

# DIW Weekly Report 7-8-9 2019

A policy bulletin from the German Institute for Economic Research

Economy. Politics. Science.

DIW BERLIN



**65 Report** by Stefan Gebauer, Alexander S. Kritikos, Alexander Kriwoluzky, Anselm Mattes, and Malte Rieth

## Italy must foster high growth industries

- Employment losses in production sector, new industries stagnating
- Investments in infrastructure and R&D needed
- Structural reforms should improve conditions for business growth

## LEGAL AND EDITORIAL DETAILS

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Volume 9 February 27, 2019

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### Layout

Roman Wilhelm, DIW Berlin

### Cover design

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### Composition

Satz-Rechen-Zentrum Hartmann + Heenemann GmbH & Co. KG, Berlin

ISSN 2568-7697

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AT A GLANCE

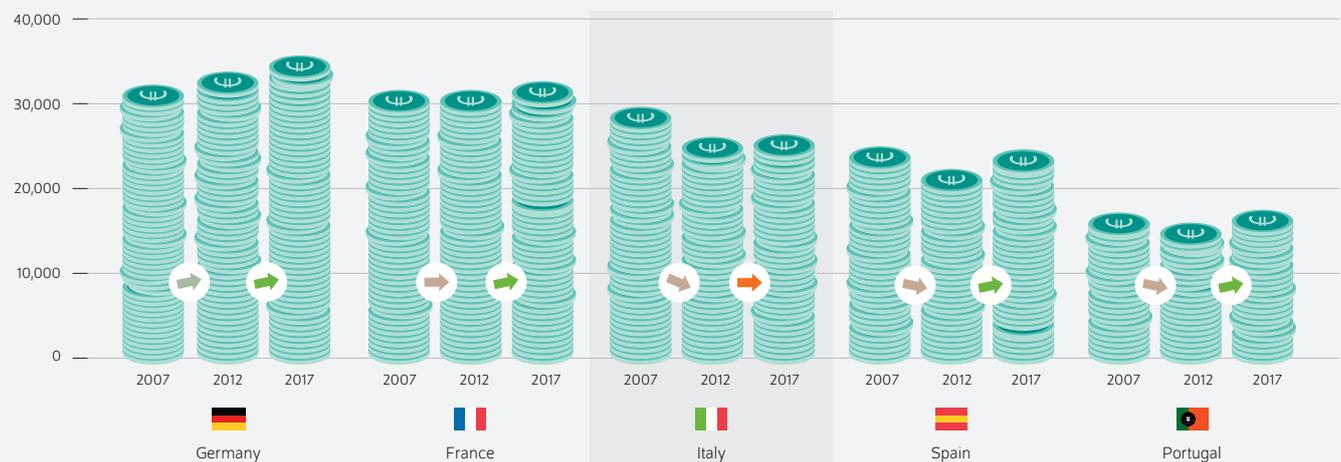
## Italy must foster high growth industries

By Stefan Gebauer, Alexander S. Kritikos, Alexander Kriwoluzky, Anselm Mattes, and Malte Rieth

- Despite primary surpluses, Italy's government debt ratio increasing due to economic underperformance and high interest rates
- Small-scaled firm structure, large employment decline in manufacturing and construction sectors, new industries stagnating
- Instead of lowering the retirement age, investments in infrastructure and R&D should be increased
- Authors' calculations show that increasing government spending could significantly boost Italy's economy
- At the same time, reforms improving conditions for business growth should be continued

### Italy's level of prosperity approaching that of Spain

Real per capita income 2007, 2012, and 2017 in euros



Source: Eurostat.

### FROM THE AUTHORS

*“Italy requires structural reforms that improve the innovation and justice systems supported by measures that foster growth, such as investments in infrastructure and R&D.”*

— Alexander Kriwoluzky —

### MEDIA



Audio Interview with Alexander Kritikos (in German)  
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# Italy must foster high growth industries

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## ABSTRACT

Italy has yet to recover from the economic consequences of the financial and sovereign debt crisis that began more than a decade ago. In addition to losing 1.4 million jobs across the manufacturing and construction sectors, new industries driving growth across the EU, such as knowledge-intensive services, are instead stagnating in Italy. Previous structural reforms focused on deregulating the labor markets and on restructuring the state budget. Other framework conditions, such as an efficient innovation system or substantial R&D investments, were ignored. Going forward, governmental reforms should focus on creating such growth-friendly conditions for businesses in future-oriented industries. Our own calculations show that increased government spending within the amount provided in the latest draft budget can, in principle, have a positive short-term effect on value added, thus mitigating the adjustment costs of pending reforms. Unfortunately, the current government's plans barely fulfill these criteria.

Over a decade since the outbreak of the financial and economic crisis in 2007, Europe is still profoundly affected. While Spain, Portugal, Cyprus, and Greece, countries which received financial aid from the EU, are no longer in the media and political spotlight, Italy is now taking center stage. Long regarded as a potential crisis candidate, Italy's recent budgetary conflict with Brussels attracted increased public attention. The European Commission rejected Italy's 2019 budget plans, as its planned deficit target of 2.4 percent of GDP is far over EU limits. Although the deficit target was lowered slightly following Brussels's threat of an excessive deficit procedure, the real problem of Italy's overall tense economic situation remains unresolved. This also explains financial markets' concerns with respect to Italy's creditworthiness and causes a threat of further downgradings.

Although there is marked economic strength in the northern parts of the country, Italy is one of the few European countries whose economic output is still below pre-crisis levels. As Italy is the fourth largest net contributor within the EU, a healthy Italian economy is critical for Europe's future development and is likely to become increasingly important following Brexit.

Therefore, this Weekly Report examines Italy's overall economic development since the financial crisis and compares it with other southern European countries. Following a discussion of Italian macroeconomic conditions and previous economic and labor market reforms, the second part of this report examines the structure of the Italian private sector, tracing its development over the past decade. Using these data on the Italian economic structure, the third part of the report analyzes the impact of increased government spending on sectoral value added.

## Following the financial crisis, a weak decade for Italy

Compared to other euro area member states, Italy's economic development is below average since the financial crisis (Figure 1). While production in Spain and Portugal has already surpassed the pre-crisis level, Italy's GDP remains

below. In particular since the peak of the sovereign debt crisis in 2012, the Italian economy has grown markedly more slowly than the economies on the Iberian Peninsula. The situation on the Italian labor market has only improved slightly as well. Since 2012, Italy's unemployment rate has been significantly above the average in the euro area at over ten percent. Only two countries, Spain and Greece, have higher unemployment rates (Figure 2). Even though the employment situation in Italy has somewhat improved since 2014, it remains far from the pre-crisis level, when it was below seven percent. Moreover, in contrast to Spain and Portugal, Italy is showing no signs of dynamism in its employment trends.

Weak domestic demand has caused low economic growth. Private consumption and investments remain below their pre-crisis levels. At the same time, austerity policies are slowing economic growth. Italian government consumption increased somewhat in the first few years after the outbreak of the financial crisis, but has remained below its 2007 level since the beginning of 2011. Remarkably, Italy's current account balance has been positive since 2012, although this is owed more to weak development of imports than to strong export activity.

Italy also has a competitiveness problem; productivity remains below the pre-crisis level, and had been low already before the crisis. While in countries such as Spain or Greece unit labor costs have been reduced considerably since 2009, they were increased in Italy.

### An unsuccessful austerity policy

Due to the high level of government debt, in the years following 2007 all government coalitions focused on a fiscal policy that was primarily geared towards reducing government spending. Several austerity packages were passed, leading to cuts in the public service and in the social security systems. In addition, these programs introduced new taxes and several tax increases while various tax privileges were abolished. Overall, these measures have helped Italy in achieving primary surpluses since 2010, an outcome that no other government in the monetary union was able to accomplish during the same period (Figure 3). Thus, although government revenues were permanently above government expenditures before interest payments, these efforts were not rewarded by the markets. On the contrary: the Italian government bonds recorded significantly higher risk premiums. For example, the spreads on ten-year Italian and German government bonds rose to five percent, especially at the height of the debt crisis in 2012. As a result of higher interest rates and negative GDP development, Italian public debt rose from 102 percent of economic output in 2007 to around 130 percent in 2018 (Figure 4).

Despite these efforts, the government debt-to-GDP ratio continued to increase, thus constituting an additional risk to the Italian banking sector. Italian financial institutions in particular are involved in Italian government bonds, resulting

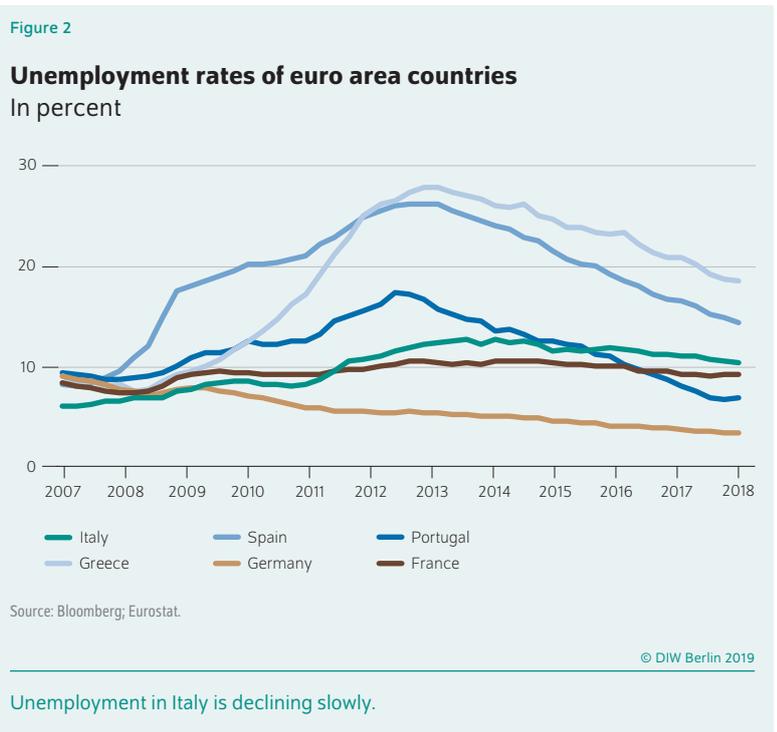
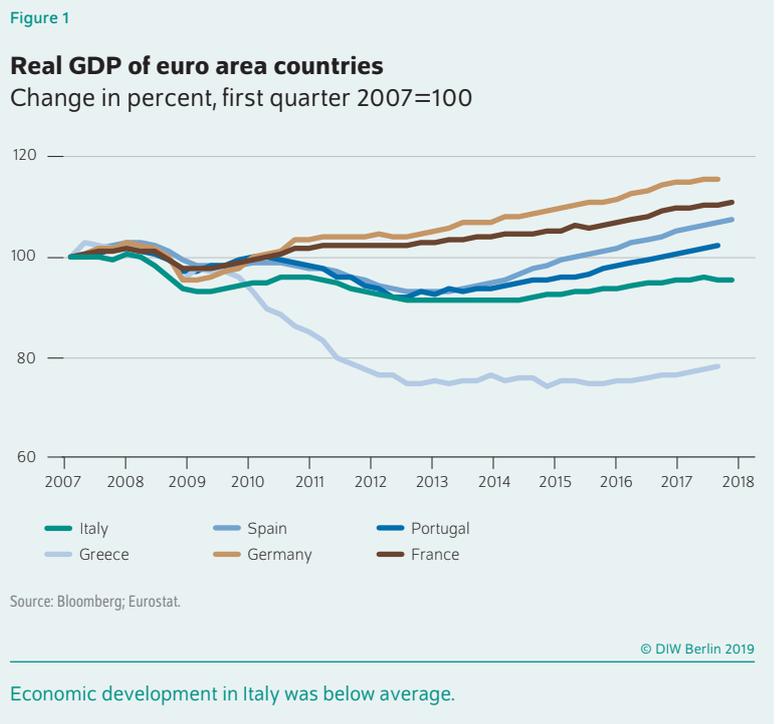
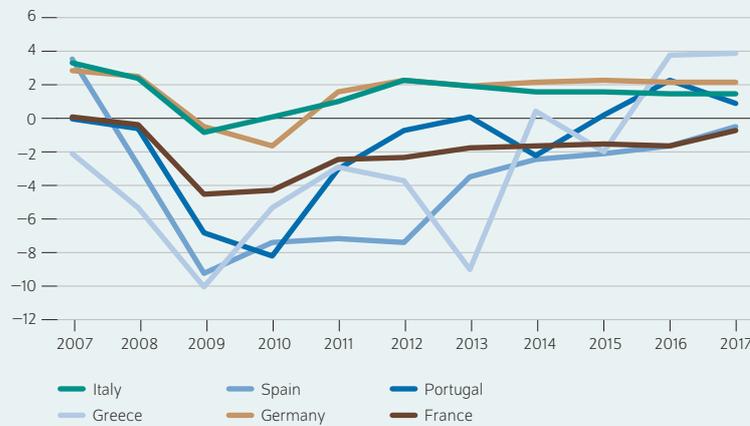


Figure 3

**Primary surpluses of euro area countries**  
Relative to GDP



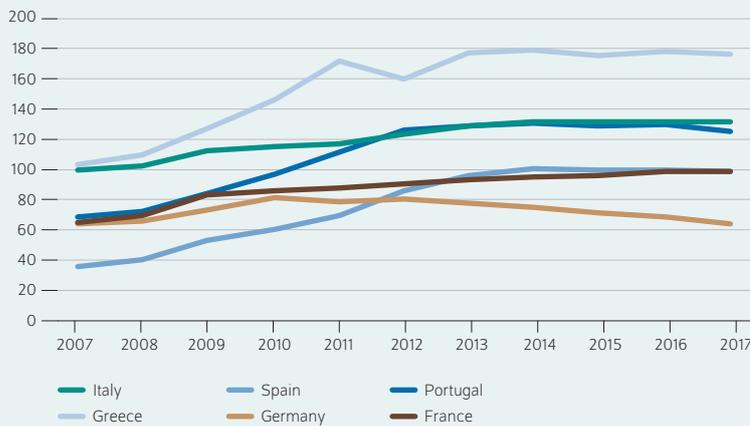
Source: European Central Bank.

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Since 2010, Italian government revenues have been consistently above interest-adjusted expenditure.

Figure 4

**Public debt ratio of euro area countries**  
Relative to GDP



Source: Bloomberg; Eurostat.

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High interest rates and weak growth caused government debt in Italy to rise to record levels.

in a pronounced interdependence between banks and state.<sup>1</sup> In addition, the proportion of loans at risk of default on the books of Italian financial institutions remains high by European standards, further strengthening this interdependence. If these loans are not cleared, a systemic crisis will threaten the banking sector and the Italian government would likely have to rescue Italian banks with tax money again. Although regulatory measures in the years following the financial crisis reduced the proportion of bad loans on balance sheets,<sup>2</sup> both the risk on banks' balance sheets and the interdependence between the financial sector and the state remain high.

**Structural reforms following the financial crisis**

Italy has adopted a number of structural reforms in recent years, notably with regard to the labor market and the pension system. The major aim of these reforms was to stimulate growth through a more flexible labor market and a more sustainable pension system, thereby regaining the confidence of international investors which was lost after the financial crisis.<sup>3</sup> For example, in 2012, Prime Minister Mario Monti's government implemented structural reforms aimed primarily at promoting competition in sectors with high barriers to entry. In addition, the retirement age was further increased to 66 after an initial increase to 65 in 2009, while dismissal protection was significantly reduced. Similarly, in 2014 Prime Minister Matteo Renzi's government concentrated on comprehensive labor market reforms, which included, among other things, tax reliefs for firms hiring full-time employees<sup>4</sup> and a further lowering of dismissal protection.

**Hardly any growth industries in Italy**

With these reform efforts in mind, it is important to look at the development of the Italian private sector. The nominal gross value added of the non-financial business economy in Italy, which essentially encompass the private economy excluding the financial sector (Box 1), did not return to the 2008 level until 2016. The value added of the non-financial business economy has increased by around ten percent over the same period in the EU. Italy experienced a particularly pronounced double dip in value added: after a slight recovery in the aftermath of the financial crisis, value added dropped for a second time from 2012 onwards. This double dip affected employment in the non-financial business economy. Their numbers fell by ten percent from almost 16 million to about 14.5 million over the same period.

<sup>1</sup> Cf. Dominik Meyland and Dorothea Schäfer, "EU government bonds and banks: home bias pervasive throughout member states but capital requirements differ greatly," *DIW Weekly Report* no. 49 (2018) (available online).

<sup>2</sup> Cf. European Commission, "Third progress report on the reduction of non-performing loans (NPLs) and further risk reduction in the Banking Union," *Progress Report* (2018) (available online; accessed February 13, 2019; this applies to all other online sources in this report unless stated otherwise).

<sup>3</sup> For a comprehensive overview of the reforms implemented, cf. Beyhan Durusoy, "Italy's Recipe for Coming out of Debt Crisis: Reform Packages," *Research in World Economy* 6, no. 4 (2015).

<sup>4</sup> For an analysis of these reforms, cf. Valeria Cirillo, Marta Fana, and Dario Guarascio, "Labour market reforms in Italy: evaluating the effects of the Jobs Act," *Economic Politica* 34, no. 2 (2017) (available online); or Viviano Sestito, "Hiring Incentives and/or Firing Cost Reduction? Evaluating the Impact of the 2015 Policies on the Italian Labour Market," *Bank of Italy Occasional Paper* No. 235 (available online).

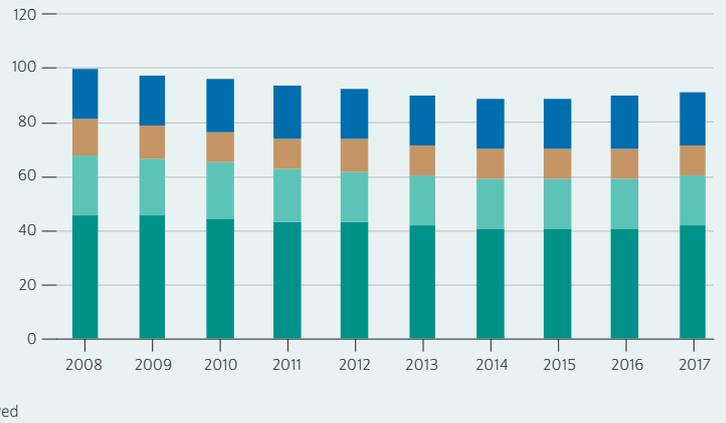
Figure 5

**Non-financial business economy GDP and persons employed in Italy**

GDP, shares in percent, 2008=100



Persons employed, shares in percent, 2008=100



Source: DIW Econ; SME Performance Review 2017/2018.

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Employment has still not reached the pre-crisis level; since 2016, GDP has been slightly above the 2008 level.

**A small-scaled firm structure**

Primarily small and micro-firms are still recovering from the crisis. Large and medium-sized enterprises with 50 or more persons employed, on the other hand, have been producing more than before the crisis since 2010 after a brief crash.

An analysis of the firm-size structure illustrates why a production collapse experienced by the smallest companies can have such wide-reaching effects on the Italian economy. In contrast to the EU as a whole, 46 percent of all employees in Italy are currently working at firms with fewer than ten persons employed, more than twice the amount of employees working at large firms. In the rest of the EU, however, more people work at large than micro-enterprises (Figure 6); for example, in Germany, the ratio of the number of persons employed in micro- to large enterprises is almost opposite that of Italy.

The resulting changes in employment point to a clear pattern. While large companies are continuing production with the same number of employees, employment in all three other firm size classes declined until 2014. Since then it has stabilized at a lower level (Figure 5). Particularly striking is the development of medium-sized enterprises, which recently recorded a similar increase in value added as large enterprises, albeit with a simultaneous employment loss of ten percent. Both medium-sized and large firms have thus been able to record increases in productivity, while micro- and small firms caused the weak overall macroeconomic productivity growth.

The pronounced small-scale firm structure is problematic insofar as large firms play an important role in economic development. These firms are often productive above-average,

**Box 1**

**Data used to analyze the Italian economic structure**

The data used to analyze the Italian economic structure consists of a dataset compiled by DIW Econ on behalf of the European Commission (DG Grow) as part of the annual SME Performance Review based on Eurostat Structural Business Statistics data. In addition, data from the Italian National Institute of Statistics (ISTAT) as well as estimates based on current data from Eurostat's national accounts were used.<sup>1</sup>

The non-financial business economy investigated in this report includes sections B-J as well as L-N of the NACE Rev. 2 classification of economic activities and thus represents the main parts of the private sector, with the exception of the financial and agriculture sectors. Not included are predominately state or state-regulated areas such as health and social services, education, culture, and defense.<sup>2</sup>

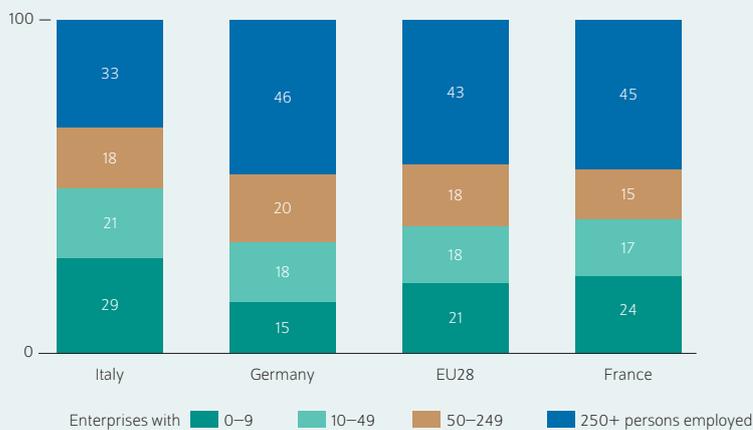
<sup>1</sup> A detailed explanation of the data and methods used can be found on the SME Performance Review page on the website of the European Commission (available online).

<sup>2</sup> Eurostat, NACE Rev. 2: Statistical classification of economic activities in the European Community (2008) (available online).

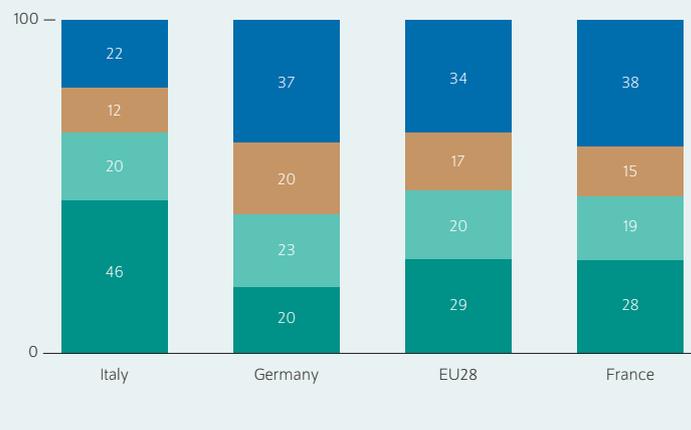
Figure 6

**Economic structure of euro area countries, broken down by firm size**

Gross value added 2017 in percent



Persons employed 2017 in percent



Source: DIW Econ; SME Performance Review 2017/2018.

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Compared to the rest of the EU, the share of micro and small firms in Italy is very high.

important for innovation in a region, pay above-average wages, and are in a much better position than small companies to develop international markets. Consequently, the small-scale firm structure in Italy is increasingly proving to be a burden in international competition.

**Manufacturing and construction suffering high employment losses**

The industrial sector is strong in Italy: in 2017, one in four persons employed in the non-financial business economy were working in the manufacturing sector. Manufacturing produces 31 percent of Italy’s value added in this sector, above the EU average. This sector is of similar importance in Germany, although the medium-sized structure is even more pronounced in Italy. There, 65 percent of the value added is produced by micro, small, and medium-sized enterprises (SME) while in Germany, it is only 32 percent.<sup>5</sup> In 2015, the sector reached pre-crisis levels in terms of nominal value added and has since risen slightly (Figure 7), with the food, pharmaceutical, and chemical industries, and most recently the mechanical engineering and automotive industries, developing relatively positively.<sup>6</sup>

However, the temporary slump led to job losses, unlike in Germany. While 4.4 million people were still working in the Italian manufacturing sector in 2008, that number had decreased to 3.7 million by 2017. The employment losses were disproportionately high at small firms and a disproportionate amount of small firms were closed as well. The

manufacturing sector alone accounts for half of the total employment decline of nearly 1.5 million between 2008 and 2017.

The other half of the decline is due to the construction sector. In relative terms, it suffered an even stronger collapse than the manufacturing sector. Value added in this sector remains at about 60 percent of the pre-crisis level, and employment fell from just over two million to 1.3 million, 65 percent of the pre-crisis level. This constitutes a severe construction crisis in Italy (Figure 7).

**Restrained development in future-oriented industries**

In many modern industrial nations, the research-intensive high-tech industries and knowledge-intensive services are important drivers of economic growth. Three industries in the service sector deserve special attention: information and communications technology (ICT), “professional, scientific, and technical activities,” and “administrative and support services.” The first two areas are largely knowledge-intensive services characterized by a high innovation potential and high value added. For example, Germany recorded overall growth rates of 45 to 50 percent in gross value added in each of these three areas over the last decade as well as a pronounced increase in employment. Spain is experiencing growth at least in the professional, scientific, and technical services also, even if the ICT sector is slightly declining. This is very different to the situation in Italy. Here, both knowledge-intensive industries are stagnating at 92 and 96 percent, respectively, of the pre-crisis level, with a notable decline to 82 percent in the ICT sector among large firms (Figure 7).

<sup>5</sup> See “List of country SME key figures 2018” on the European Commission’s website (available online).

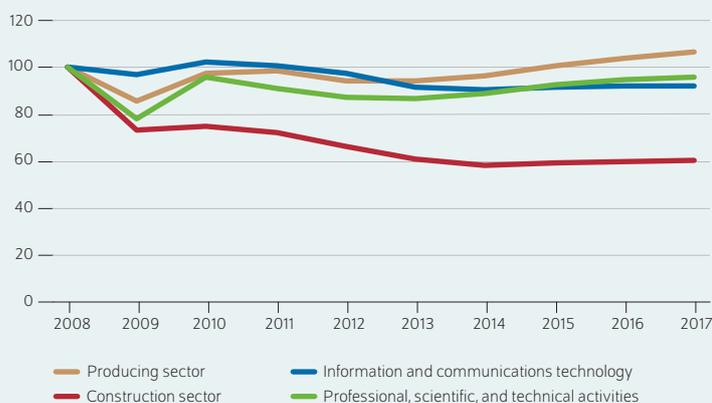
<sup>6</sup> Ibid.

Figure 7

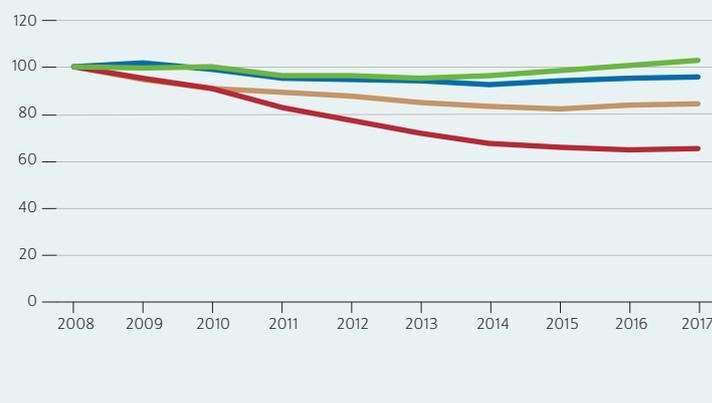
### Gross value added and persons employed according to sector

Change in Italy since 2008, 2008=100

#### Gross value added



#### Persons employed



Source: DIW Econ; SME Performance Review 2017/2018.

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The Italian construction sector in particular suffered from the crisis.

Only the less knowledge-intensive services grew by 24 percent over the same period, recording an increase in employment of seven percent, primarily due to an increase in employment in large companies. In contrast to the weak development in the knowledge intensive services, the most important drivers of growth in Italy were trade, with a total increase of 18 percent in value added; Accommodation and food services (largely tourism), a relatively small economic sector; and the transport sector, the latter two with an increase of about 20 percent each. However, with the exception of the tourism sector, the employment trend tended to be negative as well.

Last but not least, the number of start-ups and, the number of “gazelle companies”—young, high-growth firms with particular growth potential<sup>7</sup>—serve as further indicators of growth prospects. The number of young, high-growth firms in Italy and their employment share is below the EU average. Unfortunately, this is particularly true for important sectors such as industry, ICT, and business services.

### Growth and innovation conditions rather weak

Italy is currently experiencing weak growth, especially in industries considered to drive growth in modern economies. Examining different indicators shows that the conditions in Italy for firms offering knowledge-intensive services are rather poor.

According to the Ease of Doing Business Index, provided by the World Bank, conditions for starting, operating, and closing a business are, by international standards, not very

favorable in Italy, as are the financing conditions, the tax system, and enforcement of legal claims (Table 1).

In addition to the specific (over)regulation of everyday entrepreneurial activity, conditions for innovation in firms play a decisive role for an economy’s growth prospects also. The situation in Italy is similarly unfavorable in this respect, as three examples prove: regarding the ratio of total (public and private) expenditure for R&D over GDP, Italy is closer to the level of economically weaker countries such as Spain and Portugal than to France, Germany, or Sweden. The same applies to firms’ R&D expenditure. Beyond pure R&D expenditures, other innovation conditions, summarized in various innovation indicators, show that the environment for innovation is mediocre in Italy (Table 1).

Additional information is provided by key figures on the state of digitization in Italy, such as digital infrastructure or the availability of digital competencies—on which the knowledge-intensive services are particularly dependent. Only three EU member states, Romania, Greece, and Bulgaria, have a worse overall value than Italy in the European Commission’s Digital Economy and Society Index (Figure 8).

A summary of these indicators shows that the innovation system in Italy is not suited to sufficiently support the necessary structural change. While Italy had achieved a significantly higher level of prosperity (measured by GDP per capita) in the past compared to Spain or Portugal because of its strong manufacturing sector, the country has recently lost momentum and is unable to carry out the necessary economic transformation process towards future growth-driving industries such as knowledge-intensive services.

<sup>7</sup> Alex Coad et al., “High-growth firms: introduction to the special section,” *Industrial and Corporate Change* 23, no. 1 (2014): 91-112.

Table 1

**Various innovation rankings for entrepreneurial conditions**

The program countries compared to Germany and France

	European Innovation Scoreboard 2018	Global Innovation Index 2018				R&D expenditure (Eurostat)		Ease of Doing Business Index (World Bank)				
	Compared to EU average (=100)	Overall ranking	Innovation Efficiency Ratio	Innovation Input Sub-index	Innovation Output Sub-index	Total R&D expenditure as a percentage of GDP, 2017	Private sector R&D expenditure as a percentage of GDP, 2017	Overall ranking	Starting a business	Getting credit	Paying taxes	Enforcing contracts
Italy	73.6	31	35	29	32	1.35	0.83	51	67	112	118	111
Spain	79.3	28	36	23	27	1.2	0.66	30	86	73	34	23
Portugal	80.5	32	34	32	33	1.32	0.67	34	57	112	39	35
Greece	65	42	74	40	52	1.13	0.55	72	44	99	65	132
Cyprus	76.5	29	18	33	22	0.56	0.2	57	52	73	47	138
France	109.2	16	32	16	16	2.25 <sup>1</sup>	1.43 <sup>1</sup>	32	30	99	55	12
Germany	119.6	9	9	17	5	3.02	2.09	24	114	44	43	26

<sup>1</sup> 2016 values.

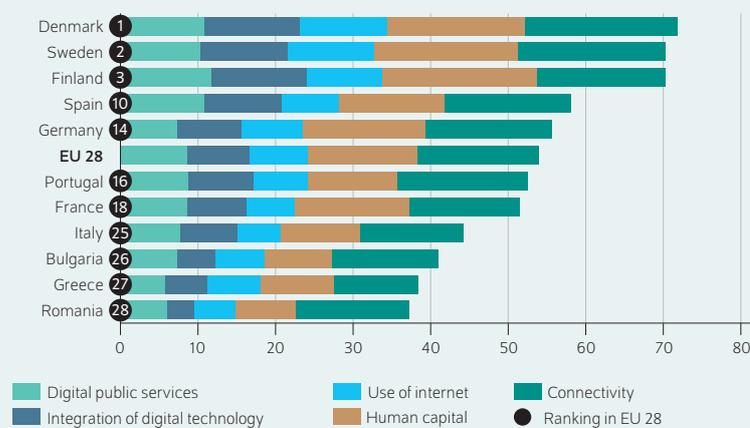
Source: World Bank; Eurostat; EU Commission; authors' own depiction.

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Figure 8

**The Digital Economy and Society Index**

Shares in percent\*



Source: European Commission, Digital Scoreboard.

\* The various indicators are weighted differently in the analysis: Connection quality 25 percent, human capital 25 percent, Internet usage 15 percent, integration 20 percent, and digital service 15 percent

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Italy is one of the least digitized countries in the EU.

**Expansionary fiscal policy can create room for structural reforms**

Our overview indicates that further structural reforms and investments are necessary to increase Italian firms' competitiveness and innovation. However, reforms are usually accompanied by temporary declines in growth and burdens on specific sectors and occupational or population groups.<sup>8</sup> Therefore, it is likely that the current weak economic environment will considerably impede the reform process, which was begun in the aftermath of the financial crisis years, before it was abandoned by the current government. However, these considerations are hardly taken into account in the government's current proposals (Box 2). The incumbent government focuses mainly on increasing transfers.

As shown, Italy lacks investment in the construction sector, in R&D, and in the ICT infrastructure. Higher government spending could offset these deficits while stimulating demand, thus mitigating the cyclical costs of reforms.<sup>9</sup> The data set on the Italian economic structure is used here to estimate the average effect of unexpected increases in government spending on the real value added of the economic sectors contained in the sample.<sup>10</sup> Estimates from a panel model show that an unexpected rise in government spending generally leads to a statistically significant increase in the real value added of Italian firms (Table 2). An unexpected increase of one percent leads to a production increase of around 1.8 percent

<sup>8</sup> Cf. Gault Eggertsson, Andrea Ferrero, and Andrea Raffo, "Can structural reforms help Europe?," *Journal of Monetary Economics* 61 (2014): 2-22 or Nauro F. Campos, Paul De Grauwe, and Yuemei Ji, "Structural Reforms, Growth and Inequality: An Overview of Theory, Measurement and Evidence," *IZA Bonn* (2017).

<sup>9</sup> Cf. Romain Duval, "Is there a role for macroeconomic policy in fostering structural reforms? Panel evidence from OECD countries over the past two decades," *European Journal of Political Economy* 24, no. 2 (2008): 491-502.

<sup>10</sup> The data on exogenous changes in government consumption are from Benjamin Born, Geront Müller, and Johannes Pfeifer, "Does austerity pay off?" Universität Bonn (2019), and are calculated as the difference between actual and expected growth in government consumption.

Table 2

**Effect of an exogenous increase in Italian state consumption by one percent on value added**

Base specification (column 1) and alternative estimators (columns 2 to 4)

Dependent variable	Growth rate of real value added (percent)			
	1	2	3	4
Model				
Estimator	Fixed effects	Random effects	FGLS	Pooled OLS
Unexpected increase in government spending (by one percent)	1.791**	1.594**	2.471***	1.490**
p value	0.029	0.011	0.004	0.031
Observations	108	108	108	108
R <sup>2</sup>	0.08	0.08	–	0.21

Note: p values for heteroscedastic and autocorrelated error terms. All models contain a constant and an indicator variable for the years of the euro crisis. Significance level: \* p < 0.1, \*\* p < 0.05, \*\*\* p < 0.01; sample for the years 2008 to 2017.

Legend: Unexpected increase in government spending by one percent increases real value added by 1.8 percent (column 1).

Source: Authors' own calculations.

within the same year. Thus, the government expenditure multiplier at the sectoral level is well above one. Every additional euro spent by the government affecting demand leads to an overproportionate increase in value added. This effect remains similar in size and statistical significance when using alternative estimation methods (Table 2, columns 2–4).

The results suggest that the stimulus gained from expansionary fiscal policy could be used to continue, rather than abandon, the reform process initiated in the crisis years. Structural reforms supported by measures that promote growth would also be rewarded by investors, as the reaction of the financial markets to planned increases in government spending should not be underestimated. In the recent past, it has become clear that investors react sensitively to announcements made by the Italian government.

**Conclusion: structural reforms should be continued, R&D expenditure increased**

In the fall of 2018, Italy returned to the headlines after getting into a dispute over its deficit with Brussels. The country was hit hard by the financial crisis and its prosperity level, based on GDP per capita and employment rates, still remains below pre-crisis levels. It is essential that Italy returns to positive growth, not just for its own sake, but for the continued success of the European Union and the euro area.

Past Italian governments did not remain idle. In recent years, Italian economic policy focused primarily on two core areas: increasing the flexibility of its labor markets and reducing government spending. However, this strategy missed the mark: despite sustained primary surpluses, the government debt ratio has risen. On the one hand, concerns about the sustainability of Italy’s public debt in the markets led to higher interest rates, while on the other hand, GDP contracted. Such a reduction “automatically” increases the government debt ratio, even if government spending does not increase.

In addition, the Italian economy suffered severe employment losses in its construction and manufacturing sectors.

**Box 2**

**The Italian government’s current reform plans**

The current government wants to largely abandon the reform and fiscal policy program of previous governments. The latest draft budget, for example, plans to increase the new debt from 0.8 percent for 2019 to 2.04 percent. In addition to withdrawing planned tax increases, the current government proposes to introduce a citizens’ income and to lower the retirement age. Due to the reduced financial benefits, the annual amount for the citizens’ income is likely to fall from around 17 billion euros as originally planned for 2019 to only six billion euros. In addition, it has already been decided to postpone the first citizens’ wage payments until spring 2019. The barriers to accessing this social safety net have been raised as well. This means that the introduction of the citizens’ income is likely to have no demand effects.

Moreover, it remains unclear to what extent the government will reverse the structural reforms implemented by the previous administrations. The government intends to continue repealing the 2012 pension reform as much as possible and to lower the retirement age again. According to the government, the resulting newly available jobs for young people would justify the increase in government spending. However, various studies for other countries show that younger and older employees are not competing for the same jobs. In addition, lowering the retirement age tends to reduce investment by firms and may thus lead to lower economic growth.<sup>1</sup> Therefore, the goal of freeing up positions for young jobseekers by lowering the retirement age will prove to be fruitless.

<sup>1</sup> See René Böheim, “The effect of early retirement schemes on youth employment,” *IZA World of Labor* 70 (2014), which gives an overview of the effects of lowering the retirement age on job creation in different countries.

While new growth industries such as knowledge-intensive services have developed and generated economic and employment growth in many European countries, Italy lags behind. Limited R&D investments, an inadequate innovation system, and regulations that discourage investments hamper the economic transformation process.

The measures suggested by Italy's current government, such as lowering the retirement age and introducing a citizens' wage, do not solve these problems any more than withdrawing from the euro area would. Instead, the government should increasingly use the funds provided in the latest draft budget for investments; for example, they could be

used to help the underused construction sector, to compensate for the deficits in the ICT infrastructure and to increase R&D spending. As our own calculations show, this would boost the economy in the short term. At the same time, the government should credibly ensure that the resulting financial benefits are used to continue the reform process beyond increasing labor market flexibility. By doing so, Italy could gain confidence in the financial markets without further increasing the refinancing costs for the Italian government. The reform process in Italy should focus on improving the country's regulatory, innovation, and judicial systems in order to improve conditions for business growth, thus increasing production potential.

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**JEL:** L2, O3, O4

**Keywords:** Italy, economic structure, growth sectors, innovation, manufacturing, SME, regulatory environment, knowledge-intensive services