multifactor productivity growth

Annual average 2002-2014

Spain’s R&D tax credit system is generous in international comparison (the R&D tax subsidy rate is above 35%), although it is less so for new loss making firms, even after the government made the scheme more attractive for younger less profitable firms by allowing the credits to be partly refundable and carried forward (Figure 22). However, firms make limited use of the system and as result most public support to business innovation is direct. One impediment is that the system is complex. The government should continue to streamline the system and publicise how to apply for credits.

Figure 22. Tax subsidy rates on R&D expenditures

1-B-index by firm size and profit scenario, 2015

1. The tax subsidy rate is calculated as 1 minus the B-index, a measure of the before-tax income needed to break even on USD 1 of research and development (R&D) outlays. It is based on responses from national finance/tax/innovation authorities and R&D statistical agencies to the OECD questionnaire on R&D tax incentives and also draws on other publicly available information. As a measure of the marginal cost of R&D to users, the B-index is estimated based on marginal tax credit (allowance) rates. This is an experimental indicator based on quantitative and qualitative information representing a notional level of tax subsidy rate under different scenarios. It requires a number of assumptions and calculations specific to each country. International comparability may be limited. For more details and country specific information, see Figure 4.8.3 in OECD (2015), OECD Science, Technology and Industry Scoreboard 2015: Innovation for growth and society. SME: small and medium-sized enterprise.

During the recession, public funding for business innovation spending was reduced. In addition a significant part of the government budget for innovation was never spent because it was allocated to loans to firms for R&D but the loans were not taken up. The government should ensure that support to R&D is at least maintained as a percentage of GDP now that economy is recovering. The net outflow of scientific authors from Spain was more than 2.5 times higher between 2009 and 2013 than over the period 1999-2013. The government should shift funds available via loans to a direct grant fund, where funds to firms and researchers would be granted based on performance and international peer review to increase firms’ R&D and to slow the very high brain drain of talented researchers.

Enhancing financial education and networking

Consistent with past OECD recommendations Spain has recently introduced financial education in the school curriculum, with positive results (Hospido et al, 2015). However, current entrepreneurs’ financial literacy and skills can also be improved by specific programmes such as training, mentoring and coaching tailored to the needs and to the different stages in the SME business cycle. This could be done by expanding the Valnalón entrepreneurship training programmes of the regional government of Asturias to other regions of Spain. To increase SME demand for equity finance, the government could further promote financial education of SMEs’ entrepreneurs on options and processes for raising equity finance. Another way is to favour private venture capital investment proposals that involve not just capital contributions but also management and expertise in bringing new products and services to markets. The government should also expand initiatives to increase the knowledge of entrepreneurs on how to access finance and present to investors. There is evidence that supports to increase the skills in financing, can improve the survival and growth of new and small firms (OECD, 2015d).

Increasing linkages between investors, entrepreneurs, smaller and larger firms is also required to develop a stronger venture capital market. Stronger social networks appear to be more important than physical infrastructure (e.g. office spaces) for achieving this. Several OECD countries provide policy support for social networks such as business angel networks, which act as an access point for entrepreneurs, and business accelerators that provide specialised mentoring to entrepreneurial teams rather than a sole entrepreneur (OECD, 2014a). The government should provide support to private sector initiatives in this area, particularly to expand those with an established track record more widely across Spain. Welcome initiatives in this direction include ENISA’s “Colabora para crecer” project, a private network of investors and firms with a loan granted by ENISA to interact and possibly develop joint projects, as well as the European Commission “Enterprise Europe Network” initiative that tries to address SMEs’ education and information gaps providing extensive advice and assistance to SMEs on accessing finance.

Raising the expected returns on innovative investment

Beyond policies to improve access to finance, increasing innovative investment also requires that firms expect sufficient returns on the project. Otherwise, even non-financially constrained firms could delay investment. Raising the expected return on investment could be achieved through a range of reforms including: facilitating foreign direct investment; reducing administrative barriers to firm entry as well as the restrictiveness of product and labour market regulations; improving the insolvency regime and judicial efficiency; and reducing price distortions to investment decisions (Andrews and de Serres, 2012; Andrews, Criscuolo and Menon, 2014).

Attracting more foreign investment

More foreign direct investment (FDI) is an important potential source of innovative investment. It has the advantage of providing new production processes and products, increasing competition in the economy and potentially generating technology and other spill-overs to domestic firms. The total stock of foreign direct investment as a share of GDP in Spain is above the OECD average and larger than in other large European countries including France and Germany (Figure 23). Excluding the very high share, 20% of the stock, that is private real estate investment, it would be around the OECD average. The flow of FDI to Spain as a percentage of GDP is considerably higher than in France, Germany and Italy and has been picking up recently in line with the recovery.
Spain appears to have a lower share of foreign investment than other large EU countries in the services sector, where the productivity benefits of greater competition from FDI are likely to be stronger due to facing less direct competition through international trade than manufacturing. In addition, services sector investment tends to be more employment intensive than manufacturing and therefore more likely to contribute to reducing unemployment. Greater competition and productivity in the services sector would also boost manufacturing sector exports, which rely more heavily on intermediate services inputs in Spain than many other countries.
Formal barriers to services trade and investment are generally very low. The OECD’s *Services Trade Restrictiveness Index* is lower in Spain than the sample average in 19 out of 22 sectors covered. Nevertheless, there is still room for improvement especially in air transport, auditing and legal services. In air transport, competition is restricted by the allocation of landing and take-off slots on a historical basis and a ban on commercial trading of these slots. A licence to practise auditing and legal services requires EU nationality and the majority of shares and voting rights of firms providing auditing and domestic legal services firms must be owned by locally licensed auditors and lawyers (OECD, 2015c). These results are confirmed by the OECD’s *FDI Regulatory Restrictiveness Index*, which also shows that Spain’s barriers to FDI are generally very low with the exception of air transport, radio and TV, media and particularly legal services, where Spain has the 4th most restrictive regulation in the OECD.

The main barriers to services sector FDI are problems faced by all firms in Spain: regulatory fragmentation across Spain’s regions, difficulties of establishment in the internal market and overly restrictive labour market regulation (Jin et al., 2017). These barriers are particularly relevant for services, where the internal market is a stronger pull factor than for manufacturing investment, which appears to be often motivated by exporting and particularly sensitive to international cost competitiveness in Spain (Rodriguez and Pallas, 2008).

Spain’s agency responsible for promoting both the internationalisation of Spanish companies and attracting foreign investment, *ICEX- Spain Trade and Investment*, has a wide range of activities including matching foreign investors with Spanish companies requiring financing. In attracting foreign investment, it targets both sectors and key companies. The list of strategic sectors (aerospace, automotive, biotechnology, pharmaceuticals and ICT) appears similar to those other countries would target and is heavily industrially focussed. More effort could be put into targeting “anchor” FDI investors regardless of sector. This avoids picking sectors and has the advantage of gravity effects of FDI – in Ireland, the presence of leading international firms has tended to attract others (Barry et al., 2003, Worrall, 2014).

Corporate tax rates play a role in attracting foreign investment, with some industries such as financial service and pharmaceuticals tending to be particularly sensitive to the tax rate (Gorter and Parikh, 2003; Silva and Lagoa, 2011; Lawless et al., 2015). An increase in the corporate tax rate appears to have a stronger negative effect on FDI, the higher the level of product market regulation (Figure 24). Spain has recently cut the standard corporate tax rate from 28% to 25% in 2016, which puts the rate at about the OECD average (24.7% in 2015) and has aligned the tax rate for all firms, supressing the preferential rate for SMEs. The reduced rate for start-ups, introduced in 2013 has been maintained. The reduction in the tax rate is going in the right direction for attracting greater foreign investment but more could be done to broaden the tax base, as discussed in OECD (2017).

Size-dependant fiscal regulations, notably different levels of tax monitoring and enforcement, might also be acting as a break on the expansion of firms. In Spain, firms with more than EUR 6 million in annual operating revenue are monitored by the large taxpayers’ unit. While all firms face the same tax schedule and compliance procedures, firms above that revenue threshold are more often exposed to tax audits and information requirements than smaller firms. There is evidence that firms react to avoid being under stricter tax enforcement by reducing their reported revenue just below (Almunia and Lopez, 2015). This is particularly the case in sectors with a low percentage of sales to final consumers, such as manufacturing and wholesale, where information trails are easier to verify. There is also evidence that firms locating below the threshold misreport their material and labour inputs costs to evade taxes. Such size-dependent policies should be carefully designed to avoid they become unintended barriers to firm growth.
Encouraging competition by reducing regulatory barriers to entry is an important tool for boosting profit prospects and therefore the incentive to invest for new innovative firms. In a welcome move to reduce barriers to entry, Spain introduced in 2013 the Market Unity Law to improve business regulation across all regions and thereby create a truly single market in Spain (OECD, 2014a). The government continues to make progress in implementing the 2013 Market Unity Law. An important step in this direction has been setting up a process where the government promptly considers complaints from anyone about new laws and regulations inconsistent with the Market Unity Law. Despite this advances in reducing regulatory barriers have not yet been fully reflected on the ground. Doing business is still perceived to be more difficult in Spain than in other OECD economies (OECD, 2017). The government and the regions should continue implementing the Market Unity Law to ensure that the obstacles businesses face keep falling and that regulatory reform has visible effects on productivity. Complementary to this would be to reduce barriers to firm expansion following entry by reforming tax and labour market regulations so that don’t tighten with firm size (Gonzalez Pandiella, 2014).

Competition remains weak in sectors that supply inputs to the whole business sector, particularly the professional service sector. This pushes up prices and again reduces potential profits from new investments as well as reducing their competitiveness in international markets. Professional services – which account for 75% of business services – are markedly less productive in Spain than in other OECD economies (OECD, 2017). The government and the regions should implement the proposed reform of the liberalisation of professional services. The objective of the reform is two-fold. First: to improve the functioning and governance of professional bodies. Second: to benefit final customers, by eliminating disproportionate barriers to access or activity of professional services thus allowing increased competition, higher quality, lower prices and improved customer protection. There is also scope to lower costs and improve the quality of other inputs used by the whole business sector by boosting competition in the electricity, ports, sea and water transport and oil distribution sectors (González Pandiella, 2014).
Figure 25. Productivity in professional services is low
Apparent labour productivity, gross value added in thousand EUR per person employed, 2014\(^1\)

1. 2012 for Ireland.
2. Accounting, bookkeeping and auditing; tax consultancy.
3. Including related technical consultancy.


Sectorial wage agreements between incumbent firms and unions help protect insider firms by limiting the scope for new firms to try new business methods and organisation. The 2012 reform gave priority to firm-level collective agreements and relaxed the conditions for firms to opt-out. The reform contributed to wage moderation (Jin et al., 2017), but firm-level agreements have been concluded essentially only in large firms, and less than five percent of all firms, mostly large ones, have opted-out. Reconsidering the conditions under which the statutory collective agreements are extended, in particular, requiring a higher representativeness of business associations could help avoid that collective agreements are driven excessively by a limited number of the best performing firms (Jin et al., 2017).

Strong contract enforcement and efficient civil justice and timely bankruptcy procedures are important to encourage the growth of start-ups, especially as inefficient regulation in these areas has stronger negative effects on the growth of start-ups than incumbents (OECD, 2016c). Fostering the entry of new firms requires facilitating the exit of the less productive firms, which would free capital and labour resources towards the most innovative companies. The reform on the insolvency regime is a key aspect. The impact of reforms to insolvency regimes on aggregate productivity will also depend on the extent to which policy distortions in other areas constrain the exit of low productivity firms (Adalet McGowan and Andrews, 2016). Less stringent bankruptcy regimes, characterised by strong exit mechanisms and that do not
excessively penalise business failure, can foster the development of seed and early stage venture capital (Armour and Cumming, 2006).

Efficient insolvency regimes can help address the issues associated with high levels of debt and non-performing loans (NPLs) by freeing up resources from unproductive uses. The effectiveness of insolvency law will also depend on framework conditions affecting firm exit, including judicial efficiency, regulatory and tax policies. There is some evidence that judicial efficiency is positively associated with entrepreneurship in Spain (García-Posada and Mora-Sanguinetti, 2014a). Until recently, the design of the Spanish insolvency regime has led to costly and lengthy insolvency proceedings (OECD, 2014b). In Spain, bankruptcy procedures took around 24 months and up to 36 months during the crisis, compared to around a year in France and the United Kingdom (García-Posada and Mora-Sanguinetti, 2012). This meant that secured creditors typically foreclosed on loans and seized collateral, providing few opportunities for marginal firms to restructure through formal insolvency procedures (García-Posada and Mora-Sanguinetti, 2014b).

Reforms in 2014 and 2015 to facilitate the restructuring of corporate and household debt should improve the efficiency of the insolvency regime. These reforms include measures to: i) improve out-of-court work-outs; ii) ease in-court procedures; iii) encourage the sale of firms as a going concern during liquidation; and iv) provide a “fresh start” – i.e. the exemption of future earnings from obligations to repay past debt due to liquidation bankruptcy. While tentative evidence suggests that these reforms have reduced the length of the insolvency process and the share of firms in liquidation (García-Posada and Vegas, 2016), some design features could be improved further to promote investment and productivity.

Out-of-court agreement on payments (OCAP) aimed at SMEs, which were introduced in 2013, were further improved in 2015, in line with the recommendations in the 2014 OECD Economic Survey of Spain. The limitations of a 25% debt write-down and three year moratorium on debt extensions were relaxed. Moreover, the possibility to impose a restructuring plan on dissenting creditors, including secured creditors – a key feature of efficient insolvent regimes – was introduced. Finally, procedures have been streamlined to be made more accessible and faster by an improved system of mediators. Public creditors continue to be excluded from out-of-court restructuring processes, which reduces their effectiveness since a significant part of SMEs’ debts are liabilities with tax and social security authorities (IMF, 2015; OECD, 2014b). The authorities claim that a flexible approach is taken to tax debts and they already negotiate separately with businesses. This suggests non-inclusion may not be as large a problem as at first sight, although this is not as efficient as including all debts in one negotiation because the public administration sometimes takes a long time to propose rescheduling.

Many advances to in-court procedures have been put in place, including the removal of limitations on debt write-downs, rescheduling of payments and the possibility to impose a restructuring plan on dissenting creditors. The introduction of the possibility of “cram-down” is welcome since it can boost aggregate productivity growth by promoting the timely restructuring of viable firms that encounter temporary financial difficulties. In order to prevent its potential adverse effects on credit supply, it is important that the interests of dissenting creditors are protected by ensuring that dissenting creditors would receive at least as much under the restructuring plan as they would receive under liquidation (Adalet McGowan and Andrews, 2016).

The introduction of a “fresh start” for entrepreneurs, as recommended in the 2014 OECD Economic Survey of Spain, is welcome. The availability of a “fresh start” can reduce the costs and the stigma of failure associated with insolvency, and increase productivity by making it more likely that non-viable firms exit the market in a timely fashion and thereby free-up scarce resources to be recycled by more productive firms (Burchell and Hughes, 2006; Eberhart, et al., 2014). With the introduction of a “fresh start” for entrepreneurs in 2015, the period over which the entrepreneur is legally required to repay debt (the discharge period) became immediate for some types of debt (unsecured and subordinated debt), if certain conditions, including the repayment of a certain percentage of debt, is fulfilled. When this payment threshold is not met, the debtor has to commit to a five year payment plan for the debt exempt from immediate discharge, which remains high in international perspective (Carcea et al., 2015).
A number of improvements could maximise the benefits associated with a “fresh start”. In November 2016, the European Commission introduced a proposal to limit the full discharge period to three years for honest insolvent entrepreneurs (European Commission, 2016), which would improve the efficiency of the Spanish system. At the same time, it is important to address potential problems of abuse of more lenient personal insolvency regimes by fraudulent entrepreneurs and moral hazard. The benefits of the reform could also be maximised by increasing the certainty for the debtor by improving the clarity and conditions of the payment plan. Moreover, public creditors are excluded from this reform, which could: i) leave entrepreneurs with significant residual debt after discharge, decreasing their ability to start a new business; and ii) prevent them from dedicating their income to fulfilling the payment plan in order to achieve a final discharge. To resolve this, the authorities should negotiate with entrepreneurs promptly on tax debts following discharge.

**Environmental regulation and taxation and capital allocation**

Environmental regulation, subsidies and taxation have a central role to play in improving private investment decisions. They can have direct effects on capital allocation and productivity by changing input costs and incentives to innovate. The dramatic increase in the share of renewables (wind and solar) in electricity generation in Spain over the past 15 years demonstrates how core environmental subsidies are to private sector investment choices.

If resources are under-priced relative to their full economic and environmental cost firms will over-invest in inefficient production processes and activities resulting in poor productivity performance, especially once environmental damage is taken into account. For example, low prices for water in Spain have encouraged capital misallocation to water intensive, low productivity purposes in a country with the third highest level of water stress of the 29 OECD countries with available data. Over 30% of irrigated water was being used for low value cereal and rice crops in 2015 (Magrama, 2015). Greater use of water pricing signals should be made to more efficiently allocate water (Fuentes, 2011). Barriers including restrictions on who can buy and what rights can be sold are impediments to the efficient reallocation of water rights to their highest value uses. Recent temporary measures introduced by decree law in 2015 in response to the drought, including allowing the sale of water rights to a wider set of users and selling water rights not used in the previous year, go in this direction and should be made permanent.

Environmental tax revenue in Spain has declined in real terms since 2000 from above the OECD average to around the OECD average as a share of GDP. The share of environmental taxes in total revenue is lower than the OECD average (OECD, 2015d). Taxation applies to all fossil fuels used for transport as well as fuel for heating and industrial purposes as well as electricity output but there are exemptions. Some users in agriculture, mining, aviation, navigation and railway transport are exempted from fuel tax or the excise duty on electricity, or receive refunds or reductions related to the use of diesel (OECD, 2015d). The design of environmentally-related taxes can be improved to better reflect environmental costs, so providing an incentive for the use of more environmentally friendly technologies. Over-investment in environmentally polluting industries makes the economy more vulnerable to shocks in regulations elsewhere and to changes in consumer preferences.

Price signals in the economy are an important influence on firm investment decisions because they affect input prices as well consumer demand. Diesel is under-taxed relative to petrol (diesel has lower taxes per litre than petrol despite having higher emissions) lowering the retail price of diesel relative to petrol and encouraging consumers to buy diesel cars. Spain has one of the highest shares of diesel powered passenger cars in Europe (Eurostat, 2015a).

Taxation of natural gas and coal used in electricity generation is based on energy used rather than emissions and in the case of commercial heating natural gas is even taxed more than coal by emissions. In addition, since 2011 some electricity generators are mandated to purchase coal. Coal production is also subsidised although subsidies are being phased out (OECD, 2015e). The government should reform taxation of transport fuels and fossil fuels used in electricity generation and heating so that the per-unit tax is based on the amount of CO₂ emissions and other pollutants per unit. This would encourage better
allocation of capital and investment decisions by better aligning of pricing signals with environmental costs.

Increasing the stringency of environmental regulation can also improve capital allocation. More stringent policies tend to raise productivity growth in the most productive firms. The least technologically advanced firms tend to see a temporary fall in their productivity (Albrizio et al. 2016). Still, more stringent policies may have (small) negative impacts on domestic investment (Koźluk, Dlugosch and Garsous, 2016). In this context, it is even more important that environmental regulation is not just stringent but efficient and does not overly impede firm entry, competition and productivity. Encouragingly Spain has taken steps to reduce barriers to firm entry caused by environmental regulation, which a partial indicator suggested were the highest in the OECD (Figure 26).

Figure 26. OECD indicator of barriers to entry due to environmental policies (BEEP)

Index scale of 0-6 from least to highest burdens to entry and competition


The OECD’s Environmental Performance Review of Spain 2015 found that obtaining an Environmental Impact Assessment (EIA) report was slow, uncertain and subject to regulatory fragmentation. To tackle these problems at the end of 2013 a new law (Law on Environmental Assessments, 21/2013) was passed. The new law provides more details about the requirements for EIA removing the necessity for the regions to regulate, which should help reduce fragmentation. It’s important that the law is fully implemented and deadlines (maximum four months for EIA assessments) are respected. The Market Unity Law complaint process should be used to remove any remaining regulatory fragmentation.

Main recommendations on boosting innovative investment

Increasing the flow of bank credit to smaller firms

Key recommendations

- Set up SME bond funds with guarantees provided both by government and SME companies.

Other recommendations

- Introduce a simple standardised framework for securitising SME debt to foster bank lending to SMEs.
- Require commercial banks to publish prominently the right of SMEs to demand a standardised credit assessment.

Better supporting innovative business investment

Key recommendations

- Increase public and private funding for innovative firms at the seed and early start-up phases.
- Partially reallocate funds from loans to R&D grants to projects and researchers based on performance and international peer review.
Other recommendations

- Increase the emphasis of the state-owned bank, ICO, on providing funding through second-floor facilities for commercial bank loans to new and innovative companies.
- Provide more specific programmes to entrepreneurs, such as financial education of SMEs’ entrepreneurs on options and processes for raising equity finance.
- Shift public funding for venture capital towards the initial and higher ends of the venture capital scale.

Enhancing incentives to invest

Key recommendations

- Continue to implement the Market Unity Law and adopt the professional services reform.
- In cases when debt forgiveness is not automatic, reduce the period during which bankrupt entrepreneurs are required to repay past debt from future earnings.

Other recommendations

- Establish clear guidelines for the participation of public creditors in corporate debt restructuring processes to make them more effective.
- Refocus ICEX, Spain agency to promote FDI, on targeting key investors rather than investment in specific sectors.
- To encourage better allocation of capital and investment decisions by improving pricing signals reform taxation of fuels so that the tax per unit is based on the amount of emissions and other pollutants per unit.

References


