PROMOTING A PRIVATE INVESTMENT RENAISSANCE IN ITALY

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Promoting a private investment renaissance in Italy

Boosting investment is key to supporting the nascent recovery and reviving stagnant productivity. Aggregate investment has declined markedly since the start of the global financial crisis, especially in services. Italy’s investment is so low that the capital stock is now declining, hurting potential output growth. Raising investment will hinge on improving insolvency procedures, enhancing business dynamism, strengthening the innovation system and targeting incentives toward start-ups and innovative SMEs, overcoming problems in the banking sector and restarting lending to firms in addition to diversifying sources of firms’ finance.


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Favoriser le redémarrage de l’investissement en Italie

Il est indispensable de stimuler l’investissement pour étayer la reprise naissante et dynamiser la productivité, qui actuellement stagna. L’investissement global a chuté de manière sensible depuis le début de la crise financière, en particulier dans les services. En Italie, le niveau de l’investissement est si faible que le stock de capital est en train de diminuer, ce qui nuit à la croissance de la production potentielle. Imprimer un coup d’accélérateur à la hausse de l’investissement est fondamental pour conforter la reprise et mettre l’économie sur une trajectoire de croissance durable. Pour développer l’investissement, il faudra améliorer les procédures de faillite, accroître le dynamisme des entreprises, renforcer les mesures visant l’innovation et cibler les incitations en direction des start-ups et PME innovantes, résoudre les problèmes du secteur bancaire et relancer les concours aux entreprises tout en diversifiant les sources de financement qui leur sont accessibles.


Mots-clés : Investissement, insolvabilité, innovation, marchés financiers, crédit, concurrence, crédits d’impôt, capital incorporeal.
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PROMOTING A PRIVATE INVESTMENT RENAISSANCE IN ITALY

By Mauro Pisu

Introduction

The negative impact of the recession on investment was large and prolonged. The collapse of investment in the wake of the crisis accentuated the downward trend in the potential output growth, which started declining in the mid-1990s mainly as result of sluggish TFP growth (Figure 1).

In Italy, the drop in investment was deeper and longer than in most euro area and OECD countries (Figure 2, Panel A). In 2015, Italy’s real investment was 30% below its 2007 level and amounted to just about 17% of GDP, lower than in the mid-1990s (about 19%) and the OECD average (21%). The decline in real investment is mostly attributable to the non-residential component (Figure 2, Panel B). The fall in investment was larger in services and industry and geographically widespread, though larger in southern regions (Figure 3). Real investment started to grow again only in 2015, though only marginally, after eight consecutive years of decline and its weak growth continued in 2016.

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Figure 1. Low investment is dragging down potential output and labour productivity growth

A. Potential output decomposition

B. Decomposition of labour productivity growth

Source: OECD Economic Outlook Database.
Figure 2. Investment has dropped markedly

Growth in information, communications and technology (ICT) capital services, especially software and database, was low before the crisis and slowed considerably afterwards (Figure 4). Knowledge-based capital (KBC, see Box 1) is also low by international standards (Figure 5). KBC is an increasingly important driver of productivity and growth. In some OECD countries investment in KBC has outpaced investment in physical capital and may have accounted for up to one-third of labour productivity growth in the United States and EU countries’ market sectors (Andrews and Criscuolo, 2013; Corrado et al., 2012; Roth and Thum, 2013). Investment in KBC components, such as business processes and organisational capital, significantly contribute to productivity growth in many service industries (Dabla-Norris et al., 2015). Also, for a given level of R&D expenditure, manufacturing companies investing heavily in software generate more patents (Branstetter et al., 2015).

Source: OECD Analytical Database.
Figure 3. The fall in investment was larger in services and widespread across regions

Note: The agriculture sector comprises agriculture, hunting, forestry and fishing (Category A of ISIC 4). The industry sector comprises mining and quarrying, manufacturing, construction and public utilities (electricity, gas and water) (Categories B to F of ISIC 4). The services sector consists of wholesale and retail trade, restaurants and hotels, transport, storage and communications, finance, insurance, real estate and business services, and community, social and personal services (Categories G to U of ISIC 4).

Source: ISTAT
Reviving investment will require policy actions straddling different areas. This study focuses on improving insolvency procedures – to accelerate the reorganisation of struggling but still viable firms and the liquidation of those that are not viable any longer – enhancing business dynamism by increasing competition and ease market entry – especially in the services sector – boosting innovation and investment in KBC, overcoming problems in the banking sector – to increasing lending to firms, especially to start-ups and innovative and SMEs – and developing alternative sources of finance, such as venture capital and the corporate bond market.
The concept of Knowledge-based capital (KBC) includes immaterial assets that, like physical capital, generates economic benefits that can accrue to firms at least for a period longer than one year (OECD, Science, Technology and Industry Scoreboard 2015). Three main components constitute KBC (Corrado et al., 2009):

- Computerised information (e.g.: like software and databases), usually recorded as part of gross fixed capital formation in national accounts.
- Innovative property, encompassing research and development (R&D), mineral exploration and artistic originals, new architectural and engineering designs and new product development in financial services.
- Economic competencies, including firms’ human and structural resources such as firm-specific training, brand equity, and organisational capital.

While R&D, software and databases are included in investment as defined in national accounts, other components such as design, new product development in the financial industry, branding, firm-specific training and organizational capital are not.

**Speeding up insolvency procedures**

An efficient insolvency framework is key to restructuring companies that are still viable and liquidating those that are not. Long and costly insolvency procedures trap capital and other resources in low productive firms, reducing allocative efficiency and depressing investment. Evidence suggests that a nontrivial share of the collapse in aggregate business investment in Italy is attributable to the survival of firms having persistent problems meeting interest payments (Adalet McGowan et al., 2017). The effects on aggregate labour productivity could be even higher as such firms crowd out investment opportunities for more productive firms and discourage the entry of innovative firms. Faster insolvency procedures can contribute to higher private investment and productivity by facilitating the reallocation of capital and other resources to more productive companies with higher return on their investments. It will also help reduce the problem of NPLs, thus reviving bank lending to firms.

Transaction costs of Italy’s insolvency procedures are high. Insolvencies cost about 22% of the estate’s value, against the OECD average of 9%, and the recovery rate from an insolvent firm is about 63%, below the OECD average (Figure 6). During the crisis the number of defaults has increased rapidly and swelled the already large backlog of cases, estimated at around 100 000 in 2015 and 2016; the average length of court-led insolvencies is still above 7 years and varies greatly across courts, ranging from 2 to more than 16 years. Moreover, liquidation is still by far the most common form of insolvency, accounting in 2015 and 2016 for more than 90% of new insolvency cases and an even higher share of backlog cases (MG, 2017). Also, most insolvencies starting as reorganisation procedures (about 90%) end up as liquidation (Castelli et al., 2016).

Italy’s bankruptcy law dates back to 1942 (Box 2). Since the mid-2000s the insolvency law has been undergoing a reform process, focusing especially on reorganisation procedures. For instance in 2007, the authorities modified the composition with creditors in the spirit of a Chapter 11-like procedure. The 2015 reform has increased the transparency and competition in compositions with creditors by allowing third parties to bid for the enterprise or parts of it in addition to enabling creditors to present alternative reorganisation plans if the one proposed by the debtor foresees a repayment to unsecured claims lower than 40%. Moreover, the 2015 reform introduced the possibility of using forcing clauses in debt-restructuring agreements (accordi di ristrutturazione) when a company owes more than 50% of its outstanding debts to financial institutions. In this case, forcing clauses will forcibly extend the debt-restructuring agreement, which a company has reached with financial creditors representing at least 75% of its total debt with financial creditors, to dissenting creditors. The agreement does not affect creditors that are not financial creditors.
Figure 6. Efficiency of insolvency procedures is low

A. Average cost¹ of insolvency proceedings

B. Average recovery rate²

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1. The cost of the proceedings is recorded as % of the value of the debtor’s estate. The cost is calculated on the basis of questionnaire responses and includes court fees and government levies; fees of insolvency administrators, auctioneers, assessors and lawyers; and all other fees and costs.

2. The recovery rate is calculated based on the time, cost and outcome of insolvency proceedings involving domestic legal entities and is recorded as cents on the dollar recovered by secured creditors. The calculation takes into account the outcome: whether the business emerges from the proceedings as a going concern or the assets are sold piecemeal. Then the costs of the proceedings are deducted. Finally, the value lost as a result of the time the money remains tied up in insolvency proceedings is taken into account. The recovery rate is the present value of the remaining proceeds, based on end-2015 lending rates.


In addition, in the context of the on-going reform of the justice system, the government in mid-2016 modified, by decree, the bankruptcy law to boost the use of electronic platforms in insolvency cases. The changes will involve the creation of a digital register with updated and comprehensive information on property repossess and insolvency cases – in line with the 2015 EU regulation on cross-border insolvencies – and the possibility of using electronic means in different stages of insolvencies, such as when creating creditors’ committees and setting dates for court hearings. These changes are part of wider efforts by the Ministry of Justice to systematically collect and publish data and encourage the use of electronic means across the whole justice system (MG, 2017).
These reforms go in the right direction. Marcucci et al. (2015) reckon that the 2015 reform, if effectively implemented, could reduce the average length of bankruptcy procedures to about 3 years, and to 4-5 years, in a less favourable implementation scenario; also, the average duration of judicial foreclosures should diminish from more than four to around three years.

However, going forward there is a need for comprehensive and organic reform of the bankruptcy law. The frequent modifications of the bankruptcy law in the recent past, while necessary, have undermined legal certainty and made the insolvency regime overly complex. The government has used emergency mechanisms (decrees) to pass some of these reforms while ordinary legislative procedures, involving consultations with a wide range of stakeholders might have been preferable. Also, restructuring procedures aiming at making firms emerge as going concerns need to be streamlined and used more often. Over 90% of restructuring procedures start as composition with creditors eventually lead to liquidation either because the composition with creditors is annulled – due to frauds – or creditors do not approve the debtor’s plan or the tribunal does not ratify it. On top of this, the composition with creditors is expensive, absorbing about 30% of the asset value (Camera dei Deputati, 2016).

**Box 2. Main elements of Italy’s insolvency procedures**

Italy’s bankruptcy law provides for both liquidation (fallimento) and – court-led or out-of court – re-organisation plans aiming at making the firm emerge as a going concern. There are three different types of liquidation: 1) fallimento; 2) liquidazione fallimentare; 3) concordato fallimentare.

Court-led re-organisation consists of composition with creditors (concordato preventivo) whereas out-of-court reorganisation can take the form of debt restructuring agreements (accordi di ristrutturazione) and recovery plans (piani di risanamento). With debt restructuring agreements, the debtor presents a repayment plan that must be approved by creditors representing at least 60% of the outstanding claims. An expert provides an opinion about the feasibility of the repayment plan, which must be approved by the judge before becoming binding for approving creditors only. Dissenting creditors need to be paid in full. Recovery plans seek to restore the company’s financial equilibrium, especially in cases of liquidity or temporary crisis and require an agreement between the debtor and creditors.

Special procedures apply to financial intermediaries, cooperatives and large enterprises (amministrazione straordinaria).

The government is well aware of these problems and in early 2016 submitted to parliament an enabling law to organically reorganise the insolvency regime based on the recommendations of a high-level commission (“Commissione Rodorf”). The main elements of the enabling law are consistent with the 2014 European Commission recommendations on business failures and insolvencies. The enabling law’s main aims are to make it easier for insolvent firms to emerge as going concerns through restructuring agreements, encouraging the use of out-of-court restructuring procedures (by lowering the required share of creditors who must agree on it), enhancing court specialisation and introducing an alert procedure to signal, early on, crisis situations so that the firm and creditors might prevent the start of judicial insolvency. To lower the social stigma linked to bankruptcy procedures, the enabling law also replace the term bankruptcy with insolvency, in line with recent changes in other European countries.

The enabling law and the ongoing reform of civil courts hold the promise of providing a coherent framework for insolvency procedures and accelerate them. Increasing court specialisation and providing judges with more specialised training is especially welcome, as evidence attest of their effectiveness (OECD, 2013). Facilitating the use of debt-equity swaps could facilitate the emergence of insolvent firms as going concerns, which is one of the goals of the new enabling law on insolvency. Debt equity swaps are an important instrument in corporate restructuring (Hart, 2006) but their use in Italy is limited. In court led
procedures – namely composition with creditors – debt equity swap are allowed and apply also to dissenting creditors. However, as noted above most of compositions with creditors lead to liquidation, suggesting debt equity swaps are hardly useful. In out-of-court procedures, debt-equity swaps are possible but they do not apply to dissenting creditors who may insist to be repaid in full (Box 2). Applying debt-equity swaps in out-of-court restructuring procedures to dissenting creditors (similarly to what the 2015 introduced for financial creditors only) would facilitate the use of debt equity swaps and decrease the likelihood of liquidation.

Enhancing competition and improving regulation

Over the last years, Italy has made progress on opening up product markets to competition as reflected by the improvement in OECD Product Market Regulation (PMR) (Figure 7). The easing in product market regulation between 2008 and 2013 was attributable to improvement in the area of state controls and, to a lesser extent, in the areas of barriers to entrepreneurship and barriers to trade and investment. Despite the improvement, there is still room to lower barriers relating to state controls, which is still close to the OECD average, by reducing public ownerships.

However, easing product market regulation has not resulted in visible productivity and investment gains. Problems with implementation and enforcement attributable to inefficiencies in the public administration and judiciary have created a wedge between de jure and the de facto standards (OECD, 2015c; Allio and Rangone, 2016). The World Bank’s Doing Business Indicator captures more closely de facto standards as it is based on the actual obstacles businesses face. In this respect, Italy scores poorly compared with the PMR indicator. The Competition Authority (AGCM, 2015) has highlighted that the proliferation of regulations, administrative complexity and a widespread distrust towards competition have abetted incumbents and hampered competitive pressures by fostering legal uncertainty. In many cases, sub-national governments have also resisted efforts to increase competition in sectors historically dominated by municipal enterprises, such transport and other locally provided services.

Regulatory restrictions hindering market entry hamper business dynamism and investment. Compared with other OECD countries, Italy has a low start-up ratio and average size of entry; besides the start-ups’ survival rate is high (Figure 8). Cross country evidence also show that lower product market regulation is associated with higher investment (Egert and Gal, forthcoming). In this regard, efforts to improve the efficiency of the public administration and the judiciary are welcome and should be pursued vigorously. The ongoing public administration reform contains important provisions on local public services, municipal enterprises and port authorities going in the right directions that, if not diluted, will enhance competition in these sectors.
Figure 7. Restrictions to product market competition have eased

A. Overall PMR indicator
Scale 0-6 from least to most restrictive

B. Doing business indicator
Distance to frontier, from 0 (lowest performance) to 100 (best performance)

1. Average of all OECD countries excluding the United States and Latvia.

Source: OECD Product Market Regulation Database; and World Bank, Doing Business 2017 Database.
Across sectors, barriers in professional services and network sectors are close to, or below, the OECD average whereas they are still high in retail trade, mainly on account of regulations protecting incumbents and limitations to promotions and discounts (Figure 9). The OECD Service Trade Restrictiveness (STRI) index indicates that regulation remains restrictive in transport sector, namely air and maritime transports, but also in some professional sectors such as engineering, legal and accounting services (Figure 10). Overall, barriers to entrepreneurship in services can be lowered significantly.

Regulatory restrictions in the services sector can be especially damaging to economic activity, investment and social welfare. Services account for about 18 and 58% of Italy’s exports in gross and value added terms, suggesting that Italy’s goods’ exports rely intensively on services inputs (OECD, 2015d). Restrictive regulation in the services sector therefore affects negatively the competitiveness of the Italian
industrial sector, in addition to hindering the dynamism of the services sector per se, which account for most of Italy’s GDP.

**Figure 9. Product market restrictions are still high in retail trade**

Index scale from 0 to 6, from least to most restrictive

**A. Regulation of professional services**

**B. Regulation in retail trade**

**C. Regulation in network sectors (energy, transport and communications)**

*Note: In 2013, average of all OECD countries excluding the United States. Panel A, the Slovak Republic and Slovenia are also excluded to calculate the OECD average in 2008 due to missing data.*

*Source: OECD Product Market Regulation Database.*
Figure 10. Service trade restrictiveness index (STRI)

The indices take values between zero and one (the most restrictive)¹

1. The index includes regulatory transparency, barriers to competition, other discriminatory measures, restrictions on movement of people and restrictions on foreign entry. The STRI methodology takes into account different market and trade cost structures across sectors to ensure that they reflect the relative restrictiveness of each sector. Nevertheless, the indices may not be perfectly comparable across sectors. The indicators are for 2013 or the most recent year available.

Source: OECD Services Trade Restrictiveness Index Database.

Easing regulation in the services sector will generate large benefits. Results for Italy show that occupational licensing abets nepotism, often leading to lower quality of services (Pellizzari et al., 2011). Easing entry restrictions in the service sector, when undertaken, has yielded good results. In the pharmacy market, a reduction in rents has expanded job opportunities and reduced the likelihood of pharmacists’ children to follow their parents’ profession (Mocetti, 2016). Pagliero (2015) also reports that the 2006 Bersani reform that partly liberalised the pharmacy and legal profession has had a positive effect on earnings of pharmacy graduates; it has had no effect on law graduates, however, probably because of the long delay in the implementation of the reform in this area.

The competition law the government presented to parliament in 2015, which is still being discussed, goes in the right direction. The law deals with different services sectors such as: insurance to reduce frauds, increase transparency and enhance offer comparability; telecommunications, to make it easier to switch provider; Poste Italiane, to end its monopoly on judicial and administrative notifications; electricity and gas sectors, to remove remaining price regulations. Other measures concern notaries, pharmacies, law firms, banks, fuel stations and pensions funds (AGCM, 2015). The law needs to be swiftly approved without further weakening its provisions. The government should then adopt a new competition law in 2017 to continue its efforts of market opening and expand opportunities.

Easing regulation must also be accompanied by better regulation. In Italy, regulatory impact assessment (RIA) is already required for all legislation started by the executive (OECD, 2015f). Ex ante and ex post assessment are linked by a requirement to evaluate ex ante progress indicators two years after the entry into force of the law. An extensive measurement of administrative burdens and the repeal of redundant laws were undertaken between 2008 and 2012, and in 2014 a new burden-reduction programme was adopted.

There is a need to pursue and deepen these initiatives further so as enhance the quality of regulation and lighten the regulatory burden on businesses. For instance, RIA could be made public and used as basis
for *ex ante* public consultation. Open consultations have been conducted on major reforms (such as education, justice and public administration simplification since 2014); however, public consultations are often informal and usually initiated by individual ministries. A single list of laws under preparation or to be amended could facilitate feedback from a wider audience. A stronger *ex ante* assessment would also usefully complement the important effort to assess legislation *ex post*.

**Encouraging innovation and investment in knowledge-based assets**

Italy is a below-average innovator among EU countries (EC, 2016). Public and private R&D spending is low by OECD standards and the number of researchers is also low (Figure 11). Weak research and innovation activities have resulted in a low number of patents per million of inhabitants (Figure 12). Yet, Italy performs considerably better when considering research productivity as the number of patents per number of researchers and unit of R&D expenditure is above OECD average (Figure 13). This suggests that low innovation is mostly due to the low level of spending and number of researchers, rather than low productivity.

Italy’s research and innovation policy has for a long time suffered from excessive fragmentation. This is attributable to a large number of agencies at national and subnational levels with responsibilities in policy development and execution and by an equally fragmented financing system. Attempts to simplify the financing system have yielded no results (MIUR, 2015; Filocamo, n.d.). Italy currently counts at least 5 national research funds. Two of them (FFO and FOE) are used to fund universities and public research institutes; others are used to provide direct support measures and include: FIRST, for basic and industrial research and experimental development; FAR, to promote links between universities and industry; FISR, to contribute to strategic research projects as identified by the PNR. In addition, the FSC (*Fondo Coesione Sociale*) and PON (*Programme Opératif National*) contribute to funding research and innovation activities, mainly based on regional-disparity considerations; finally there are regional and European funds for research and innovation activities (MIUR, 2016).

Frequent and unclear changes in the legislation have led to programmes disconnected from national priorities and lacking unity (MIUR, 2015; Filocamo, n.d.). This has hindered the development of an efficient national innovation system by limiting the flow of knowledge among innovation actors and spillovers, in addition to hampering monitoring and evaluation. The experience of OECD countries suggests the importance of three pillars for a successful research and innovation policy (OECD, 2015g):

- A long term vision based on a national strategy for science, technology and innovation. This is key to enhancing the research and innovation system, and facilitating knowledge flows among all innovation actors (public agencies, research centres and industry); in addition, long-term public research funds can help support projects with high and longterm social returns but too risky for the private sector to undertake (Mazzucato, 2013).

- A serious monitoring and evaluation system. Developing a reliable monitoring and evaluation system is crucial to learn from experience and develop evidence-based policies.

- The right balance between R&D tax credits and direct support measures. Direct support measures, such as, grants, procurement contracts, awards for mission-oriented R&D or support for networks – can be especially important for young firms as they often lack the funds or collateral necessary to finance innovative projects. To be effective direct support measures need be based on competitive and transparent criteria. R&D tax credits can also be effective in raising R&D expenditure but their impact, if not correctly designed, is likely to be larger among already existing and profitable R&D performers (Appelt et al., 2016). R&D tax credits can also provide large companies with additional opportunities for cross-border tax planning. Recent research has
indeed shown that if not well designed R&D tax incentives tend to protect incumbents and slow down the reallocation process (Bravo-Biosca, Criscuolo, and Menon, 2013).

Figure 11. R&D spending and the number of researchers are low

Note: Panel A, Mexico and Switzerland - split not available.
Source: OECD Main Science and Technology Indicators Database 2016.

In 2015, the Ministry of Education, University and Research published the National Research Programme (Pragramma Nazionale per la Ricerca, PNR) outlining the national research strategy over the next five years (MIUR, 2015). The Programme is coherent with the EU Horizon 2020 Programme. The plan has as overarching theme the establishment of a research and innovation policy’s national governance system so as to improve coordination and reduce fragmentation. Specific objectives include: the internationalisation of Italian research activities, especially in the European context; raising investment in human capital to increase the quality and quantity of researchers in the public and private sectors; improving research laboratories and infrastructures; fostering public-private sector collaboration; supporting research and innovation in the “Mezzogiorno”; enhancing research-spending efficiency through reinforcing administrative capacity at all levels. The Plan also allocates EUR 2.5 billion over the 2015-18
(Figure 14), which are in addition to the EUR 8 billion higher-education and public-research institutes receive yearly.

**Figure 12. Number of patent is low**

Patent applications to the EPO¹ per million inhabitants, 2014 or latest year available.


Source: Eurostat.

The PNR is a welcome step to develop a coherent long-term national research and innovation strategy. Assessed against the three principles highlighted above, the PNR moves towards meeting two of them, namely a long term national strategy for science technology and innovation – through improved governance – and a more effective monitoring and evaluation system – through enhanced administrative capacity. Currently, research output of universities and public research institutes is evaluated by expert groups following the Standards and Guidelines for Quality Assurance in the European Higher Education Area (ESG, 2015). The results of the research quality evaluation exercise (Valutazione Qualità Ricerca, VQR) are used to allocate about 15% of public funding to universities, against about 25% in the United Kingdom (ANVUR, 2016). The Ministry’s commitment to allocate a larger share of funds for public research institutes on a competitive basis is therefore welcome. To increase transparency and trust in the system, the government should publish clear guidelines to allocate research funds to universities and public research institutes based on VQR results. Making the results public will strengthen yardsticks competition, which has been found to have a positive effect on research output (Aghion et al., 2010).
Encouraging university-industry collaboration is another important specific objective of the PNR 2015-1020. To this end, in 2015 the government introduced a tax credit (to be discussed below) for R&D collaboration between businesses and universities or research institutes. Such support measures are usually predicated on the premise that this type of collaboration often involves basic research, which is likely to yield larger social benefits than applied research, and the existence of hurdles hindering knowledge diffusion (Appelt et al., 2016). Italian universities account for about 60% of the total R&D spending on basic research against only 15% by public research institutes (Figure 15). It would be opportune to target support measures aiming at fostering university-industry collaboration to basic research projects as they are less likely to be funded by private sources alone. Mazzucato (2015) and Singer (2015) stress how public funds have played a fundamental role in fostering public-private collaboration on basic research, which has been key to developing pharmaceutical, biotechnology and other science-based industries.
Italy has also recently introduced a wide range of incentives to boost innovation under the Industry 4.0 Plan over 2017-20 (Box 3). This provides for about EUR 13 billion during 2017-20 to boost investment in digital technologies, innovation and capital accumulation. Unlike other European countries, Italy has lacked for a long time a comprehensive innovation strategy. The initiatives recently undertaken contribute to align Italy’s innovation policies to those of other European countries. They also include R&D tax credits and a patent box.
The R&D tax credits were introduced in 2015 and reinforced with the 2017 budget law (Box 3). The R&D tax credit system is formally incremental as only the R&D expenses above the 2012-14 average count towards the tax credit. The fixed reference period (2012-14) implies that for start-ups or other firms with no R&D spending during the reference period the tax incentive is actually volumetric. The tax credit can be carried over if the company is loss making and can be used to offset corporate income and regional taxes and social security contributions but is not refundable. The R&D tax credit system will expire in 2020.

Overall, the introduction of the R&D tax credits is an important step to boost Italy’s innovative capacity. R&D tax incentives are used in 28 OECD countries. Most OECD economies – e.g. Australia, Austria, Canada, Chile, France, Iceland and Norway – provide tax incentives on the level of R&D spending; a few other countries – such as the United States – have tax incentives on the increment in R&D expenditure; still others – e.g. Japan Korea and Spain – apply an hybrid system. Overall countries with the most generous R&D tax credit have volumetric or hybrid systems whereas Italy has introduced an incremental system. The overall trend among OECD countries in the latest years has been to move towards simpler and more generous tax incentives (OECD, 2015e).

The 2015 Stability Law also introduced a patent box, which is a lower tax regime applying to income generated by intellectual property (IP) rights (such as patents, but also trademarks) (Box 4). Italy’s patent box regime largely complies with the OECD recommendations to prevent base erosion and profit shifting (BEPS). However, Italy’s patent box regime applies the reduced tax rate also to income from marketing intangibles, which is against OECD recommendations included in the BEPS Action 5. Ownership of IP assets, such as patents, copyrights, trademarks or brands can be easily located in low-tax jurisdiction. To prevent this, some countries have introduced patent boxes, e.g. France in 2001, Hungary in 2003, the Netherlands and Belgium in 2007, Spain and Luxemburg in 2008 and the United Kingdom in 2013. Patent boxes however appear to be unsuited to successfully promote innovation activities, especially by innovative start-ups and SMEs (Appelt et al., 2016). For instance, in 2015 the government received about 4,500 requests to adhere to the new patent box regime, but most of them came from large companies. Startups need funds to conduct their research as early as possible whereas there can be a long lag between when the tax relief is received and the R&D expenditure. Also, lower taxes can apply to income linked with innovation activities that have taken place before their introduction. Patent boxes provide an *ex post* reward only to successful innovators that already hold monopoly rights on their inventions and receive an income from it. Evidence on the effectiveness of patent boxes is indeed mixed; in the Netherlands the foregone revenue due to the patent box is about 6% of corporate tax revenues (IMF, 2016).

**Box 3. Main elements of Italy’s Industry 4.0 Plan**

In 2016, the government launched the National Industry 4.0 Plan, which provides a range of incentives for about EUR 13 billion over 2017-20 to boost innovation and skills in new technologies. This is the first national industry plan explicitly aiming at modernising the productive structure of the economy, following similar initiatives in other countries, such as France (Industrie du Futur), Germany (Industrie 4.0) and the United States (Manufacturing USA).

Its key elements include:

- **Hyper-depreciation scheme** (introduced with the budget law of 2017): companies will be allowed to deduct 250% of the value of investments in selected Industry 4.0 technologies, which are instrumental to the digitalisation and innovation of industrial processes.

- **Super-depreciation**, (introduced in 2016 and enhanced in 2017): companies will be allowed to deduct from their taxable income 140% of the original cost of machineries, software (if connected selected Industry 4.0 technologies) and other eligible equipment.
Raising the share of internal R&D spending that is deductible from companies’ taxable income to 50% (from 25%) – the same as for external R&D spending – and raising the annual tax-credit ceiling to EUR 20 million (from EUR 5 million).

Stronger incentives for investing in start-ups and innovative SMEs by: raising the tax credit to 30% (from 19%) of the invested capital in start-ups and innovative SMEs and raising the maximum eligible investment to EUR 1 million (from EUR 0.5 million); allowing companies to claim a tax credit equivalent to losses of controlled start-ups for their first four years of activity; boosting venture capital dedicated to selected Industry 4.0 technologies through co-investment schemes with private sector funds.

The Industry 4.0 Plan also aims at enhancing the supply of skills relating to new technology by: implementing the Digital School National Plan; increasing the number of students (at university and post-secondary vocational and education training courses) and doctoral researchers in technical and scientific subjects; creating competence centres and digital innovation hubs to promote cooperation and exchanges among universities, businesses, start-ups and public sector so as to foster technological transfer and enhance technical and managerial skills on new technologies.

The Industry 4.0 Plan is flanked by a planned increase in public investments to significantly extend the ultra-broad band network, especially in areas where private operators are unwilling to invest to extend the network.
Figure 16. Tax subsidy rates on R&D expenditures

**Note:** The tax advantage is calculated as 1 minus the B index, which is a measure of the before-tax income needed to break even on an additional unit of R&D outlay. The index is calculated for a representative firm according to whether it can claim tax benefits against their tax liability in the reporting period. This is an experimental indicator and international comparability may be limited. See also OECD (2015a), *OECD Science, Technology and Industry Scoreboard 2015*. Data for Italy refers to 2017 to take into account the most recent legislative changes.


Overall, these recent policy changes are welcome as they show the willingness to put innovation at the forefront of the policy agenda. After these changes, the tax advantage for R&D spending in Italy is still modest compared to most OECD countries. The size of the tax credit is also the same for large and SMEs in contrast with other countries, such as France, the United Kingdom and Canada (Figure 16). Then, there seems to be scope to make research and innovation incentives more efficient by targeting them to start-ups and innovative SMEs. These firms are likely to suffer from severe financial constraints hampering their R&D efforts, unlike larger companies that are more able to engage in cross-border tax planning and have better access to finance anyway. This approach is consistent with the OECD’s broad policy recommendations on the need to design R&D incentives taking into account differences between large and small firms (OECD, 2015e). A recent study on the United Kingdom system indicates that, if well targeted,
R&D tax credits increase R&D and patenting among financially constrained young and SMEs (Dechezlepretre et al., 2016).

Going forward, a carefully evaluation of the new R&D tax credit system will be needed to make sure it is cost-effective and addresses specific market failures. The government should carefully evaluate the effect of the patent box regime on foregone tax receipts and innovation rates and fully align its design with OECD recommendation. If the patent box regime is found not be cost effective, funds should be shifted to programmes targeting young and innovative SMEs.

Box 4. Italy’s patent box

Italy’s patent box provides an exemption for corporate income tax (IRES) and the regional tax on productive activity (IRAP). The exemption regards the income derived from patents and other intellectual property considered functionally equivalent to patents such as know-how, trademarks designs and models eligible to legal protection, software protected by copyrights. The tax exemption was set at 30% for 2015, 40% for 2016 and 50% thereafter.

The types of income covered by the exemption include:

- Third party or intercompany royalties derived from qualifying intellectual properties.
- Share of profits deriving from activities where the intellectual property is used in producing goods or services for sale.
- Gains arising on the transfer of ownership of relevant intellectual property, if 90% or more of the proceeds are re-invested in similar assets.

The amount of income that can benefit from the reduced taxation is in proportion of the share of the qualifying expenditure in the total expenditure incurred to develop the intellectual asset. The calculation of the ratio must be made separately for each intellectual asset. More specifically, the qualifying expenditure consists of R&D expenditure incurred directly by the taxpayer or through collaborations with university or third parties relating to the maintenance and development of the intellectual asset. The qualifying expenditure must be defined consistently with the substantial activities requirement (“modified nexus approach”) set out by the OECD Forum on Harmful Tax Practices. The bill requires taxpayers to enter into an Advanced Pricing Agreement (APA) with the Italian Revenue Agency.


Addressing bank lending constraints

The weak investment recovery is attributable to both demand and supply factors. Bank financing costs have fallen to exceptionally low levels as results of ECB’s extraordinarily supportive monetary policy (Figure 17). Despite this, bank loans to non-financial corporations has kept declining (Figure 18, Panel A). The demand for loans from non-financial corporations started increasing in early 2015 driven partly by the need to finance fixed investment but also inventories and working capital (Figure 18, Panel B). The decline in bank loans is then partly attributable to still tight banks’ credit standards as evidenced by banks’ risk perception, which after a drastic increase from 2008 to 2014 has only recently started to fall.
Figure 17. Lending interest rates have diminished but loans disbursements have recovered only slowly

Bank interest rates on loans in EUR - new business, maturity up to 1 year


Banks have poor returns on assets, which have recently started to improve, and large stocks of non-performing loans (NPLs). Along with weak demand, these factors are contributing to slow down loan disbursements. Banks’ poor return on assets is attributable to the long and deep recession, but also to poor governance, especially among many cooperative banks, high fragmentation and operating costs that have characterised Italy’s banking sector for a long time. For instance, Italy has the fourth largest number of bank branches per 1 000 people, 65% above the EU countries average. Moreover, bank branches are small, employing less than 10 people on average – 63% below the EU average. Overall, this is indicative that there is ample scope to increase efficiency by reducing the number of bank branches.

The government has taken important steps in this area by promoting a new voluntary code of conduct for banking foundations and mandating for mutual banks to consolidate or become joint-stock companies while for large cooperative banks to turn into joint-stock companies. Improving the conduct of banking foundations and lowering their influence over single banks, by diversifying foundation’s portfolio, is key to improving banks’ performance as banking foundations have often provided a link between banks and local governments, distorting lending and managerial decisions (e.g. Boeri, 2013).

NPLs, net of provisions, amounted to about 90% of banks’ capital at end-2015, the second highest highest among EU countries. The gross value of non-performing loans is about EUR 350 billion, representing about 18% of all outstanding loans (Figure 19, Panels A and B). The total gross NPLs can be subdivided into: 1) bad loans (“sofferenze”), accounting for about 60% of NPLs (about EUR 200 million); they are the most problematic type of NPLs as they involve loans to insolvent counterparties; and 2) past-due or likely to default loans, amounting to about EUR 150 billion; for them a return to performing status is still possible. The rise in bad loans during the post-crisis period is mostly attributable to the non-financial corporation sector (Figure 19, Panel C). In the past years, banks increased loan loss provisions substantially, which reached about 100% of operating profits in 2013-14; as a result the net realisable value of bad loans (i.e. the gross value of bad loans minus provisions) dropped from more than 50% to just above 40% (about EUR 85 billion) (Figure 19, Panel D). The net value of bad loans is backed by personal and collateral guarantees with a nominal value of about EUR 120 million.
The rise in NPLs in recent years is partly attributable to the unfavourable macroeconomic developments. Yet, Italy’s NPL ratios were higher than in other European countries even in the pre-crisis period due to the banking sector’s structural challenges highlighted above. The stock of NPLs is weighing on banks’ balance sheet and contributing to constraining credit supply, especially towards more risky borrowers such as start-ups and SMEs. NPLs impinge negatively on the credit supply through two main channels: lowering profitability and tying up capital. First, NPLs reduce banks profitability either through higher costs of provisions or lower future income streams. NPLs also hurt banks’ profitability by weakening their balance sheet, thus raising risks perceptions, and undermining investors’ confidence. Second, because of the higher risk weights on impaired assets, NPLs tie up banks’ capital, thus curtailing the supply of new loans to other firms. Illustrative evidence from banks in the euro area reveals that a high ratio of NPLs is associated with lower lending growth, higher funding costs, lower interest income and profitability, and weaker capital buffers (Aiyar et al., 2015a).

![Figure 18. Loan disbursement is still on a downward path](image)

**A. Changes in banks’ credit standards and firms’ demand for loans**

**B. The contribution of factors affecting loans demand and supply**

1. The diffusion index is the weighted average of answers from the ECB bank lending survey, with weights equal to the frequency observed for any possible answer. For questions concerning the supply of credit, the values assigned to the qualitative answers are the following: 1 = tightened considerably, 0.5 = tightened somewhat, 0 = basically unchanged, -0.5 = eased somewhat, -1 = eased considerably. For questions concerning the demand for credit and the share of rejected applications, the numerical values are the following: 1 = increased considerably, 0.5 = increased somewhat, 0 = basically unchanged, -0.5 = decreased somewhat, -1 = decreased considerably. The range of variation of this index is from -1 to +1.

Source: ECB bank lending survey (BLS).
Policies to successfully deal with NPLs should be framed around three main pillars: tightening regulatory policies, developing a market for distressed debt and improving insolvency and loan foreclosure procedures (Aiyar et al., 2015a; Liu and Rosenbeg, 2013). The government has taken important steps in these directions by streamlining and accelerating insolvency and foreclosure procedures and attempting to create a distressed debt market. Major initiatives include: shortening the period for tax deductibility of loan losses from 5 years to 1 year, in line with other EU countries; establishing a government guarantee scheme on senior tranches of securitised non-performing loans that is compliant with EU state-aid rule; coordinating the creation of the private-sector fund (Atlante) by a large set of Italian financial institutions to support banks’ recapitalisation and invest in securitised non-performing loans; reforming loan foreclosing procedures, which could cut the length of foreclosing procedures from 3 and half years to about 7-8 months. The latter includes the so-called “Marcian Pact”, which enables, in case of missed repayments, to transfer a real-estate collateral to the creditor in a simple procedure; if collateral’s value exceeds the amount owed, the creditor will reimburse the difference to the debtor. Also, to facilitate the sale and the valuation of collaterals, stamp duties on auction sales of real-estate collateral have been reduced to EUR 200. Finally, “non possessory lien” now allows companies to keep and use the asset given as guarantee.

**Figure 19. The stock of non-performing loans is large**

**A. Non performing loans (NPLs) 2016Q2 or latest available**

**B. NPLs to total gross loans**

**C. Bad debts¹**

**D. Bad debt¹ ratio and realisable value**

1. Bad debts ("sofferenze") comprise the most risky non-performing loans. The realisable value of bad debt is the gross value of bad debts.
2. Non-Profit Institutions Serving Households.

*Source: Thomson Reuters; IMF Financial Soundness Indicators; and Bank of Italy.*
These are positive developments but there still remains a large gap between the realisable value of bad loans in banks’ accounting books and market-based valuations. The large valuation gap stems from the high discount rate investors use for valuing non-performing loans compared to banks due in part to the costly, long and uncertain loan-foreclosure procedures, which raise perceived risks. A survey of the Bank of Italy covering the 2011-14 period (Carpinelli et al., 2016) reveals the average length of loan recoveries was 3.5 years; the average recovery rate was about 40% on average and declining. Some of the government’s reforms discussed above aim at accelerating foreclosures. Also, the largest Italian banks have taken steps to improve the management and recovery of NPLs but smaller banks may lack the resources and capacity to do the same.

To accelerate the reduction of banks’ NPLs and promote the development of a liquid and deep market for them the supervisors could set gradual, bank-specific, credible and time-bound quantitative targets to work out legacy NPLs. This would be consistent with recently published Draft Guidance to Banks on Non-Performing Loans (ECB, 2016), following which banks, especially those with a large stock of NPLs, should develop a NPLs’ reduction strategy, including short-term (1 year) and medium-term (3 years) quantitative targets.

Setting targets is the approach followed in Ireland, after the crisis, and Japan in the late 1990s and early 2000s, which proved successful in reducing the stock of NPLs and creating a distressed debt market. Targets to dispose of NPLs should be bank specific so as to tailor them to the banks’ characteristics. Banks with high NPLs should report their strategy and operational plan to the supervisor on a quarterly basis and explain any deviations from them. Non-compliance should trigger supervisory measures such as imposing sales of assets, suspension of dividend payments and reduction of operating costs. Incentives to accelerate the reduction of NPL’s could consist of tax incentives linked to NPLs work-out rates. It is urgent to act soon as the return of bad debts to levels comparable to the pre-crisis will take several years even if banks markedly increase the write-off ratio of bad-debts and loans growth accelerates (Figure 20).

Consistent with ECB’s Draft Guidance to Banks on Non-Performing Loans (ECB, 2016), the supervisors should make sure to phase in, from 2018 as currently envisaged, stricter rules relating to write-offs, loan provisions and valuation of collaterals (IFRS9). Under the current International Financial Reporting Standard (IFRS), Italian (and EU) banks follow a backward-looking (incurred-loss) approach to loan provisions, leaving ample room for judgment that can result in insufficient provisions and write-offs. Also, current rules allows for the accrual of interest income from NPLs (as banks keep recording in their books uncollected interest income though the borrower is unlikely to repay either the principal or the interest of the loan) thus inflating banks’ profitability and discouraging the disposal of NPLs. Finally, there is not clear guidance regarding the valuation of collateral. The United States differ in this respect as, according to the GAAP treatment of NPLs, banks are obliged to: 1) suspend the accrual of interest income from NPLs after 90 days past due on payment or if the loan is deemed uncollectable; and 2) write down of NPLs to the collateral value after 6 months, with the collateral value based on the current price and no account for any forecast increase in market valuation. As a result, in the United States banks have recognised loan losses early in the crisis. NPLs peaked at 5% of gross loans in 2009 and have since then declined to below 2%. Importantly, the 6-month write off requirement leads to the gradual disposal of NPLs, thus contributing to the depth and liquidity of the distressed debt market and facilitating price discovery for NPLs. Because of this, in the United States the distressed debt market is significantly larger than in Europe (Altman, 2012; Aiyar et al., 2015a, 2015b).

Attracting foreign capital and catering to investors seeking a higher risk-return profile should support growth and liquidity of a distressed debt market. Developing a liquid market for distressed asset would allow banks to manage and dispose of their NPLs more rapidly and efficiently. According to some industry estimates Italy’ distressed debt market is promising and could become one of the largest in the world, given the large stock of NPLs (PWC, 2016a; PWC, 2016b). In 2015 completed loan sales amounted to
EUR 17 billion – against EUR 44 and 23 billion in the United Kingdom and Ireland, the two largest markets in Europe – which is still low compared with the stock of NPLs. However, most of these transactions concern unsecured loans as the valuation of collaterals attached to non-financial corporation loans is problematic (ECB, 2016a). Euro area wide efforts to develop a secondary market for non-financial corporation NPLs would also be beneficial (ECB, 2016b).

Figure 20. The decline in bad debts will be gradual

A liquid market for NPLs would reduce the likelihood of fire sales by banks, which are likely to aggravate the fragility of the banking system, and reduce investment and output (Shleifer and Vishny, 2011); this would contribute to a virtuous cycle, whereby progress in cleaning banks’ balance sheets and restructuring distressed borrowers improves confidence, enhances bank profitability and frees up resources to support new lending. Japan provides a good example of how to develop a distressed debt market in relationship banking environment (Box 5).
Box 5. The development of a distressed debt market in Japan

The collapse of the Japanese financial bubble in 1991 lasted for more than 10 years, resulting in plunging asset prices and a rising stock of banks’ NPLs. During 1998-2002, the government took decisive measures to create a market for and resolve NPLs. In the subsequent years, the stock of NPLs first increased, as banks were forced to recognise them; afterwards it diminished drastically (Figure 21).

Figure 21. Policy measures helped to lower the NPL ratio in Japan

The first step in resolving banks NPLs was to induce banks to sell the collateral provided by distressed SME borrowers so as to create a distressed debt market, focusing initially on collateral. Until the late 1990s, banks had made insufficient provision for NPLs as the assessment of loan losses was largely left to the judgment of individual banks. In addition, banks did not have adequate incentives to make sufficient provisions as they were not allowed to deduct them from taxable income.

In 1998, the Financial Reconstruction Law required banks to classify distressed borrowers more precisely than previously and this played an important role in accelerating NPL disposals. The 1998 Law also created the Resolution and Collection Corporation (RCC) as a government-owned agency (owned by the Deposit Insurance Corporation) by merging two government-owned institutions that had the responsibility of collecting bad loans from failed housing loan companies, banks and credit cooperatives. Consequently, its portfolio initially consisted of real estate collateral on defaulted loans. The 1998 Law also gave RCC the power to purchase distressed assets at fair market value, securitise NPLs, restructure companies and participate in debt-equity swaps, thus accelerating the disposal of NPLs.

In 2001, the Emergency Economic Measures further accelerated the disposal of collateral owned by nonviable SMEs. The measures required major banks to remove NPLs from their books within three years after their recognition by selling them directly to the market, pursuing bankruptcy proceedings, or by rehabilitating borrowers through out-of-court workout procedures. Any remaining loans had to be sold to RCC at fair price. Between 1999 and 2002, the RCC purchased loans worth JPY 55 trillion (USD 495 billion, 10.9% of GDP) at 96% discount. The RCC also improved the transparency of the NPL market by setting standards of disclosure and publishing information on collateral. In 2002 the government announced the Financial Revitalization Program with the aim to promote corporate debt restructuring for large firms. Authorities tightened loan assessment standards for large borrowers (using market information such as stock prices, credit ratings and discounted cash flow analysis). This led banks to reclassify part of their portfolio as sub-performing and sell such assets in the distressed debt market.

Overall, these measures resulted in a large increase in banks’ NPL write-offs and NPL market transactions, and the distressed debt market evolved. In the mid-1990s, the market was dominated by foreign funds that were able to achieve very high internal rates of return (30-50%) as banks sold collateral linked to NPLs at low prices. As the number of investors (especially Japanese) in the distressed debt market rose and the banks started using auctions, prices increased and the internal rate of return of buyers dropped to single digits. Overall, the process was not painless. The number of failed financial institutions rose progressively during the 1990s to reach 56 in 2001.

Boosting alternative sources of finance

SMEs are the backbone of Italy’s economy but along with young companies they face more difficulties in accessing bank credit than large companies. This is due to information asymmetries between lenders and borrowers, which are especially severe for SMEs, start up and young firms (OECD, 2015b; EC, 2014). These information asymmetries can preclude or ration access to credit, in addition to raising its cost, because of higher perceived risks by lenders.

In Italy, non-bank sources of finance are underdeveloped. Bank loans account to about 62% of firms’ financial debt. Italy offers few opportunities for equity investment as the stock exchange is small compared with the size of the economy, and the private equity and venture capital industries are also small. Also, the family-based ownership of many SMEs might discourage the entry of outside investors in firms’ equity. Firms’ controlling stakes benefit from an inheritance-tax exemption, which discourage the sale of equity shares to outside investors and entrench family ownership (which is often averse to hiring professional managers or adopting modern management practices).

As results, Italian companies are undercapitalised. The debt-to-equity ratio of Italian non-financial corporations has historically been higher than in most OECD countries and increased during the post-crisis period (Figure 22). Excessive reliance on debt compared to equity damages firms’ long-term investment and growth prospects. Evidence across OECD suggests that during the post-crisis period companies with rising debt to equity ratio had lower productivity growth (OECD, 2016a). Equity capital can indeed provide (along with free cash flow) the long-term perspective that innovative and risky investment requires. Relying excessively on debt can on the contrary blunt management’s incentives to invest and innovate as a larger share of the return on investment will accrue to creditors through interest payments.

Basic policy principles to diversify the source of corporate finance away from bank lending towards market-based debt and equity include (OECD, 2015a): the removal of tax incentives that favour debt over equity, the simplification of equity listing rules to encourage initial public offerings, reforms to promote private equity and venture capital industries and a liquid and deep corporate bond markets. In the past years, the government has taken on these issues with the following measures (part of the Finance for Growth and Industry 4.0 plans):

- The process for SMEs’ listing in the stock exchange (Alternative Investment Market) has been simplified and the ELITE programme launched to introduce SMEs to capital markets. The notional interest rate applied to the injections of new equity (allowance for corporate equity, ACE) was increased progressively from 3% to 4.75% in 2016. Italy’s ACE has contributed to reduce the debt to equity ratio of Italian firms (Panteghini et al., 2012). The 2017 Draft Budgetary Plan lowers this rate to 2.3% (from 2.7%) in line with market interest rates.

- Tax advantages and streamlined procedures to issue bonds by unlisted SMEs (minibonds) have been introduced. Due to their inherent characteristics (small size, lack of ratings, etc.) SMEs are normally ill-equipped to tap corporate bond markets (Nassr and Wehinger, 2015). Italian SMEs have traditionally made little or no use of the corporate bond market due to demand and supply factors: potential investors have little or no information on issuers and emissions involve high fixed costs. Also, unlike its peers, Italy lacks a mass of intermediaries specialising in the placement and underwriting of corporate bonds (Bank of Italy, 2016). The crisis has exacerbated these problems as in its aftermath the number of small issuers decreased (Accornero et al., 2015). The new regulatory regime for minibonds seems to have inverted these trends. Thus far more than 220 minibonds have been issued for a face value close to EUR 8.6 billion and a number of specialised investment funds have started to operate.
Venture capital is severely underdeveloped in Italy (Figure 23). To develop a venture capital industry the government has recently established a fund (Invitalia Venture) to co-invest with national and international private investors in highly innovative start-ups and SMEs. As at May 2015 the fund had a capital of EUR 65 million (EUR 50 million provided by the state). This development is consistent with practices in other OECD countries where government co-investment with private partners and fund-offunds have replaced direct public investment (Wilson, 2015). The literature has underlined the important role that direct public investment in innovative start-ups and SMEs, if managed on strict selection investment criteria and in partnerships with private investors, can play in the development of a private-sector venture capital industry (Jeng and Wells, 2000; Lerner, 1999; Cumming 2007). The Israeli venture capital industry was built through government funding (Box 6). The development of the stock and private equity markets are also important as they provide venture capitals with a way to exit and monetise their investments (e.g. Black and Gilson, 1998; Jeng and Wells, 2000; Wilson, 2015; Nassr and Wehinger, 2016).

Incentives for start-ups and innovative SMEs include the opportunity for firms to sponsor start-ups (up to 5 year-old firms) by buying their fiscal losses. The listed firm must own at least 20% of the start-up. Also investors in innovative startups and SMEs benefit from a tax credit of 30% of the invested capital in start-ups and innovative SMEs.

Individual Saving Plans (Piani Individuali di Risparmio) are similar to Individual Saving Accounts as for retail investors they are exempted from capital gain taxes; funds must invest 70% of their resources in instruments issued by EU companies having a stable organisation in Italy.
Debt equity ratio of non-financial corporations is high because of low equity

The debt to equity ratio measures the financial leverage of financial corporations, or the extent to which their activities are financed out of their own funds. The higher (lower) the ratio, the higher (lower) the leverage and the greater is the risk for corporations creditors.

Source: OECD Financial Statistics; and OECD National accounts Database.

Figure 22. Debt equity ratio of non-financial corporations is high because of low equity

A. Debt to equity ratio of non-financial corporations

2014-15

B. Non-financial corporate debt

% of GDP

United States
France
Germany
Italy
Spain

% of GDP

C. Equity to GDP ratio of non-financial corporations

% of GDP
Box 6. The Yozma Fund and the origins of the Israeli venture capital industry

The origins of the Israeli venture capital industry lie in a government initiative in 1993 that created the YOZMA Venture Fund. Public investment in the Fund was used to leverage foreign private investment in Israeli companies. YOZMA was accompanied by equity guarantees for foreign investors, programmes to link Israeli firms with foreign business angels and to encourage exits of Israeli venture firms on foreign stock exchanges.

The Israeli government invested USD 100 million at the outset to launch the Fund, which was given the objective of investing in 10 new private venture capital funds. Each fund was required to have three types of partners: nacnet domestic venture capitalists, a foreign venture capital firm, and an Israeli investment company or bank. The objective was to attract financing in Israeli companies and nurturing a domestic private venture capital industry by offering matched co-financing at a rate of 50-50, with the obligation to invest in start-up and early-stage companies in Israel. The ten hybrid public/private funds were with around USD 20 million. The government retained a 40% equity stake in the funds, which the private partners had the option to buy out after five years if the fund was successful. This was a particularly attractive deal for foreign venture capital firms and provided an exit strategy for the government. The buy-out option was exercised in most cases, leading to the privatisation of the venture capital funds. The government also created an additional fund of USD 20 million through which it could invest directly in Israeli technology ventures.

The funds were mainly invested in the ICT and life science/biotechnology companies. Initial individual investments typically ranged between USD 1 million and USD 6 million. With the backing of prominent American, European and Israeli investors, YOZMA launched its second fund in 1995. Investment decisions were mainly taken by the international partners.

The YOZMA initiative also developed close working relationships with several of the leading academic institutions and technology incubators in Israel. Some of the most promising companies in the YOZMA portfolio were spin-offs from these institutions. By 2000, The private sector accounted for almost all of the venture capital investments in Israel. This allowed the government to phase out in the late 1990s both the YOZMA equity programmes and the equity guarantees.

These initiatives go in the right direction and results have been encouraging although insufficient so far to revive investment and innovation. To produce long-lasting results and contribute to change the financial structure of the Italian economy, the government should ensure the continuity of these measures over the medium to long term. Also, the government should avoid targeting measures to specific geographic areas; these policies need address specific market failures and therefore should specifically target start-ups and innovative SMEs irrespective of their location.

### Policy Recommendations

#### Speeding up insolvency procedures
- Reform the bankruptcy legislation in an organic and comprehensive way as envisaged by the enabling law being discussed by parliament.
- Use debt-equity swaps more frequently by forcing creditors to share the burden for firms restructuring.

#### Enhancing competition and improving regulation
- Approve the competition law being discussed by parliament.
- Approve and fully implement the public administration reform to open up to competition local public services.
- Make more extensive and better use of regulatory impact analyses, especially by engaging with stakeholders in ex ante consultative processes.

#### Encouraging innovation
- Increase as planned the share or research funding allocated through competitive procedures; publish clear guidelines to allocate research funds to universities and public research institutes based on research assessment.
- Evaluate the effectiveness of recently introduced research and development tax credits and other fiscal incentives in terms of innovation outcomes and forgone tax receipts.

#### Addressing bank lending constraints
- Continue to develop the secondary market for NPLs.
- As envisaged by the European Supervisory Mechanism, set gradual and bank-specific targets to reduce non-performing loans, backed up by sanctions such as additional provisioning, sales of assets, suspension of dividend payments and restructuring banks operations.
- Set clear guidelines for the valuation of collateral.

#### Boosting alternative sources of finance
- Foster the development of the venture capital industry by leveraging private funds and expertise.
- Maintain current policies to diversify sources of business finance, especially for SMEs such as allowance for corporate equity, the tax advantages and streamlined procedures to issue bonds by unlisted SMEs (minibonds).
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