

Spain vs. Italy: Dissecting the “structural” growth outperformance

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- Spain's new government looks too fragile to push for significant measures to boost the economy and will have to rely on the dividend of the post-crisis adjustment – due partly to the rebalancing of the economy, and partly to the structural reforms adopted since the 2010s.
- In this note, we focus on whether the reform efforts have managed to significantly improve the structure of the Spanish economy. In this respect, we build a scorecard of 36 variables that captures different determinants of total factor productivity, one of the main drivers of structural growth, comparing Spain and Italy.
- We argue that some of Spain's structural weaknesses remain unaddressed. Compared to Italy, Spain offers a more business-friendly environment, but it fares slightly worse when it comes to innovation. With respect to education, both countries need further reform.
- Our conclusion is that Spain's economic expansion is set to cool over the medium term and that the current, significant growth differential between the two countries is likely to narrow.

1. Spain's success story

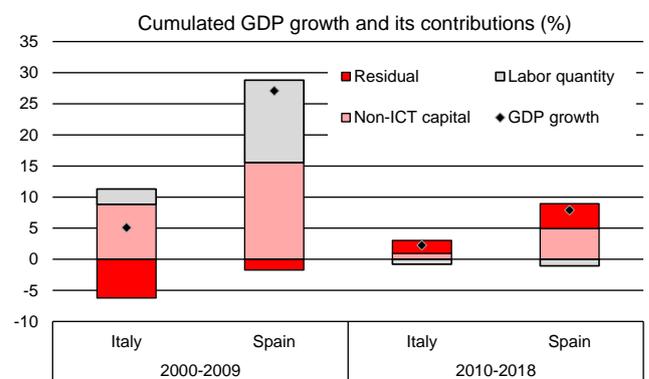
In the most recent recovery phase, the growth performance of the Spanish economy has been one of the success stories of the eurozone. Between 2014 and 2018, Spain consistently outpaced the eurozone as whole, with a cumulative GDP expansion of 13% compared to the eurozone's 10%. Still, Spanish growth performance looks even more striking from a long-term perspective, comparing the last two decades (2000-09 and 2010-18), and against Italy, one of its main eurozone peers.

Since the adoption of the euro and despite the sharp contraction recorded during the global financial and sovereign debt crises, Spanish GDP is now 35% higher than it was in 2000. By contrast, Italian GDP has experienced cumulative growth of just 7%.

As shown in Chart 1¹, the strong increase in Spanish growth was concentrated in the first decade, when easy credit and massive immigration of low-skilled workers, primarily from North Africa, fueled the real estate and construction boom. This created the unsustainable financial and macroeconomic imbalances that exacerbated the global financial crisis. Breaking down the rates of GDP growth in Spain and Italy into their supply-side drivers, it is possible to see that the

Spanish outperformance occurred as a result of factor accumulation, notably in the form of higher growth of capital stock and hours worked (these are labelled non-ICT capital and labor quantity, respectively), with Spain's GDP expanding by 27% between 2000 and 2009 – 22pp higher than the growth recorded by Italy over the same period.

CHART 1: SPAIN OUTPACES ITALY



Source: The Conference Board, UniCredit Research

But even after the housing bubble burst, and the associated downsizing of the real estate sector and the shrinking of the workforce, Spain has continued to significantly outpace Italy. It recorded cumulative GDP growth of about 8% between 2010 and 2018 in contrast to Italy's disappointing 2%. In such decade, the growth differential between the two countries primarily came from capital accumulation and a “residual”, which, in contrast, represented a drag in the 2000-09 period. This residual captures the other factors that determine the growth of an economy.

In order to assess whether Spain's outperformance compared to Italy during the recent recovery phase is likely to last, we need to understand whether the current growth dynamics are mainly due to the rebalancing of the economy following the global financial and sovereign debt crises, or whether the reforms adopted at the beginning of the last decade have created a more growth-friendly environment indicative of a more lasting structural change. Our conclusion is that Madrid has still not managed to significantly transform and upgrade the structure of its economy.

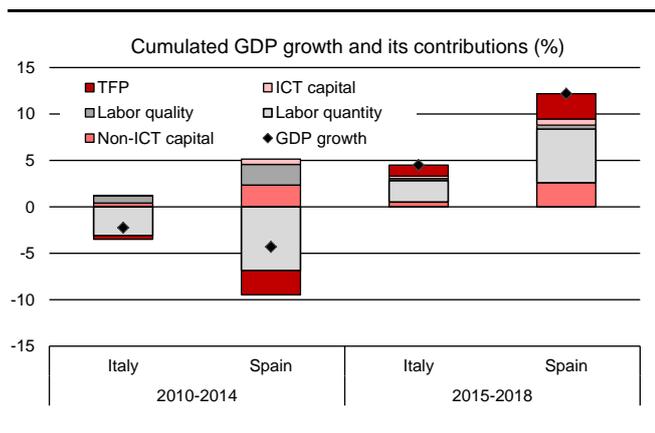
¹ Calculations in Charts 1 and 2 are based on the module of the Conference Board Database that provides an estimate of the key sources of GDP growth.

2. Breaking down the “residual”

In order to understand what is happening behind the scenes, we have broken down the residual from Chart 1 into three factors that are important drivers of economic growth, especially the structural one: ICT capital, labor quality and total factor productivity (TFP). The first component reflects investment in technologies; the second one has to do with improvements in the educational backgrounds of the workers; and the third, which is considered the main driver of structural growth, is determined by R&D activities, education, market efficiency and institutional factors.² In other words, TFP captures improvements in the way capital and labor are combined in order to obtain a certain level of output.

Moreover, we have broken down the years since 2010 into a contraction phase (during the sovereign debt crisis) and recovery phase. We find the following (see Chart 2). Between 2010 and 2014, Spain experienced a cumulative GDP contraction (-4.3%) that was roughly double that recorded in Italy (-2.2%). In Italy’s case, most of the adjustment came from a decline in labor quantity. In Spain, the adjustment was even more pronounced and was accompanied by a negative contribution from TFP. In the same period, non-ICT capital increased thanks to the improved profitability of Spanish firms as a result of their workforces being slashed. The reallocation of resources away from real estate and construction and towards more productive sectors probably supported the increase in ICT capital. However, the quality of the labor input also increased substantially, mainly as a result of the outflow of low-skilled immigrants who were working in the sectors (real estate and construction) that were worst hit by the global financial crisis.

CHART 2: DISSECTING THE GDP GROWTH GAP



Source: The Conference Board, UniCredit Research

² We highlight that there is a strong link between high-quality labor and education. The more educated is the workforce, the better the overall economic performance. However, academic degrees are no guarantee of highly skilled workers. What matters is the quality of the educational system as a whole that is not captured by the variable labor quality and thus should be seen as a determinant of TFP.

During the recovery phase, Spain’s cumulative GDP growth rate was more than twice that of Italy. The sharp macroeconomic adjustment due to the excesses of the pre-crisis years, together with a number of structural reforms, implemented since the beginning of the last decade, enabled Spain to reallocate resources within the economy more efficiently, thus boosting economic activity, investment and job creation. Between 2015 and 2018, the two main drivers of growth were again non-ICT capital and labor quantity. Among the variables that characterized the residual and we regard as being more closely related to structural growth, the factor that showed the stronger improvement, and significantly contributed to the post-crisis expansion, was TFP, while the contribution from labor quality and ICT capital became muted. In Italy, by contrast, where the GDP contraction was more contained, most of the expansion was driven by factor accumulation, while the other variables, particularly TFP, played a minor role, growing by around 1%, as opposed to TFP growth of about 3% in Spain.

3. What drives TFP

In what follows, we will focus on TFP and we will try to understand whether the TFP increase recorded in Spain between 2015 and 2018, and the smaller rise in Italy, is sustainable. This allows us to understand whether Spain’s outperformance was also the result of a long-lasting dividend resulting from the structural reforms that were adopted in the crisis years and that allowed Spain to better upgrade its economic system, compared to Italy. To do so, we have followed the methodology adopted by Young Eun Kim and Norman Loayza (2017) and we have prepared a scorecard of 36 indicators³ (reported in the appendix) based on the four main determinants of TFP:⁴

- 1. Innovation:** The creation of new technologies through R&D activity that lead to the registration of licenses usually triggers the development of high-value-added activities and improves the performance of existing economic activities.
- 2. Education:** Advancing knowledge and skills, with a strong basic foundation and sufficient specialization, is necessary to adopt, attain, and spread new and better technologies, production processes, and outputs.
- 3. Market efficiency:** The nature and quality of regulations are often related to efficiency, as non-performing firms exit markets, efficient firms grow, and new firms emerge. Rigid regulations reduce flexibility in resource allocation in markets and decrease productivity.

³ To the list of their variables, we add: 1. the distribution of firms by size to the category of Innovation; 2. the employment protection index and the product market regulation index to the category of Market efficiency and 3. the public-debt-to-GDP to the category of the Institutional infrastructure.

⁴ There would be a fifth dimension, physical infrastructure, which we don’t report because Italy and Spain, being advanced economies, tend to have well-developed, and rather similar, infrastructural networks.

4. Institutional infrastructure: High-quality institutions provide friendly environments and policies that lead to economic development.

The appendix provides a handy summary of the main drivers of TFP growth for both Spain and Italy. The data indicate that the growth performance differential between the two countries partly appears to be the result of structural factors and that a large proportion was down to better post-crisis resource allocation. The Spanish economy is still suffering from some of Italy's structural weaknesses. It displays a low propensity for innovation, a lack of commitment to high-quality education and is primarily populated by small firms. Unlike Italy, however, Spain's bureaucratic system looks to be slightly more business-friendly and it is relatively well positioned in terms of government quality.

In the following, we will focus on a selection of variables that, in our opinion, are more helpful in determining whether the strong growth differential between Spain and Italy, and above all the contribution from the recent TFP outperformance, is likely to last. For a full overview, please refer to the appendix.⁵

a) Innovation: Spain ranks low

Technological progress remains the single most important driver of long-term growth.⁶ However, both Spain and Italy do poorly when it comes to innovation, though Italy fares slightly better. Over the last two decades, the R&D spending in both countries has been slightly above 1% of GDP, with little increase over time. This contrasts with an OECD average of more than 2%. In Germany, for instance, this indicator stands at almost 3%. When one considers the number of patent applications per million persons aged 15-64, Spain looks even less innovative than Italy. Interestingly, the number of patent applications in Spain declined from an average of 113 in 2000-09 to 97 in 2010-18, while in Italy the figure fell from 251 to 247.

The small size of firms in both countries represents one of the main obstacles to process and output innovation. According to Eurostat, 96% of Italian and Spanish firms employ less than 10 workers. In Germany, by contrast, this percentage is around 85%. Usually, large firms allocate resources more efficiently, can afford larger budgets to develop new products, enjoy stronger connections with national and international universities and tend to be more productive than smaller ones. Moreover, small firms, at least in the Italian case, are more likely to be associated with managerial weakness, due to a lack of meritocracy in the selection and rewarding of managers.⁷

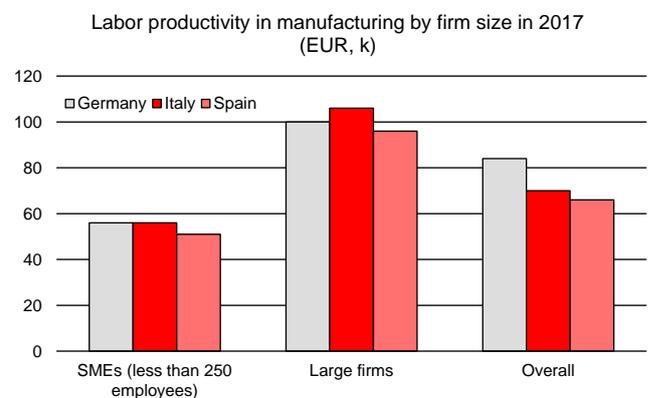
⁵ A caveat applies here. Many of the structural indicators listed in the appendix are not available since 2000 and, above all, updated data are available with some lags. Therefore, the picture might evolve once new information becomes available.

⁶ See, for instance, Chien (2015).

⁷ Pellegrino and Zingales (2017) have even argued that Italy's poor productivity performance over the last few decades has precisely to do with familism and cronyism.

Chart 3, which reports the value added per person employed in the industrial sector (excluding construction), shows that Italian manufacturers, both large and small, are actually equally or slightly more productive (in absolute levels) than their German and Spanish counterparts. However, for the whole industrial sector, Germany is significantly more productive than Italy, simply because it boasts a higher share of large (i.e. high productivity) firms than SMEs (i.e. low productivity). In Germany, indeed, large companies absorb roughly 60% of the workers who are employed in the industrial sector, as opposed to 30% in Italy.

CHART 3: NOT SO UNPRODUCTIVE AFTER ALL



Source: OECD, UniCredit Research

b) Education: both countries have room to improve

High-quality human capital is key to creating an innovative business environment, and education plays a fundamental role in its development. In many ways, the Spanish and Italian educational systems are rather similar, and neither really stands out in terms of quality.

When it comes to the PISA test, which measures the performance of 15-year-old students in mathematics, science, and reading, neither Spain nor Italy makes it into the top 30. The last round of the survey, after having shown a stable performance in the previous editions, has highlighted a deterioration in these basic skills in both countries – meaning that both Italy and Spain need major school reforms to improve the outcome of teaching.

With respect to higher education, Spanish workers tend to be better educated than their Italian counterparts. In Spain, 37% of people aged 25-64 hold a university degree, compared to 19% in Italy (and 29% in Germany). Boasting a high number of college graduates does not necessarily equate to a highly qualified workforce. Much depends on the quality and types of degree that the population possess.

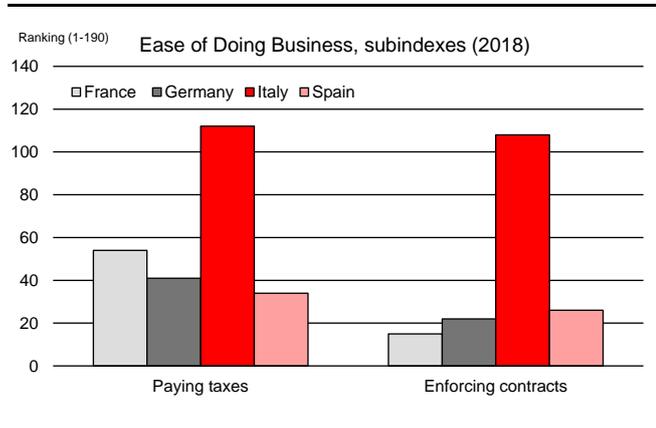
Indeed, no Spanish or Italian university is among the top 100 in major international rankings, such as the Shanghai Academic Ranking, the QS Index and the Times Higher

Education index. These indicators are focused primarily on research excellence, measured in terms of quality of the publications, the standing of the faculty and its ability to attract top students. Improving the reputation of a university, conducting groundbreaking research and attracting the top brains takes decades, especially in a highly globalized market for researchers and at a time when government budgets are heavily constrained.

c) Market efficiency: Spain is in a better position than Italy

Market efficiency is one of the elements most strongly associated with variation in TFP, as it allows the most productive allocation of resources. Improving market efficiency in practice would require streamlining and modernizing the regulatory environment. The difficulties of implementing reforms nevertheless remain a challenge while interest groups are able to mobilize resources, and even popular protests, in opposition to those reforms. The Ease of Doing Business Index, compiled by the World Bank, represents a standard way of checking how business friendly the institutional environment is. In 2018, Spain ranked 28th out of 190 countries, whereas Italy was 46th. As shown in Chart 4, Italy does especially poorly with respect to two key dimensions that affect the investment decisions of multinationals: tax payments and contract enforcements (all dimensions are reported in the appendix).

CHART 4: TROUBLE WITH DOING BUSINESS IN ITALY



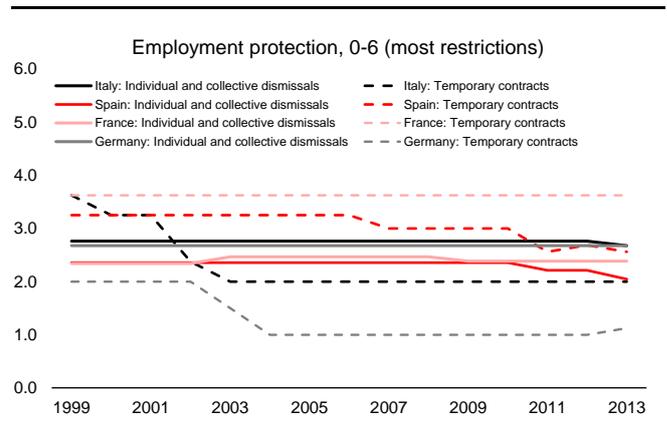
Source: World Bank, UniCredit Research

Streamlining some of these bureaucratic procedures and simplifying the fiscal system would not cost much in financial terms, but it could provide a significant boost to Italy's ability to attract foreign investment, as well as to stimulate private domestic investment. Still, we acknowledge that it could be politically costly.

Reforms to labor market institutions are needed to lift total factor productivity. Both Spain and Italy have undertaken measures to improve their labor markets over the last two decades. In order to capture these enhancements we look at

indicators of employment protection, released by the OECD (see appendix), although we acknowledge that this does not provide a fully comprehensive assessment of labor market institutions. Like other large eurozone countries, Spain and Italy have experienced a high degree of labor market duality. This is because the main strategy to introduce labor market flexibility for most of the last two decades has been to widen the scope for the use of atypical contracts, as shown by the OECD indicators for temporary contracts (see Chart 5).

CHART 5: A VIEW ON CHANGES IN LABOR MARKET PROTECTION



Source: OECD, UniCredit Research

With the 2012 labor market reform, Spain took further steps to tackle the duality in the labor market, and Italy followed suit with the approval of the Jobs Act in 2014-15. First assessments show that the Spanish reform has reduced some of the rigidity of labor market legislation. The same is likely to apply to Italy, and this will become visible when updates of the 2013 employment protection indicators for both dismissal and temporary contracts are released this year.⁸ One important aspect of the Spanish reform that differs from that of Italy is the greater priority given to bargaining agreements at the firm level over those at the regional and sectoral level. This has the potential to better align wages and productivity gains in the near future and probably contributes to the general consensus that Spain's labor market reform appears to have been more effective than Italy's.

That said, the approved reforms look set to bring the labor market institutions of both countries more closely in line with the international benchmark and may leave them better positioned than they have been, facilitating the reallocation of workers to more productive occupations.⁹

⁸ In Italy, the reformed EPL for new contracts will coexist with those regulating old permanent contracts for long time ahead as the latter are still in force. Therefore, the average indicator is expected to improve gradually.

⁹ The reform of the French labor market passed in 2017 eased employment protection and these changes are expected to positively affect the next release of employment protection indicators for this country.

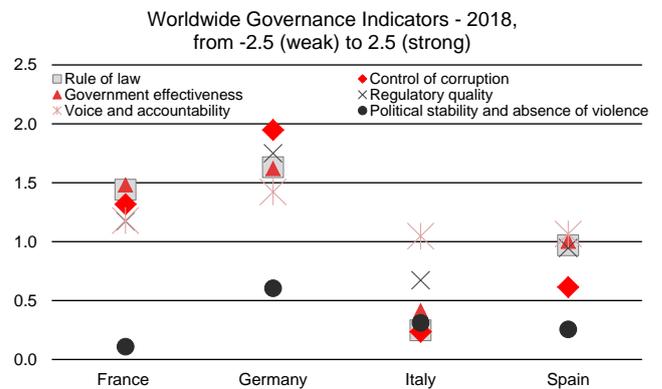
The effort to open product markets could be crucial to maximizing the potential impact of labor market reform. In this respect, in the appendix we include the economy-wide indicator of product market regulation, released by the OECD, and aimed at measuring the regulatory barriers to entry and competition. The indicator shows that both Italy and Spain have witnessed an improvement in the regulatory environment over the last two decades, and this is likely to provide a helping hand. According to the 2018 release, both countries, but particularly Spain, performed better than the OECD average (the indicator stands at 1.04 for Spain and 1.35 for Italy, compared to the OECD average of 1.40).

d) Institutions: Italy needs to catch up in government quality, but Spain’s macroeconomic-environment is now more challenging than it was in the past

Good institutional infrastructure fuels a stable and friendly environment capable of promoting economic growth. As suggested by Kim and Loayza (2017), such institutional infrastructure can be represented well by two main components: governance and macroeconomic environment.

Governance: The World Bank Worldwide Governance Indicators (WGI), in particular, aim to capture differences in the quality of governance among countries along the following six dimensions: **1.** voice and accountability, **2.** control of corruption, **3.** government effectiveness, **4.** political stability and absence of violence, **5.** regulatory quality and **6.** rule of law (see appendix). Each indicator runs from -2.5 to 2.5, with higher values corresponding to better governance. Both Spain and Italy need to take steps to improve their institutions. Importantly, over the last decade, both countries have experienced a visible deterioration in government quality (in relative terms) as measured by the WGI indicators. This is likely to have further hindered any technological upgrades. However, Chart 6 shows that even recently, Italy stands out for its weakness with respect to the rule of law, government effectiveness and the control of corruption.¹⁰

CHART 6: GOVERNMENT QUALITY – ITALY STILL BEHIND



Source: World Bank, UniCredit Research

Macroeconomic environment: The macroeconomic-environment indicators aim to capture the main factors (fiscal policy, country’s ability to generate savings and inflation/deflation) that could have had a bearing on a country’s economic prospects. The key message is that Spain’s budgetary position broadly deteriorated in the period between 2010 and 2018. The average budget deficit was about 6% of GDP, ranging from about 10% in 2010 to 2.5% in 2018; the recent improvement was driven by a fiscal policy which was restrictive, on average, during the period (see Chart 7).¹¹ Therefore, Spain’s budgetary situation looks to be more stretched than it was in the first decade, when the budget deficit, on average, was 1.3% of GDP, encompassing a significant deterioration in the 2008-09 recession caused by the global financial crisis and a surplus of 0.4% in 2000-07. Moreover, such a budget surplus was feasible in a period in which, despite a higher cost of debt, Spain’s nominal GDP growth averaged 8% and public debt about 50% of GDP. The growth in nominal GDP declined to 1.3%, on average, in 2010-18 and public debt has almost doubled in the meantime. In Italy, the budget deficit/GDP ratio remained similar throughout the two decades (3.2% in 2000-09 and 2.9% in 2010-18), as did the structural budget balance. According to the European Commission, Spain and Italy are the two countries that currently enjoy the smallest fiscal space within the eurozone.¹²

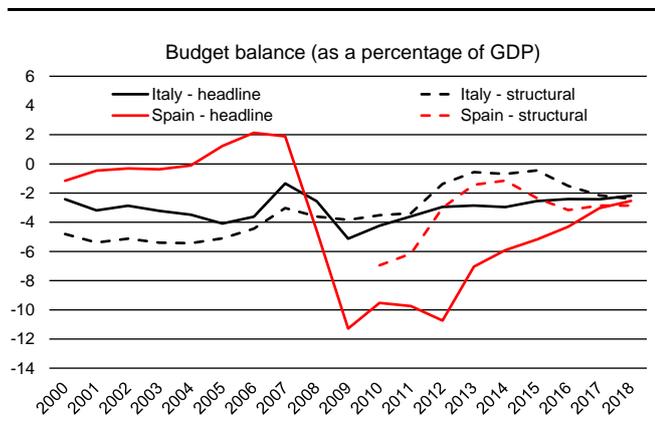
Needless to say, the high public debt/GDP ratio in Italy (135% in 2018 compared to 98% in Spain), has reduced the Italian government’s room for maneuver to stimulate economic growth in the past and will probably continue to do so in the future.

¹⁰ Rule of law captures the extent to which citizens have confidence in and abide by laws; the control of corruption captures the extent to which public power is exercised for personal gain, while government effectiveness stands for the quality of public services and policy formulation and implementation.

¹¹ The change in the primary structural balance amounted at +0.6pp, on average, in the period between 2010-18. The EC doesn’t provide an estimate of the structural budget balance in Spain before 2010.

¹² By fiscal space, the commission means the difference between the structural budget deficit and the medium-term budgetary objective of each country.

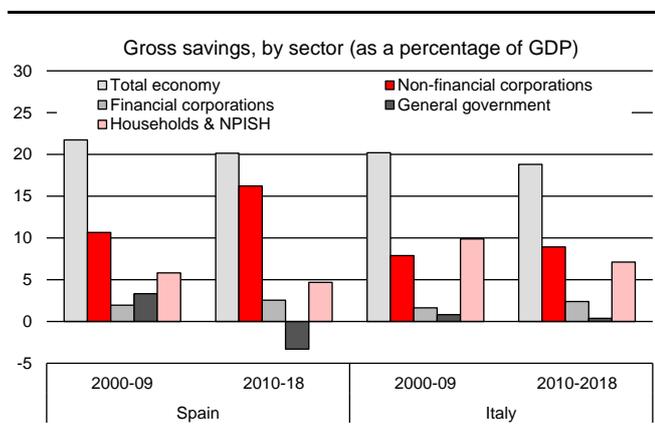
**CHART 7:
SPAIN AND ITALY: BOTH FACE LIMITED FISCAL SPACE**



Source: Eurostat, UniCredit Research

The increased borrowing needs in the Spanish public sector over the last decade has, for the most part, been offset by the increased ability to accumulate savings in the corporate sector – the gross saving ratio for the corporate sector rose by 5.6pp, in contrast to the 6.6pp decline in the public sector saving ratio (see Chart 8). This has mitigated the approx. 2pp decline in the country’s overall savings between the two decades (2000-09 and 2010-18).

**CHART 8:
NO SIGNIFICANT DIFFERENCE IN RESOURCE AVAILABILITY**



Source: Eurostat, UniCredit Research

Corporate profits in Spain significantly benefited from the adjustment process following the global financial and sovereign debt crises. Still, after peaking in 2016 (+6.0%), the pace of profit growth has slowed (+1.0% currently), which makes it less certain that the improvement in corporate saving will be sustainable. Thus, the main features of the Spanish macroeconomic environment (as has been the case for Italy) could be somewhat more fragile than they have been in the past.

4. Concluding remarks

Spain’s economic performance over the last two decades has been impressive, especially compared to Italy, but with some caveats. In the years before the global financial crisis, the real estate bubble was the main driver of growth. Since the housing bubble burst, the reallocation of resources away from the real estate and construction sectors has contributed to significant efficiency gains, together with the positive dividend of the structural reforms adopted since the beginning of the last decade, which are expected to improve the country’s TFP. However, looking at a wide scorecard of indicators that capture different dimensions of TFP, which is one of the main drivers of structural growth, Spain still does not rank close to best-in-class and is actually closer to an economy like Italy.

Of the four TFP dimensions that we considered, Spain offers a more business-friendly institutional environment, whereas Italy does a better job when it comes to innovation. With respect to education, both countries need further reform. Therefore, our analysis suggests that Spain has only partly adopted the measures necessary to successfully upgrade the structure of its economy. And, given the political fragility that has recently characterized the country, no major reform effort in that direction can be expected in the near future (and Italy does not seem to be better positioned in this sense). This means that Spain’s current, significant outperformance compared to Italy might decrease over the medium term.

Based on IMF estimates, potential growth in Spain stands at 1.7%, compared to 0.2% for Italy, which implies a 1.5pp potential growth gap between the two countries. This is significant and, based on our analysis, probably not sustainable. Indeed, this compares with an average potential growth gap of 0.8pp over the 2010-18 period, which is down from 2.2pp in the previous decade (2000-09), a time when unproductive capital accumulation played a significant role.

Clearly, moderation of Spain’s outperformance does not necessarily need to be to the bottom only. Our analysis shows that Italy could adopt a number of cost-free measures that might make the bureaucratic system more business-friendly, particularly when it comes to tax payment and contract enforcement, and improve the quality of its institutions. With some effort, it would be possible for Italy to climb the international ease-of-doing-business rankings and improve its governance indicators, thus attracting capital from abroad more easily.

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Appendix¹³
TABLE 1: COMPARISON OF MAIN INDICATORS

| | Spain | | | Italy | | |
|---|------------------|------------------|--------------------------|------------------|------------------|-------------|
| Innovation | | | | | | |
| | 2000-2009 | 2010-2018 | 2018 | 2000-2009 | 2010-2018 | 2018 |
| R&D expenditure (% of GDP) | 1.10 | 1.26 | 1.18 | 1.09 | 1.31 | 1.39 |
| Patent applications (per million person aged 15-64) | 113 | 97 | 54 | 251 | 247 | 254 |
| | 2008-2009 | 2010-2017 | 2017 | 2008-2009 | 2010-2017 | 2017 |
| Small firms (% total firms) | 95 | 96 | 96 | 96 | 96 | 96 |
| Education | | | | | | |
| | 2006-2009 | 2012-2015 | 2018¹⁴ | 2006-2009 | 2012-2015 | 2018 |
| Average PISA tests ¹⁵ (mathematics) | 482 | 485 | 481 | 472 | 488 | 487 |
| Average PISA tests (science) | 488 | 495 | 483 | 482 | 487 | 468 |
| Average PISA tests (reading) | 471 | 492 | - | 477 | 487 | 476 |
| | 2000-2009 | 2010-2018 | 2018 | 2000-2009 | 2010-2018 | 2018 |
| Tertiary education (% people aged 25-64) | 27 | 34 | 37 | 12 | 17 | 19 |
| Market efficiency | | | | | | |
| | 2000-09 | 2015-18 | 2018 | 2000-09 | 2015-18 | 2018 |
| 1) Ease of doing business rank (1-190) | - | 32 | 28 | - | 46 | 46 |
| Starting a business | - | 82 | 86 | - | 59 | 66 |
| Dealing with construction permits | - | 111 | 123 | - | 86 | 96 |
| Getting electricity | - | 67 | 42 | - | 46 | 28 |
| Registering property | - | 50 | 53 | - | 23 | 23 |
| Getting credit | - | 61 | 68 | - | 98 | 105 |
| Protecting minority investors | - | 33 | 24 | - | 44 | 62 |
| Paying taxes | - | 49 | 34 | - | 127 | 112 |
| Trading across borders | - | 1 | 1 | - | 1 | 1 |
| Enforcing contracts | - | 33 | 26 | - | 112 | 108 |
| Resolving insolvency | - | 21 | 19 | - | 23 | 24 |
| | 2000-09 | 2010-17 | 2017 | 2000-09 | 2010-17 | 2017 |
| 2) Financial development index, 0-1 (best) | 0.87 | 0.86 | 0.86 | 0.77 | 0.77 | 0.79 |
| Financial institutions | 0.88 | 0.87 | 0.87 | 0.77 | 0.78 | 0.78 |
| Financial markets | 0.83 | 0.84 | 0.84 | 0.74 | 0.75 | 0.79 |
| | 2000-09 | 2010-13 | 2013 | 2000-09 | 2010-13 | 2013 |
| 3) Labor market indexes | | | | | | |
| Share of women in wage employment in the non-agricultural sector (% of total) | 2111 | 1330 | 940 | 2103 | 1279 | 912 |
| | 2000-09 | 2010-13 | 2013 | 2000-09 | 2010-13 | 2013 |
| Employment protection, 0-6 (most restrictions) | | | | | | |
| Permanent workers – individual and collective dismissals | 2.36 | 2.21 | 2.05 | 2.76 | 2.74 | 2.68 |
| Permanent workers – individual dismissals | 2.36 | 2.21 | 2.05 | 2.76 | 2.74 | 2.68 |
| Regulation on temporary contracts | 3.18 | 2.70 | 2.56 | 2.29 | 2.00 | 2.00 |

¹³ We consider the average of the index for the different periods, unless otherwise stated. For the Employment Protection Indicator, we used the Version 1 of the indicators, which allows a long-period comparison. However, we checked that the most recent versions convey similar conclusions. For the Product Market Regulation, we note that the regulatory domains assessed in the 2018 vintage of the PMR indicators are different from those included in the previous vintages; therefore, the 2018 PMR indicator cannot be compared with the previous ones.

¹⁴ The OECD decided to defer the publication of the PISA 2018 reading results for Spain. The OECD reports that some data show implausible student-response behavior and consequently, at the time of publication of the Spain country note, comparability of Spain's results in reading cannot be assured.

¹⁵ In the PISA tests, for each discipline, the maximum score is 698.

| | 2003-08 | 2013 | 2018 | 2003-08 | 2013 | 2018 |
|--|---------|---------|------|---------|---------|------|
| 4) Product Market Regulation, 0-6 (less competition) | | | | | | |
| Overall indicator | 1.69 | 1.44 | 1.04 | 1.66 | 1.29 | 1.35 |
| Institutional infrastructure | | | | | | |
| | 2000-09 | 2010-18 | 2018 | 2000-09 | 2010-18 | 2018 |
| 1) Governance Indicators, from -2.5 (weak) to 2.5 (strong) | | | | | | |
| Voice and accountability | 1.21 | 1.05 | 1.06 | 1.06 | 0.99 | 1.05 |
| Control of corruption | 1.27 | 0.78 | 0.61 | 0.46 | 0.10 | 0.24 |
| Government effectiveness | 1.38 | 1.09 | 1.00 | 0.56 | 0.44 | 0.41 |
| Political stability and absence of violence | 0.02 | 0.13 | 0.25 | 0.57 | 0.42 | 0.31 |
| Regulatory quality | 1.28 | 0.95 | 0.95 | 0.96 | 0.73 | 0.67 |
| Rule of law | 1.23 | 1.03 | 0.97 | 0.60 | 0.36 | 0.25 |
| 2) Macroeconomic environment | | | | | | |
| | 2000-09 | 2010-18 | 2018 | 2000-09 | 2010-18 | 2018 |
| Government budget balance (% of GDP) | -1.3 | -6.4 | -2.5 | -3.2 | -2.9 | -2.2 |
| General government debt (% of GDP) | 47 | 90 | 98 | 107 | 130 | 135 |
| Gross national savings (% of GDP) | 21.7 | 20.1 | 22.3 | 20.2 | 18.8 | 20.8 |
| Distance of the inflation rate from a 2% target | 1.0 | -0.7 | -0.3 | 0.3 | -0.7 | -0.8 |

Source: Eurostat, World Intellectual Property Organization, OECD, World Bank, IMF, UniCredit Research

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This report was completed and first published on 8 January 2020 at 15:03.

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