

The Agenda for Structural Reform in Europe

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Abstract: This paper reviews, from a macroeconomic point of view, the agenda for structural reforms in Europe. Structural reforms have been part of the economic policy discussions of European governments since the 70s when economic growth and employment started lagging relative to the US. The global financial crisis has created a sense of urgency because of the low performance of many European economies during the past decade. Our empirical analysis first shows that there exists a strong correlation between policies, institutions and economic performance. We also show that reforms are happening and they are happening faster in the countries that need them the most. However, the speed of reforms is not always fast enough, reforms happen in an isolated manner and their effects are not as large as planned. In addition, we see reforms slowing down possibly because the low-growth environment has not provided the best economic or political environment to support a sustainable process of broad reforms. We conclude with some thoughts on what would take to accelerate the reform process and the potential role of Europe and its institutions.

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1. Introduction.

The need for structural reforms in Europe has been at the center of the economic policy debate for the last decades. Structural reforms are seen as a set of necessary policies to improve both the growth and employment outcomes of European economies that are seen as performing below their potential and lagging relative to other advanced economies.

The task of designing optimal policies in order to increase growth is always relevant for the strategy of any government, advanced or emerging. In the case of Europe, the focus has been on the need to remove barriers to innovation and business creation, reduce regulation, and promote flexibility in order to strengthen economic performance. This discussion became prominent after the 1970s where Europe did not adapt well to the global recessions associated to the oil price shocks. Unemployment remained elevated and the convergence process that Europe had started after World War II slowed down or stopped. As a result, the term *Eurosclerosis* was used to describe the lack of dynamism of Europe relative to other advanced economies, in particular the US.

The years that followed saw some European economies growing at rates similar to the US but leaving a significant gap in terms of GDP per capita. In addition, during the 1990s US productivity rate increased faster than in most European countries. This combined with another disappointing performance in terms of the labor market created a sense of urgency in the need to implement a broad set of European reforms.

The Lisbon Strategy launched in 2000 was an inflection point that reflected on the urgency with which policy makers saw the need for these reforms. The initiative was an attempt “to agree on a new strategic goal for the Union in order to strengthen employment, economic reform and social cohesion as part of a knowledge-based economy”.¹ Since then, reforms have been a key priority in any economic policy discussions either at the country or at the supranational (EU) level.

In the last 15 years very few European countries have managed to close the gap relative to the US in terms of productivity and employment and for some countries the gap is increasing. In fact, the recent global financial crisis has been another reminder of the weaknesses of the European economic model, reinforcing the perception that the growth engine in Europe is not working at its potential speed.

This paper looks at the state of the debate around structural reforms in Europe by providing first a macroeconomic diagnosis of the performance gap of these countries relative to the other advanced economies. We then assess several measures of structural weaknesses and policies in Europe and how they relate to economic outcomes. From

¹ European Council (2000).

here we review the evidence on the effects of past economic reforms and finish with a reflection on how to move the reform agenda going forward.

2. How Far is Europe from its Potential?

2.1. Distance to the Frontier.

Structural reforms are about improving economic policies in order to let an economy reach its potential. European countries have levels of activity per capita that are substantially higher than most other countries in the world but the right benchmark of comparison should be the other advanced economies. How does Europe compare to other advanced economies?

To set a benchmark for European economic performance, we can think about the traditional Solow model that views growth as a combination of an exogenous component (technological progress) representing the technology frontier of the world and the dynamics of convergence to that frontier for countries that are below. The data shows that while most European economies are very close to the technology frontier, in some cases they have stopped converging at a level of GDP per capita that is still significantly below that of the frontier. How do we interpret a constant gap to the frontier? We typically think about these economies as having reached a steady-state level of GDP per capita that is lower than that of the best performing countries.

In the traditional Solow model differences in steady states are the result of differences in technology, saving rate or population growth rates. Moving beyond the Solow model we can think of some of these variables (saving rate or technology) as endogenous. In particular, they might depend on factors that can be affected by structural barriers or bad policies. In that context, structural reforms can be seen as removing those barriers and improving policies in order to increase the steady state level of output.

Estimating the steady state for each European economy requires strong assumptions about the dynamics of growth. Here we take a much simpler view of these gaps and we use the US as an indicator of the technology frontier and the potential steady state that could be achieved in the absence of distortions or inefficiencies. This is, of course, a simplification for several reasons. First, there could be room for structural reforms in the US as well so the true potential might be even higher. And, second, not all differences in steady states need to be related to deficiencies to be addressed by structural reforms. Some might reflect differences in preferences, geography or demographics that cannot be changed.

The fact that we are framing our analysis in terms of the gap to the frontier means that it is most appropriate for European countries that are closer to the frontier. Some European economies are still in the convergence phase and for them economic

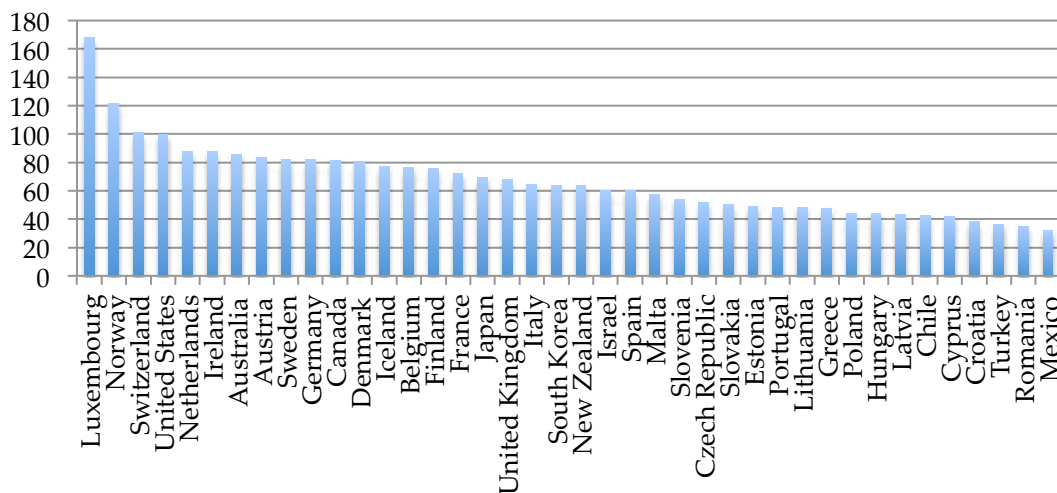
performance is about the speed of convergence. But even in these cases, their projected steady-state level of GDP per capita also matters, as convergence is relative to this level. If they are heading towards a level of income per capita which is significantly lower than that of the frontier, we expect them to grow at a lower rate.

2.2. Living Standards (GDP Per Capita).

We start by comparing GDP per capita in a sample that includes all EU and OECD members. We make the US level in 2013 equal to 100 and compute the relative GDP per capita of all the other countries.

The US economy is only surpassed by three OECD economies: Luxembourg, Switzerland and Norway. Because these three countries' GDP is influenced by special conditions (size or natural resources) we will treat them as 'exceptions' and maintain the logic that the US is the frontier in our analysis.² Having the US as the benchmark, we can see in Figure 1 that there is a significant gap in European GDP per capita relative to the US. Germany, the UK or France are at a level that is in between 20% and 32% from the US. Some European countries (Netherlands, Sweden or Austria) are also close (around 20%) and many others, in particular Eastern Europe, are much further.

Figure 1. GDP Per Capita Relative to US (2013)



As mentioned earlier, we cannot interpret all these numbers as a static gap. It is clear that among the EU countries some can be seen as in the convergence phase towards

² Of course, the true frontier is likely to be a combination of features and industries that spread across this group of countries. The US is not the reference for every aspect of economic performance or any diagnosis of potential institutional failures. An alternative (used by the OECD) would be to use the best three countries in a particular dimension as the frontier.

steady state, such as Eastern Europe. In this case we need to think about this gap in terms of the speed of converging. But we cannot forget that we also have other countries, such as Italy, which not only displays a very large gap (close to 40%) but also has stopped converging a while ago and has been on a diverging trajectory for years, indicating the existence of very low (and possibly decreasing) steady state.

We have included in Figure 1 all OECD economies as well as all EU members. When comparing the EU to other advanced countries such as Canada, Australia or South Korea we can see that these three countries have levels that are also in between 15-36% below that of the US, similar to the gap of the most advanced EU members. While in the case of South Korea one can make the argument that it is still on a convergence path, the same cannot be said about the other countries, as we will show later.

GDP per capita offers a view of economic performance that includes both an element of technology and one of labor utilization. We can decompose GDP per capita into GDP per hour worked and hours to population as indicators of each of these two dimensions.

2.3. Productivity (GDP per Hour).

Figure 2 GDP Per Hour Relative to the US (2013)

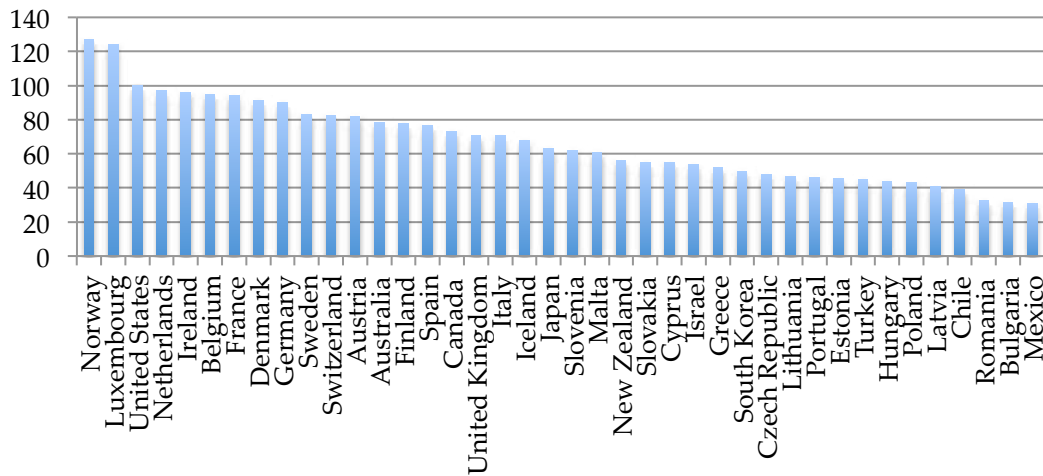


Figure 2 displays GDP per hour relative to the US level. Overall we see a similar pattern of a gap between European countries and the US but we also notice two significant differences. The gap tends to be smaller than in the case of GDP per capita. France or Germany are now as close as 5-10%. And when compared to the other non-European countries we can see that Europe does a lot better in this dimension than in GDP per capita.

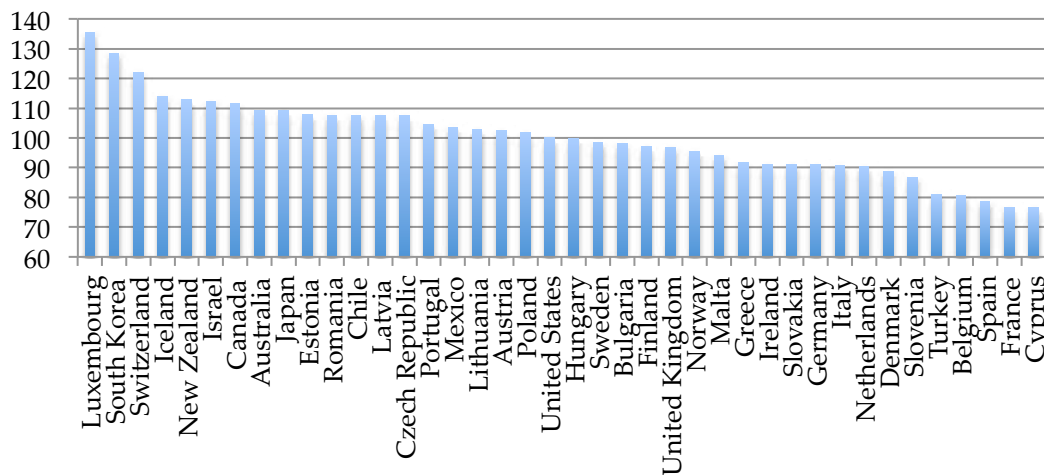
As an example, Spain or Italy's GDP per hour is very similar to that of Canada and higher than that of Japan, New Zealand or South Korea while it remains at a much lower level in terms of its income per capita.

2.4. Labor Market and Demographics.

The fact that for some of the large European countries (Germany, France, Italy or Spain) the gap in GDP per hour is smaller than the gap in GDP per capita means that there is a gap in the utilization of labor resources relative to the US. On the other hand, for some of the Scandinavian economies as well as some of the Eastern European ones the pattern is reversed signaling that they make more intensive use of their population relative to the US.

To capture the intensity with which population resources are being utilized we start with an aggregate view on labor resources and calculate the ratio of total hours worked to population (Figure 3).

Figure 3. Hours per Capita Relative to the US (2013)



What is interesting in this figure is the leading position of non-EU countries (South Korea, New Zealand, Israel, Canada, Australia or Japan) as well as some of the Eastern European economies. At the bottom of the list we find some of the most advanced EU countries (such as France, Belgium or Denmark) with very low hours relative to population.

The ratio of hours to population hides several distinct dimensions. First, demographics, as the age profile of the population will have an effect on the working-age population; second, the willingness to participate in the labor force; third, the ability of those in the labor force to find a job; and, finally, the number of hours those employed work.

We certainly want to remove from our analysis the demographic dimension given that it will be unrelated to labor market policies. The best way to do so is to distinguish between total population and working-age population. In order to do so, we decompose GDP per capita into three ratios:

$$\frac{GDP}{Population} = \frac{GDP}{Hours} \frac{Hours}{WA Population} \frac{WA Population}{Population}$$

Where *WA Population* is the working-age population (defined as 15 to 64 years old).³ The three terms in the equation capture labor productivity, the performance of the labor market and demographic considerations respectively.

Figure 4. Decomposition of Differences in GDP per Capita

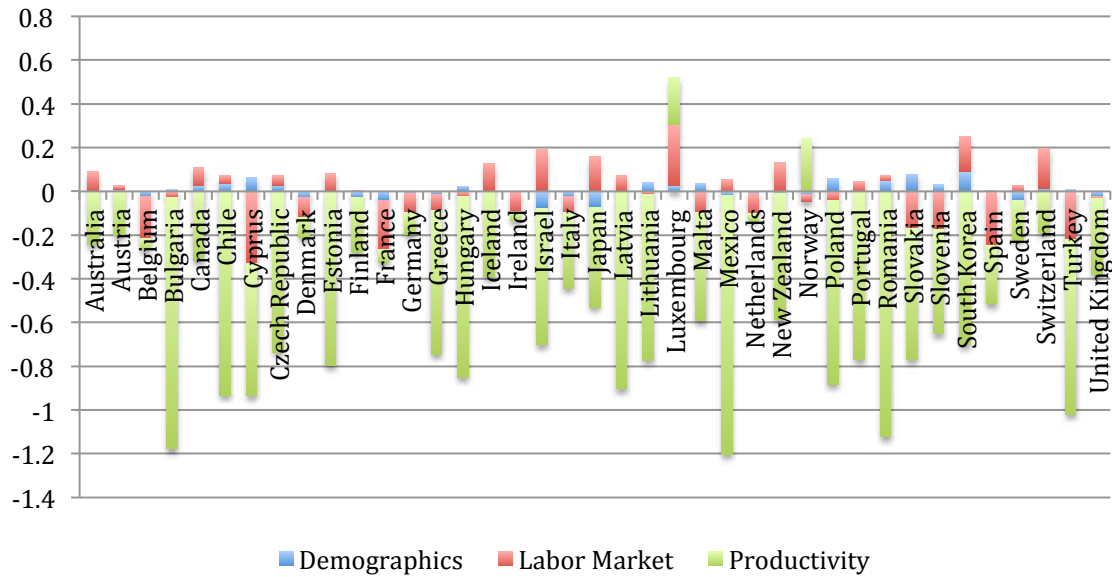


Figure 4 decomposes the gap with the US economy in terms of each of these three factors by taking natural logarithms in the above expression. The figure shows that while productivity remains the largest factor, there are many interesting differences across countries. Typically demographics play a small role in the gap but the employment performance can be significant for some countries.⁴ In particular, countries

³ The definition of the working-age population is a difficult one. The traditional definition of 15 to 64 years old ignores the fact that in some countries a significant percentage of the population over 64 is still engaged in the labor market. The alternative is to define working-age population as adult population (over 15 years old).

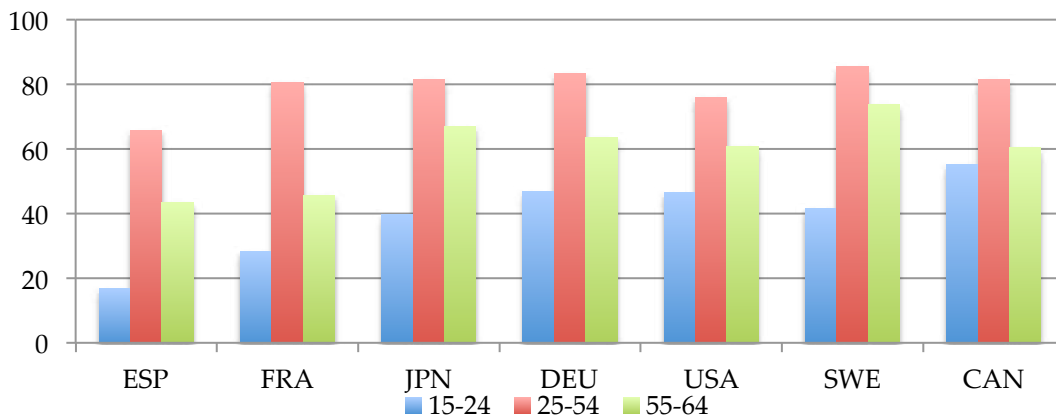
⁴ Demographics play a small role because we are looking at the level GDP per capita. If we were to think in terms of GDP and its growth rate, the fact that some European countries are likely to

like Spain or France or Belgium the employment underperformance is as large or larger than productivity.

But this decomposition is still not providing a complete picture of the labor market and the role of demographics. First, the traditional definition of working-age population as 15 to 64 years old is not relevant in some countries as workers older than 65 remain active. In the US about 30% of individuals whose age is between 65 and 74 years are active, and this segment of the population is likely to increase over time on most OECD countries. In addition, activity rates across different age groups vary enormously across countries so treating all the working-age population as a homogenous group can be misleading.

As an illustration of this pattern, Figure 5 compares a selected group of countries by their employment rate across different age groups. Countries are ordered according to their overall employment rate (in increasing order).

Figure 5. Employment Rates by Age Group



All European countries except for Spain have higher employment to population ratios than the US for the group between 25-54 years old. This is even true for countries like France where the overall employment rate is much lower than in the US. But the US is almost at the top when ranking employment rate for those below 25 and above 55.⁵ This means that the low use of labor resources heavily depends on policies or norms that

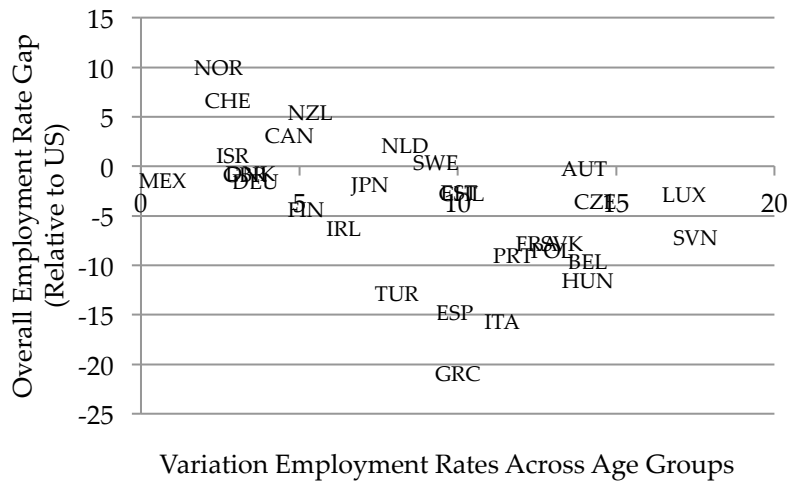
see a decline in population, in addition to a worsening of the aging structure, will make demographics a much larger factor.

⁵ This comparison would be much more dramatic if we were to include those above 65 years old. In the US more than a quarter of those above 65 years old are still active, a much higher number than in any European country.

affect different age groups differently. And, as the case of France shows, there tends to be a correlation between low employment rates among younger and older workers.⁶

What is interesting is that this pattern is common among many countries. We plot in Figure 6 the overall employment rate (relative to the US) against the dispersion of employment rates across the three age groups we identified early.⁷ There is an inverse relationship that suggests the overall low employment rates are related to the differences in employment rates between prime-age workers and the rest.

Figure 6. Average and Dispersion Employment Rate



A second interesting question is whether there is any pattern between labor productivity and intensity of use of labor resources. Do we see a positive correlation between the two gaps signaling underperformance on both dimensions? Figure 7 shows that this is not the case. If any, there is a mild negative pattern.

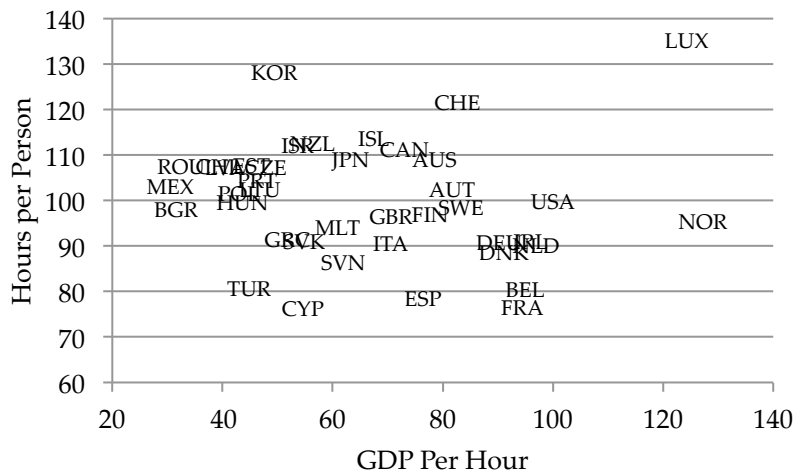
France or Spain display relative high GDP per hour but very low hours per capita. On the other side New Zealand or South Korea have very high hours per person but very low GDP per hour. This negative correlation suggests that for some countries progress in one of these indicators could come at the expense of deterioration in the other one. If productivity is high because of the low activity of the least productive workers, efforts to

⁶ Why the number of hours is so low in some countries is an open question. It might be that this is driven by preferences for leisure and these preferences affect key parameters in the labor market, including taxation (see Ek (2015)). However the fact that the disaggregated data by age groups shows that these preferences do not show up in all age groups suggests that there could be some other factors that play a role and that cannot be fully understood in the context of the representative agent model.

⁷ Where employment rates are also measured against the US figure and dispersion is simply measured as the standard deviation of the three indicators.

increase their participation will result in lower GDP per hour. There are also countries with underperformance on both dimensions such as Turkey or Cyprus and some that perform better than most on both dimensions (Luxembourg) where the tradeoff seems less relevant.⁸

Figure 7. Labor Productivity and Hours per Person (2013)



As a summary, we have found that the gap in GDP per capita between Europe and the US varies across different European economies. It varies in size but also in terms of its origin. While labor productivity is a large factor for most countries, for a few of the European economies the labor market gap is as large or larger. This group includes both periphery countries (such as Spain or Cyprus) as well as core economies (such as Denmark or France) so the traditional groupings of countries across standard labels (high and low GDP per capita) does not correlate well with the relative importance of the labor market. In addition, the labor market outcomes are mainly driven by low employment rates in young and old workers. Finally, it seems that for some of these countries there is a trade off between employment rates and productivity; by employing only the most productive countries they have high labor productivity.

2.5. Long-term Trends.

So far our analysis has only looked at the current gaps in terms of productivity and labor markets. In order to get a broader perspective on the origin and evolution of these gaps, we now look at how they have been changing over the last decades. We will once again look at the gap relative to the frontier, where we maintain the US as a benchmark.⁹

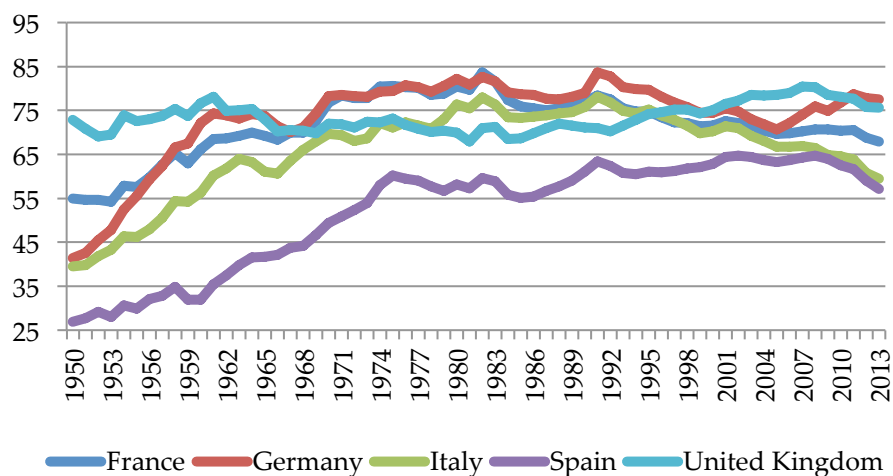
⁸ De Michelis, Estevão, and Wilson (2013) provide a deeper analysis of the trade off between productivity and labor market intensity.

⁹ For our analysis of long-term trends we make use of the total economy database from the conference board. The data makes use of PPP adjustment based on the 2005 OECD calculations

Figure 8 shows the evolution of GDP per capita since 1950 for some of the largest EU economies, always relative to the US. There are two distinct patterns. The UK has maintained a gap of about 25% for the last five decades. The other four countries (France, Germany, Spain and Italy) were embarked into a very fast convergence process in the early years but this process stopped during the 1970s (with the exception of Spain where it continued until the year 2000) around a gap level of 25-35%. Since then the convergence has been reversed, in particular in Italy and Spain but also to a lesser extent in France and Germany.

The convergence that took place during the early years is consistent with the international evidence in favor of the Solow (convergence) model. Within that framework, the stable gap that remains could be seen as a difference in steady states, possibly driven by barriers that can be the target of structural reforms. The fact that the gap increases during the most recent decades can be a sign of either an increase in these structural barriers or an increase in their negative effects.

Figure 8. Convergence in GDP per Capita (US=100)



In order to get a perspective on how different the behavior of European countries is relative to other advanced economies, we reproduce in

Figure 9 the same analysis for an additional set of OECD countries.

What we see is that some of these economies are more similar to the UK in terms of the evolution of their gaps to the US (in particular Canada and Australia). Gaps are fairly

and it does not include the recent revisions to national accounts. For this reason, the 2013 level does not always coincide with the figures we have shown earlier. But because we are trying to understand long-term trends we prefer to use data that comes from a single source.

stable over time with GDP per capita around 75-80% of the US level. Sweden and the Netherlands display earlier convergence but then stagnation during some of the recent (Sweden has a specific U-shape pattern since the end of the 70s). In the case of Japan we see a phenomenon similar to that of the large European countries but more dramatic with very fast convergence followed by divergence since 1990.

Figure 9. Convergence in GDP per Capita (US=100)

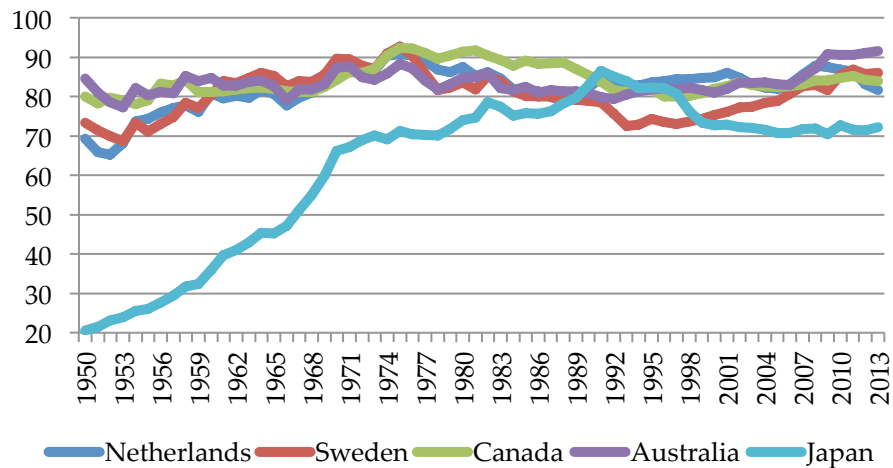
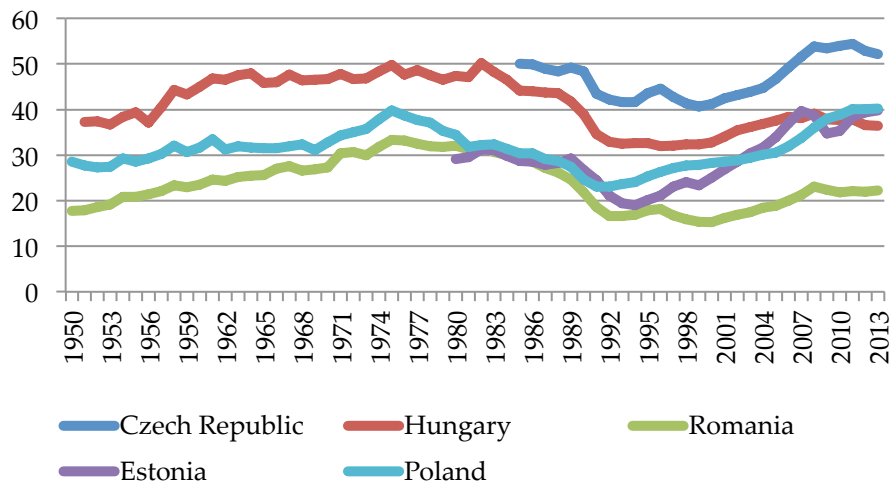


Figure 10. Convergence in GDP per Capita (US=100)



So far we have only looked at the most advanced economies in our sample. In Figure 10 we show the behavior of some of EU countries with the lowest GDP per capita. Their behavior is driven by their specific circumstances of transitioning from planned economies to market economies during the last two decades. A collapse of their

economies is followed by a persistent pattern of convergence more visible in countries such as Estonia or Poland than in Hungary or Romania.

As argued earlier, GDP per capita has both an element of technology and one of labor market performance that are interesting to understand separately. Also, the logic of convergence under the Solow model is not one that applies to GDP per capita but to productivity. We now replicate the above charts but using GDP per hour as a proxy for labor productivity.

Figure 11 shows that among the large European countries convergence in GDP per hour is stronger than in GDP per capita. The gap remains smaller in the later years and the convergence continues until the year 2000 in France and Germany and until the 1990s for the other three countries. We do see, however that there is also a slowdown of convergence or even a reversal in Italy or Spain in the last 10 years.

Figure 11. Convergence in GDP per Hour (US=100)

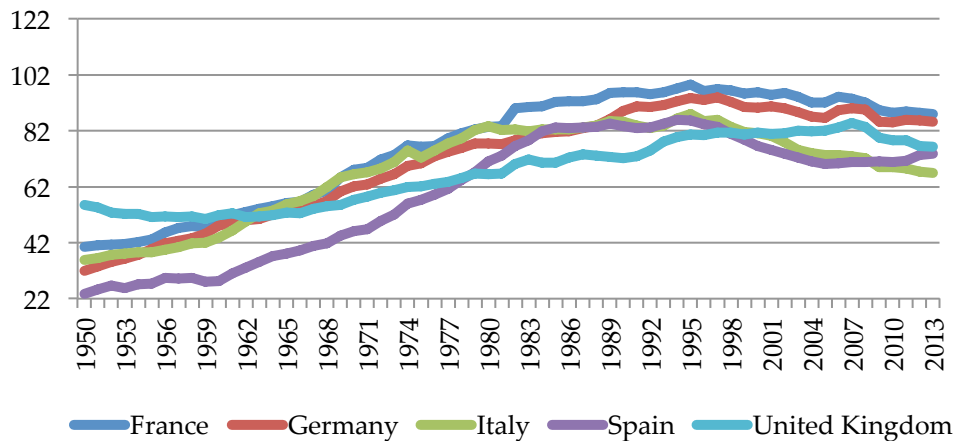
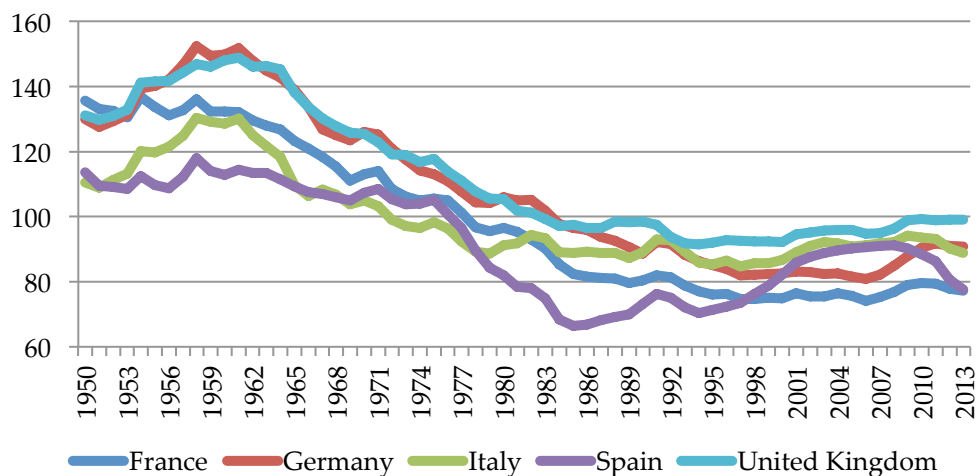
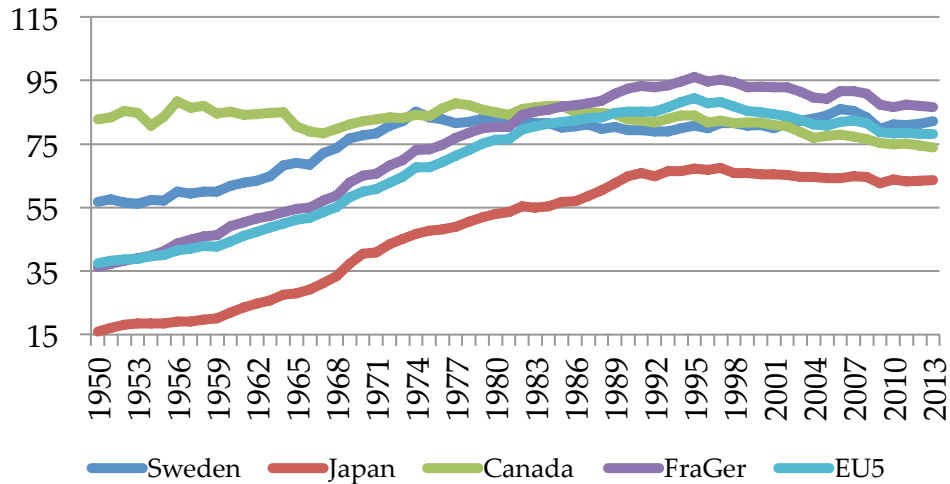


Figure 12. Convergence in Hours per Capita (US=100)



One final comparison using some other OECD countries (Figure 13): the convergence in labor productivity of the five largest EU countries (EU5) is similar or stronger to that of other advanced economies. In particular, productivity levels catch up with those of Canada and Sweden by the early 1980s and remain at a similar level since then. In the case of France and Germany (*FraGer*) the productivity remains higher although we observe again a slight reversal since the mid 1990s.

Figure 13. Convergence in GDP per Hour (US=100)



The evidence shown so far portrays a consistent picture of a persistent and in some cases increasing gap of European economies with the US since the 1970s. This pattern is not too different from the other advanced economies that are also stuck at a level of GDP per capita or productivity that is below that of the US. This could be signaling that the dynamics of the last decades are driven more by the ability of the US to innovate and distance itself from the other advanced economies, including Europe. There is, however, some evidence of lower performance among a few of the European countries in the last 15 years, driven in some cases by the effects of the global financial crisis that started in 2008.

3. Convergence, Steady State and Structural Reforms.

How can structural reforms help closing the gaps that we have identified in Section 2? We frame this question within the academic literature on understanding the institutional and policy determinants of long-term growth. The literature was originally built around the Solow (1956) model where countries are seen as converging to a steady-state that is affected by technology, population growth rates, saving rates as well as the depreciation rate. Originally, long-term growth rates were considered as exogenous or driven by the technology frontier but later a second wave in the literature took on the tasks of

understanding what drives long-term growth by understanding the determinants of technological progress.¹⁰

From an empirical point of view most the literature has focused on the notion of convergence and the determinants of the steady state. This is partly driven by the fact that early tests of the Solow model provide a good description of the cross-country and cross-regional growth dynamics.¹¹ On the other hand, endogenous growth models are much less successful establishing a set of empirical facts matched by a stylized model that includes the factors driving innovation and long-term growth rates.

The empirical literature developed beyond the traditional factors of the original Solow model and became an open exploration of variables that could potentially drive growth or differences in steady states in a cross section of countries. Many papers provide a good assessment of the key variables that seem to be robust to different empirical specification. For example, Easterly and Levine (2001) and Doppelhofer, Miller, and Sala-i-Martin (2004) provide such analysis and Barro (2012) presents a recent update to how the standard Solow model fits the cross-country data.

In all these studies a few variables appear as consistent determinants of economic growth or differences in steady states. In particular, investment in physical and human capital appears as a very strong and robust determinant of long-term growth rates.¹²

When it comes to variables that are affected directly by policies or institutions, the most robust ones tend to be broad indicators of either macroeconomic policy (inflation and its volatility, size of government, openness, the black market exchange rate premium) or fundamental institutions such as democracy, rule of law or constraints on the executive (as in, for example, Hall and Jones (1999), Rodrik, Subramanian, and Trebbi (2004), Barro (1996), Glaeser et al. (2004) or Acemoglu, Johnson, and Robinson (2001)).

Most of these policies are relevant when looking at a large sample of countries that includes advanced and emerging markets but less so when focusing on advanced economies, and Europe in particular. The variation in many of these variables (e.g. democracy or rule of law) is too small to become a significant determinant of economic performance.

In recent years, there has been an effort to provide much more granular measures of institutions and policies through, for example, the Governance Indicators or the Doing Business database produced by the World Bank. Because of their short length (starting

¹⁰ See Romer (1986) or Romer (1990).

¹¹ See Barro and Sala-i-Martin (1992), Mankiw, Romer, and Weil (1992) or Barro et al. (1991).

¹² In addition, and from Doppelhofer, Miller, and Sala-i-Martin (2004), variables such as fraction of tropical area, population density are also robust.

in the late 90s or early 2000s), empirical studies using these variables are less comprehensive, although there is evidence that these variables matter when looking at growth differences. For example Djankov, McLiesh, and Ramalho (2006) present evidence of the growth effects of indicators of Doing Business and Kaufmann, Kraay, and Mastruzzi (2009) discuss how governance matters.

Despite the fact that policy and institutional indicators matter for growth the academic literature provides limited help in the design of reforms, especially for OECD economies. First there is the issue of data quality and having enough detailed indicators that are capable of informing policy design. Second, and more importantly, the growth literature does not provide a clear framework to identify what matters for countries that are close to the frontier. For some of these countries, the issue of convergence is not relevant; the real issue is about the difference in steady state levels. While this is explicitly included in the empirical analysis, the specifications are not always consistent or insightful. It is quite common that the same sample of countries is used to run regressions both for convergence dynamics and to study steady-state differences (as in the seminal work of Mankiw, Romer, and Weil (1992) or Gillanders and Whelan (2014) more recently in the context of reforms).

The reason why convergence and differences in steady states are analyzed together is that in the framework of the Solow growth model some variables matter for both, such as the saving rate. When it comes to policy and institutional variables the logic is similar. They are likely to matter for both convergence and steady states. But because there is no accepted conceptual framework to test these hypotheses, the empirical analysis just looks at the data in an unstructured manner. In addition, our understanding of what drives the frontier and how countries manage to follow closely the technology leaders is also very limited and this is yet another handicap on our ability to understand what matters for growth in these economies.

Most of the recent work targeted towards designing economic reform agendas is driven by the efforts of the OECD to create a set of variables that capture at a much more microeconomic level the potential bottlenecks created in product and labor markets. Typically the framework used within these studies is similar to that of the convergence literature where structural reform indicators are seen as a way to close the gap with the frontier. In fact, in some of the empirical analysis these indicators themselves are shown to have a different impact depending on the relative position to the frontier. But whether these indicators are affecting innovation, adoption of other countries' innovations or a static concept of efficiency is not always being made precise in the analysis.

Because of all these conceptual and empirical difficulties, most of the policy recipes about structural reforms are not based on empirical assessments of what are proven to be strong determinants of differences in economic performance. Instead, it is typically based on the premise that more competition, less barriers to innovate, a more flexible

labor market or smaller tax inefficiencies should lead to higher employment as well as productivity. From here we build a set of specific indicators that can capture all those microeconomic dimensions.

In summary, the notion of structural reforms fits well with the idea that policies and institutions matter for growth. The assumption is that these variables affect the transition to the frontier, the steady state as well as the speed at which the frontier grows. However, our understanding of how structural reforms can affect each of these dynamics separately is very limited. As a result, the design of reforms is not based on concrete empirical results of what makes a certain policy work but rather on the assumption that flexibility and letting markets work should lead to better economic performance at all levels for all countries.

4. Measuring Structural Gaps in Policies.

We now look at several different sets of indicators of policies and institutions and we compare the gap in these indicators with the identified productivity and employment gaps in Section 2. There are two main sets of indicators we consider: Doing Business (World Bank) and Product and Labor Market Regulations (OECD). These are the most detailed indicators about policies, regulations and institutions that can help us think about reform. There is a third set of indicators that provide a much broader view on these issues: the Governance Indicators (World Bank). We reproduce in an appendix some of the results in the paper using these indicators.

4.1. Doing Business (World Bank).

The *Doing Business* (DB) database contains a very large collection of indicators covering many aspects of the easiness of doing business. The indicators include variables related to how difficult or costly is to start up a business or getting a set of regulatory processes done or indicators of enforcing contracts. There is also a set of indicators regarding labor market flexibility although they are not included in their main index and ranking. This set of indicators might be possibly better suited to emerging markets but there are also interesting and large differences across OECD countries.

We first check how the DB indicators can help us understand the income and employment gaps of our sample. We use as the main variable the distance to the frontier index as opposed to the ordinal ranking. The distance to the frontier index is designed as to “assess the absolute level of regulatory performance and how it improves over time. This measure shows the distance of each economy to the “frontier,” which represents the best performance observed on each of the indicators (...) An economy’s distance to frontier is reflected on a scale from 0 to 100, where 0 represents the lowest performance and 100 represents the frontier. “

Table 1 shows that there is a positive and significant correlation between measures of policies and GDP per capita or GDP per hour.¹³ The explanatory power of this variable is very high and the coefficient is highly significant. The structural indicator is also significantly correlated with the labor performance as measured by hours per capita, although the fit is much weaker than for measures of productivity.¹⁴ Figure 14 shows the correlation with GDP per capita and we can see that European countries display a very similar pattern from the other OECD countries.

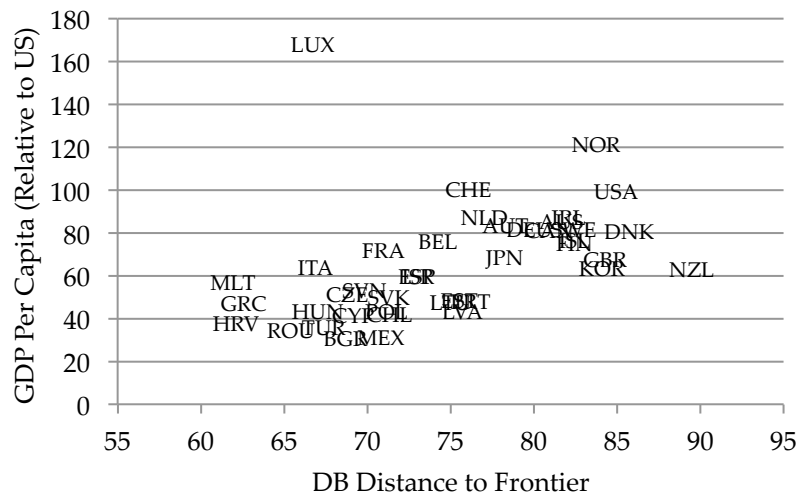
Table 1. DB Distance to the Frontier and Economic Performance.

VARIABLES	GDP Per Capita	GDP Per Hour	Hours Per Capita
Doing Business	2.026*** (0.380)	1.727*** (0.482)	0.558** (0.242)
Constant	-88.58*** (27.90)	-64.72* (35.70)	57.10*** (18.24)
Observations	40	39	39
R-squared	0.462	0.276	0.103

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Figure 14. DB Distance to Frontier and GDP per Capita



We can decompose the general DB index into 10 categories that cover specific aspects of the easiness of doing business. In each of these categories there are a number of

¹³ Luxembourg is removed from the regressions, as it is a clear outlier.

¹⁴ This should not be a surprise because some of the labor market indicators are not included in the general ranking.

individual indicators that provide more detailed information on the distance to the institutional frontier for each of these countries.

There is a high collinearity between each of the indicators so separating the individual effects is not an easy task. A simple linear regression on each of the ten indicators and a process of eliminating every indicator that is not significant at a 10% level leaves very few indicators as relevant. In particular, for GDP per capita or per hour the three that matter are *Getting Electricity*, which is likely to be a proxy for bureaucratic barriers, *Paying Taxes* (only marginally from a statistical point of view) and *Resolving Insolvency* (See Table 2).

Table 2. DB Indicators and Economic Performance.

VARIABLES	GDP		GDP		Hours	
	Per Capita		Per Hour		Per Capita	
Starting	-0.0146		0.0717		0.0244	
Business	(0.460)		(0.516)		(0.426)	
Construction	-0.132		-0.495		0.0600	
Permits	(0.203)		(0.407)		(0.349)	
Getting	0.365*	0.492**	0.369	0.431*	0.166	
Electricity	(0.211)	(0.203)	(0.297)	(0.224)	(0.263)	
Registering	0.138		-0.0720		0.232	0.273*
Property	(0.215)		(0.297)		(0.175)	(0.135)
Getting	-0.0622		-0.208		0.229	0.226**
Credit	(0.202)		(0.235)		(0.141)	(0.0905)
Protecting	-0.133		-0.206		0.108	
Investors	(0.303)		(0.246)		(0.197)	
Paying	0.402	0.478	0.519		-0.230	
Taxes	(0.334)	(0.301)	(0.372)		(0.270)	
International	0.609		0.709		0.178	
Trading	(0.601)		(0.748)		(0.547)	
Enforcing	0.197		0.273		0.107	
Contracts	(0.326)		(0.421)		(0.295)	
Resolving	0.452***	0.480***	0.507***	0.558***	-0.114	
Insolvency	(0.139)	(0.102)	(0.178)	(0.116)	(0.124)	
Constant	-79.70	-45.73	-55.06	-6.783	42.87	61.97***
	(54.35)	(27.29)	(68.43)	(15.69)	(54.28)	(10.41)
Observations	40	40	39	39	39	39
R-squared	0.635	0.607	0.558	0.471	0.291	0.221

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

This empirical analysis highlights the positive and strong correlation between measures of institutions, regulatory processes and policies with productivity and employment,

supporting the view that gains from reform can be large. But we can also see the difficulties in translating this result into concrete proposals given the strong correlation between all indicators and the difficulty of ruling out the influence of omitted variables.

4.2. Product and Labor Market Indicators (OECD).

In 2005 the OECD started publishing a report called *Going for Growth* in order to generate a consistent reform agenda across advanced economies.¹⁵ The goal of the initiative was to create measures of progress that provided accountability and also to generate peer pressure among governments of member countries. The OECD project involved the definition of measures of structural weaknesses as well as setting up a strategy based on priorities to be renewed or updated on a regular basis.

Although there have been changes to the process, the basic structure of indicators remains unchanged. The focus of the indicators covers several areas:

1. Maximizing the use of the labor resources:
 - a. Labor market indicators in particular related to the cost of labor, unemployment benefits as well as active labor market policies.
 - b. Taxation of labor with the perspective of encouraging participation.
2. Maximizing the contribution of the labor force through improvements in the quality of education.
3. Eliminating inefficiencies and fostering competition through
 - a. High quality regulation, market openness and ensuring competition in product markets.
 - b. Rationalizing support to agriculture
4. Policies geared towards innovation.

When it comes to the indicator on policies that promote competition, the main index is the product market regulation index (PMR). We now use this indicator as an explanatory variable of the productivity and labor market gaps as we did with the World Bank measures. Regression results are included in Table 3.

The fit of the regression is high although not as high as in previous specifications. Best fit is with measures of productivity (such as GDP per hour). When using labor market indicators (Hours per Capita) the coefficient is not significant. This is expected, as the PMR indicators do not include a labor market dimension.

Figure 15 shows the correlation between PMR and GDP per capita. The correlation is again strong and Europe fits the same pattern as the other OECD members (Luxembourg is an outlier and is excluded from the regressions).

¹⁵ OECD (2005).

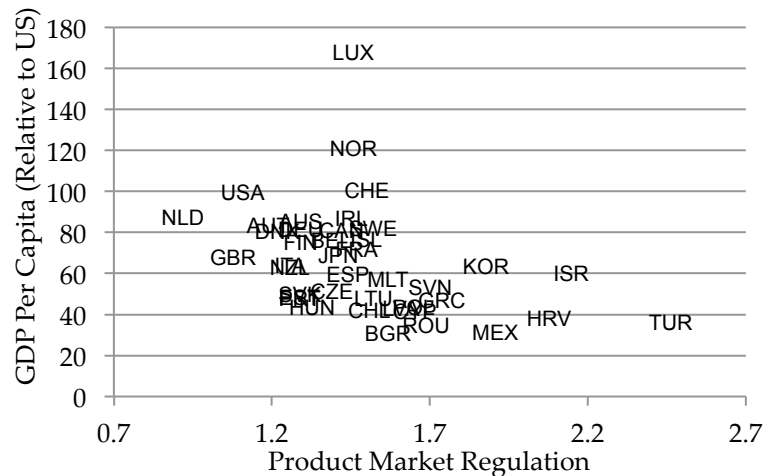
Table 3. Product Market Regulation and Economic Performance (2013).

VARIABLES	GDP Per Capita	GDP Per Hour	Hours Per Capita
Product Market Regulation	-35.57*** (7.014)	-37.46*** (8.630)	1.792 (8.476)
Constant	116.6*** (11.05)	120.9*** (13.38)	96.53*** (11.92)
Observations	40	39	39
R-squared	0.247	0.222	0.002

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Figure 15. Product Market Regulation and Economic Performance (2013)



The index of product market regulation is divided into three categories: state control, barriers to entrepreneurship and barriers to trade and investment. The three indicators are highly correlated with each other. Each of them is significant as explanatory variables for GDP per capita differences but when included together in a regression none of them are significant because of the strong multicollinearity (Table 4).

When it comes to labor market indicators, the OECD considers many dimensions. One is the protection of employment as a barrier to a dynamic labor market. It captures the “strictness of regulations on dismissals and the use of temporary contracts”. The second

set of variables that are considered are those measuring the incentives for participation in the labor force as well as the incentives for searching for a job when unemployed. It can include measures of the tax wedge on labor market, generosity of unemployment benefits, spending on active labor market policies as well as the rules of pension reforms that might keep older works away from the labor force.

Table 4. PMR Indicators and Economic Performance.

VARIABLES	GDP Per Capita	GDP Per Capita	GDP Per Capita	GDP Per Capita
State Control	-20.64*** (5.649)			-13.61 (8.120)
Barriers to Entrepreneurship		-24.04*** (6.689)		-12.05 (8.820)
Barriers to Trade and Inv.			-17.17** (6.940)	-9.335 (7.495)
Constant	108.6*** (12.76)	105.1*** (12.45)	73.15*** (5.710)	119.3*** (13.82)
Observations	40	40	40	40
R-squared	0.175	0.172	0.089	0.250

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

We concentrate here on three of these indicators, an index of employment protection, a measure of the tax wedge in labor markets as well as the importance of taxes on labor (social security charges as % of GDP).¹⁶ We first check whether these three indicators are correlated with standard measures of labor market performance.

As we did earlier we consider the role of different age groups when measuring labor market outcomes. In particular, we first consider three definitions of labor resources: total population, working age (15 to 64) and adult population (15 and over). Table 5 and Table 6 show the results for two of these measures (we do not report results using working-age-population but they are in line with those of the other two variables). There is a strong correlation between our three indicators of labor market policies and labor market outcomes. The fit is larger for hours per adult population (which removes some of the demographic differences), with an R-squared of 45%. The three variables are significant when introduced individually only the tax wedge is significant when introduced at the same time.

¹⁶ For employment protection we use the “version 2” of the indicator that incorporates 12 items related to regulations for individual and collective dismissals. As a measure of the tax wedge we use the average tax wedge for one earner couple at 100% of average earnings with two children.

Table 5. Hours per Person and Labor Market Policies

VARIABLES	Hours per Capita			
	Employment	-7.328**		
Protection	(3.388)			(3.712)
Tax Wedge		-0.738***		-0.819**
		(0.188)		(0.335)
Social Security			-1.021**	0.301
Taxes			(0.448)	(0.611)
Constant	117.6***	119.3***	108.5***	117.4***
	(7.322)	(5.835)	(4.436)	(5.797)
Observations	35	33	29	29
R-squared	0.076	0.399	0.132	0.404

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table 6. Hours per Adult and Labor Market Policies

VARIABLES	Hours per Adult Population			
	Employment	-9.732**		
Protection	(3.813)			(4.474)
Tax Wedge		-0.897***		-0.808**
		(0.186)		(0.353)
Social Security			-1.651***	-0.445
Taxes			(0.493)	(0.750)
Constant	122.1***	122.7***	113.8***	120.0***
	(8.502)	(6.113)	(5.349)	(6.864)
Observations	35	33	29	29
R-squared	0.110	0.456	0.260	0.456

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

As we know from our early discussion, the performance of the labor market can be very different across different population groups. We repeat the regression above by age group. In particular we check how labor market policies affect prime-age workers versus those below 25 and those above 55. For the sake of space we only include as explanatory variables two of the labor market policies: employment protection and social security taxes as % of GDP.

The dependent variable is always employment as a ratio to population in a given age range. The results confirm that labor market policies discourage employment but we can see that this is concentrated in two age groups, those below 25 and those above 55 (Table 7 and Table 8). When using the 25-54 age range, none of the labor market policies seem to be significantly correlated with the employment levels of this group.

Table 7. Employment Rate and Labor Market Policies.

VARIABLES	Employment Rate		Employment Rate	
	15+		15-24	
Employment	-4.844***		-8.406**	
Protection	(1.508)		(3.837)	
Social Security		-0.779***		-1.598***
Taxes		(0.228)		(0.491)
Constant	66.60***	62.35***	56.48***	51.19***
	(3.254)	(2.614)	(8.029)	(5.103)
Observations	33	29	32	29
R-squared	0.103	0.215	0.079	0.250

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

This is an interesting result as it confirms the importance of how fragmented labor markets explain not only the low level of employment activity in some economies but also how policies are responsible for the fragmentation of the labor market. Reform design should take these differences into account.

Table 8. Employment Rate and Labor Market Policies

VARIABLES	Employment Rate		Employment Rate	
	25-54		55-64	
Employment	-0.552		-11.21***	
Protection	(1.602)		(3.196)	
Social Security		0.0975		-1.596***
Taxes		(0.202)		(0.334)
Constant	79.28***	76.85***	80.34***	68.83***
	(3.190)	(2.258)	(6.834)	(3.651)
Observations	33	29	33	29
R-squared	0.002	0.004	0.188	0.318

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

4.3. Additional Policies and Potential Reforms.

We have discussed so far two sets of alternative indicators that are commonly used to look at the policies, regulations and institutions that can support growth. While the detailed information contained in each of the individual indicators is vast, there are many other policies that can be considered as determinants of growth and potentially target of reforms. We briefly mention some of them in this section.

As mentioned earlier, human capital is one of the key determinants of growth performance. Human capital is influenced by both the number of years of formal training and the quality of the education system. This is one of the areas of focus for reforms in some of the countries in our sample.

Innovation and R&D activities are necessary for countries that are close enough to the technology frontier. Having support for these activities via fiscal policy or availability of financing or having an ecosystem that allows the translation of basic research into applied innovations are all policies that can potentially lead to higher productivity and faster growth.

Finally, there are sectors that can be enablers of other activities and be responsible for improvements in economic performance. Energy costs can have an effect on investment or growth in manufacturing and the financial sector and its ability to channel capital to its best use and in particular towards riskier innovative activities is an engine of growth.¹⁷

These are all dimensions that are relevant for the analysis of structural policies but for the sake of space we do not analyze in detail in this paper. What we know from cross-country comparisons is that they tend to be correlated with both the macro and the more disaggregated indicators we have reviewed earlier. As an example, Information and Communication Technology (ICT) is seen as one of the key factors explaining differences in productivity among advanced economies and also the gap that exists between many of these countries and the US (Ark (2002). At the same time, the diffusion of ICT seems to be related to market rigidities. Countries with lower flexibility in labor and product markets, as measured by the OECD indicators, have a lower speed of ICT diffusion (Cette and Lopez (2008)).

5. The Pace of Reform.

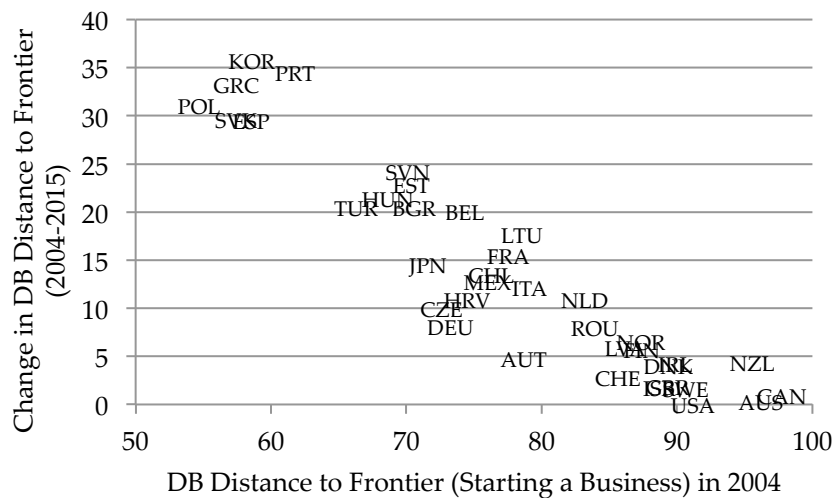
The previous section has documented an important stylized fact: there is a strong correlation between structural weaknesses, policies and macroeconomic performance.

¹⁷ See PIIE (2014) for some ideas on reform in the financial sector in Europe.

We now ask whether we have seen in recent years or decades any improvement in the indicators. Are countries reforming? And if so, at which pace?

We start measuring improvements using the Doing Business indicators. Because of lack of data availability for enough years we cannot use the main index but instead we use the indicator for which more years are available: the easiness of starting a business. We use again the distance to the frontier and we check whether there is any convergence among countries in our sample during the years 2004-2015.

Figure 16. DB Starting a Business Reforms.



The results are captured in Figure 16. Here we see is a very strong pattern of convergence. Countries that were further away from the frontier have seen significantly larger progress during the last decade. And the European countries follow the same strong pattern as the other advanced economies.¹⁸

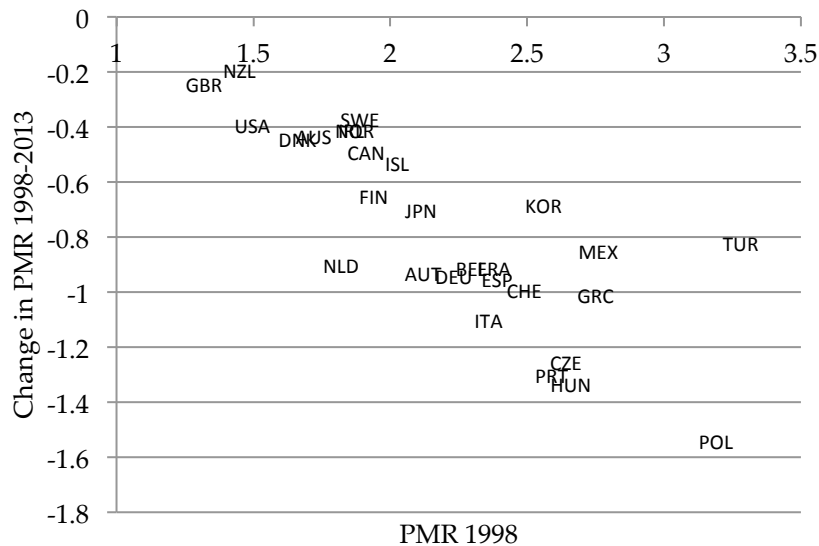
It is important to see that the magnitude of convergence is very strong. Take Portugal or Greece as examples. Back in 2004 these countries were at a level of around 60 relative to the frontier (the frontier takes value of 100 and it represents the best practice). By 2015 their index has climbed up all the way to 90. But despite this convergence we need to remember that the current (small) differences in this indicator matter for the observed differences in GDP per capita and productivity, as shown in Section 4.

We now move to the OECD indices of product and labor market regulations. The pattern is also one of strong convergence. Figure 17 shows that reforms have been the fastest in countries that started in 1998 with larger barriers in product markets. The

¹⁸ The same convergence result is found when using *Enforcing Contracts* as the indicator of reform.

pattern of reform is homogenous, as in the case of the Doing Business indicators. Southern Europe sees improvements that are large compared to the countries that started with lower values for the index.

Figure 17. PMR Reforms.

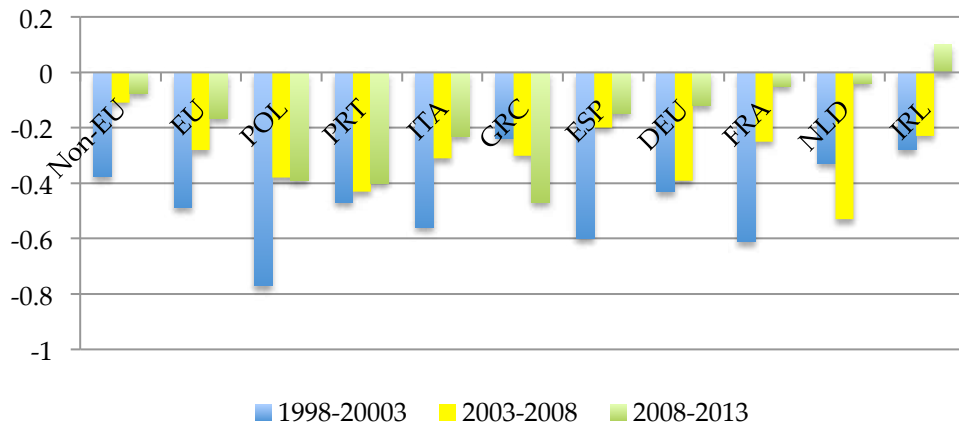


What is again remarkable is that convergence is very strong. The PMR index is an absolute index so the reading of this chart is slightly different from the previous one. In this case we see that all countries are improving their regulations. But those that start with higher values are moving faster and reducing significantly the difference with best practices.

For example, Portugal starts with a value of 2.59 in 1998, much higher than that of Sweden 1.89. By 2013 the values have almost converged, Portugal is now at 1.29 while Sweden is at 1.52.

The timing of these reforms has not been uniform during these years. In fact, when we break the sample into three subsamples we can see that reforms were larger in the periods 1998-2003 than in any of the next two periods both for non-EU countries and EU countries (Figure 18). Among individual countries the trend towards a slower pace of reform is visible in all countries in the figure with the exception of Greece. Similar evidence of slowing reforms can be found in the 10 year OECD review of the Going for Growth initiative (OECD (2015)). This slowdown could be a sign of fatigue or the fact that reforms get harder as progress takes place and all countries have regulatory frameworks that are much more similar.

Figure 18. The Timing of PMR reforms.



When it comes to labor market policies and employment protection in particular, the convergence is less obvious partly driven by the fact that the estimates for 1998 are very similar across a large number of countries. Among EU countries, Portugal has seen the largest reform together with some of the other Southern economies plus Slovakia. For most other countries the change is very close to zero.

A more detailed analysis of the timing of labor reforms for the last decade using the LABREF database can be found in Turrini et al. (2014). Their analysis shows that labor market reforms have remained stable during the last decade, possibly with a peak right before the crisis. The crisis itself has triggered some additional reforms mostly in terms of flexibility and wage setting but it has also resulted in reversals of previous reforms in the tax wedge or amount of social security charges, a result of the difficult budgetary situation faced by many governments.

Overall, our analysis of changes in the three indicators of policies and institutions shows that there has been significant convergence over the last 10-15 years. The visibility of these indices and rankings combined with the efforts of supranational organizations such as the European Union or the OECD seem to have had an effect on the reform efforts in our sample of countries.

It is interesting to notice that despite the strong convergence in these indicators, and as we have shown in Section 2, the current (smaller) differences still correlate well with productivity and employment. This means that there is still potential room for further convergence in order to improve performance even if the distance between countries is much smaller than in the past.

Figure 19. Convergence in Employment Protection.



6. The Benefits of Reform.

Our empirical analysis so far has shown two stylized facts. We have first shown that the gaps in policies among advanced economies correlate with measures of economic performance: productivity and employment. In addition we have seen that in the last two decades there has been a reform effort that has resulted in convergence of policies, even if there is room for further convergence.

Have the previous reforms paid off in terms of closing the productivity and labor gap? The evidence provides weak support in favor of positive economic effects.

Before we review the actual evidence, it is important to stress is that most of the literature on the potential effects of reform is based on indirect evidence. In some cases the benefits of reforms are studied in a context where countries are *assumed* to be able to find ways to close their gaps in terms of productivity and labor practices. For example, what would be the GDP per capita of Southern Europe if it could achieve the labor force participation of Switzerland? (McQuinn and Whelan (2015)). This is a useful analysis of the potential for improvement but it does not help us understand the actual impact or feasibility of different reform strategies.

The second type of analysis is done through simulations of large-scale macroeconomic models (Bouis and Duval (2011) present a very useful summary of the literature, see also Varga and in 't Veld (2014), Anderson et al. (2014), OECD (2015) or de Bandt and Vigna (2008)). These studies identify large gains coming from reforms that can be as high as

10% of GDP over a 5-year horizon for some countries and as high as 20% of GDP over a 10-year horizon.¹⁹ But these simulations are produced with models that *assume* the benefits of reducing frictions in product and labor markets. While the parameters might be estimated from additional empirical work, there is still a feeling that some of these results are “assumed” from the structure of the models.

When it comes to the direct empirical analysis of the benefits of reforms, the literature struggles with many challenges. First, it is not always easy to characterize and measure the reforms. Despite all the efforts to quantify policies, there remains much uncertainty about the size and quality of reforms. Second, reforms are likely to have an effect over time, which makes the estimation of its impact more difficult. Third, reforms are likely to have different effects depending on the economic environment as well as whether or not other reforms take place at the same time. In practice, it will be hard to see experiments where the effects specific reforms can be isolated. And, finally, measuring the actual effects of reform on productivity or labor market outcomes is also subject to the usual uncertainty in establishing causality when there are many other factors affecting macroeconomic performance.

We start by doing a quick empirical test on how reforms correlate with standard measures of growth and improvements in the labor market. Our approach is to use a very simple specification to see if there is an obvious correlation in the data between the two. One should not attach a causal relationship to the estimates given the (large) number of omitted variables that could be introduced in the regression.

We first regress growth in the period 2000-2013 against product market reforms (OECD) during the early years 1998-2003.²⁰ We include in the regression the initial (log) level of GDP per hour to capture convergence dynamics. In the second specification we include an interaction term between the initial level of GDP per hour and the reform in PMR.

The results from the first column of Table 9 show that there is unconditional convergence in GDP per hour during these years and that reform has a positive but non-significant effect. When we introduce the interaction term reforms become significant, as well as the interaction term. This means that the effects of reform are stronger for countries far away from the frontier. Another way of reading the results is that there is no convergence except for countries that have done enough reforms. This second column provides support for the idea that the reforms of the years 1998-2003 are correlated with the growth performance afterwards.

¹⁹ See Bouis and Duval (2011) or Anderson et al. (2014).

²⁰ The reform period (1998-2003) is chosen because of data availability and it partially overlaps with the period over which we measure growth (2000-2013). We have reproduced our regressions using the period 2003-2013 to measure growth and the estimates are practically identical.

The third column looks at the effects of labor market reforms over the same time horizon.²¹ Here the evidence is weak. While the coefficient is positive, it is not significant and the fit of the regression is very low.

So there is some evidence supporting the idea that the convergence in product market regulations has encouraged stronger convergence in productivity, but to establish this as a robust result we would need to impose a much richer structure to the regression and introduce a variety of potential control variables. This is what the vast literature on the economic effect of reforms does, from a variety of perspectives and using many different datasets. We quickly review some of the literature to get a sense on what we know and we do not know about the effect of reforms.

Table 9. The Effects of Reforms.

VARIABLES	GDP Per Hour Growth 2000-13	Hours per Capita Growth 2000-13
Initial GDP	-0.015***	0.009
Per Hour	(0.0035)	(0.0058)
PMR Reform 98-03	0.0051	0.178***
	(0.0060)	(0.040)
Interaction PMRx		-0.048***
Initial GDP per Hour		(0.011)
Labor Market		0.0452
Reform 98-03		(0.126)
Constant	0.067***	-0.0245
	(0.004)	(0.0157)
Observations	27	27
R-squared	0.554	0.676

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

There are more studies in the area of labor market reforms mostly because it is easier to characterize changes in policies and measure their potential effects. The evidence is mixed. In a recent survey by the OECD about the empirical evidence in favor of labor reforms, the results of the literature are shown to vary enormously depending on the particular study (OECD (2013)). The earlier work on the effects of labor reforms on aggregate employment found limited supporting evidence as surveyed by Boeri (2011). Studies on more recent reforms show some positive results but with weak statistical significance (Turrini et al. (2014)).

²¹ Labor market reform is measured as the change in the employment protection indicator used earlier in the paper.

Some of the reforms that target a specific group of the population or a very specific policy seem to have a stronger impact on outcomes. For example when it comes to particular labor flows, or on how active labor policies reduce unemployment spells, the evidence seems to support the role of reforms although it is many times difficult to see the general equilibrium effects (for example, Estevão (2007))

Evidence following particular reforms has difficulty isolating the effects of the reforms. As an example, a study of the recent 2012 labor reform in Spain (OECD (2013)) finds that following the reform we have seen a strong downward adjustment of unit labor costs, but a similar pattern is also observed in several other European economies during the crisis.

When it comes to evidence regarding productivity growth the results on aggregate data provide support for the hypothesis of faster productivity growth in countries with better policies as in our regression (Nicoletti and Scarpetta (2003) or OECD (2015)). The evidence, however, is based on cross-country analysis and subject to the usual potential causality as well as omitted variables criticism.

One way to identify better the economic effects of reforms on productivity is to look at some microeconomic data at the sectoral level. When looking at disaggregated data at the sectoral or firm level, policies and regulations at the country level matter, but firm or industry characteristics such as attractiveness to FDI or access to credit or spending on ICT might have a much larger and significant effect (Andrea et al. (2013)). It is not a surprise that these variables matter, what remains uncertain is the extent to which some of these variables might also be affected by institutions and policies that are not well captured by the traditional indicators. As mentioned earlier, at the aggregate level diffusion of ICT technologies correlates with flexibility in product and labor markets (Cette and Lopez (2008)).

Also using sectoral data Bourlès et al. (2013) show that regulation matters for productivity, more so for countries close to the frontier (although Dabla-Norris, Ho, and Kyobe (2013) find more mixed effects regarding the distance to the frontier).

When it comes to partial versus broad reforms there is plenty of evidence that partial reforms are less successful than broad reforms (i.e. reforms that cut across several dimensions, such as both labor markets and product markets tend to have stronger effects). For example Aghion et al. (2008) find that the effects of reform on productivity can be higher when the labor market is more flexible. Similar results are found in Bassanini and Duval (2006), Estevão (2005) or Berger and Danninger (2006). There is similar evidence regarding the effectiveness of labor market reforms. Annett (2007) shows that successful labor market reformers combined their reforms with changes in product market regulations and overall reductions in government size. Bentolila,

Dolado, and Jimeno (2012) show that partial reforms in a dual labor market do not alter fundamental outcomes and can even generate negative impacts on productivity.

Finally, there is a question on when reforms are more successful. The experience of successful reformers show that reforms are triggered by a sense of crisis (Annett (2007)). At the same time, structural reforms in crisis times can be counterproductive because of the potential negative effects on demand. In particular, in the case where monetary policy is constrained by the zero-lower bound, structural reforms can lead to lower growth (Eggertsson, Ferrero, and Raffo (2014)). This is confirmed by the recent study of International Monetary Fund (2015) showing that reforms are more productive during periods of expansion and that they can have negative effects on productivity in the short-run.

The issue of timing of reforms and the business cycle is a key issue for Europe today given the cyclical performance of most countries over the last years. To get a perspective on this we can do a quick comparison between the cost of the recent crisis and the potential gains from reforms. Typically, gains from reforms are seen in a range of 5-20% of GDP. As an example, the recent review of reforms over the last 10 years by the OECD estimates effects on productivity that range from 0 to 14%. And on labor utilization that can be as high as 7%. These are large magnitudes but they are not far from the estimates of changes in potential output as a result of the crisis. Using different vintages of the World Economic Outlook, the revisions to potential output as a consequence of the crisis that started in 2008 can be as high as 20% for Greece and in the range of 3-10% for some of the other periphery countries. This means that the potential benefits of reform are in a range that is similar to the permanent effects of the crisis.

7. Conclusion: An Agenda for Reforms in Europe.

As a region, Europe's economic performance lags behind that of the US, and has been seen for years as growing at rates that are below its potential. The degree of underperformance varies across countries as well as over time. Southern Europe has seen its convergence process slowed down or even reversed for the last decades. In Eastern Europe while some countries have been on a path of convergence supported by continuous reform others seem to be on a much slower path of both reforms and growth. The European core seems to be in better health but with signs that some countries cannot keep up with certain global trends or some of their future challenges (e.g. demographics).

The diagnosis on the causes of low performance is not uniform either. The distance to the frontier lies in a combination of gaps in productivity and employment that are very different across countries. There is no one recipe of reforms that applies to all countries.

This poor economic performance is certainly not new and some see it as the natural consequence of a different economic and social model. There are, however, increasing signs that the model is failing to cope with new economic circumstances. Countries that were keeping up with the technology frontier seem to have entered a downward trajectory even when they have been pursuing reform efforts. And Europe has not managed well the recent large economic crises that have left permanent scars on both the economic and social model.

The good news, as we have seen in Section 4, is that reforms are happening and they are happening faster in the countries where reforms are most needed. European and OECD wide initiatives seem to be having a positive effect on the process of designing and implementing reforms. However, the speed of reforms might not be fast enough and their positive effects are not as strong as desired. What would it take for reforms to happen faster? How can reforms be more effective?

There is very little disagreement on the direction in which reforms must go, although each country has to follow its own path. There is also general consensus on the ingredients that make reforms happen. From the recent review by the OECD on the last ten years of reforms (OECD (2015)), their successful implementation requires a combination of:

1. A sense of urgency through “erosion of the status quo”.
2. Effective communication backed by solid research and analysis.
3. Strong electoral mandate and government leadership and cohesion.
4. Persistence and patience to see the outcome of reforms.

There is no doubt that in many European countries there is a general sense of urgency and a desire to change, although it might not always translate into an agreed direction for the reforms. And this is partly because the understanding of what needs to be done is not always supported by “effective communication backed by solid research and analysis”. What are the true priorities? Where are the bottlenecks? What are the preconditions required for certain reforms to work? There might be clarity on some of these questions when they are discussed at the technical level but this does not translate into clarity when they are part of the political debate. In that sense, the political process is not providing the leadership or vision to form a strong coalition that translates the urgency to change into a proper reform process.

The result is that reform becomes an “always-on” process without clear deadlines and expected outcomes. Reforms take place in small steps, not always supported by complementary policies that ensure their success. The outcome tends to be one of political fatigue that is not conducive to the persistence needed to ensure the full implementation of reform plans.

And the business cycle generates the wrong incentives for reforms. In good years there is a sense of complacency that slows down the political urgency for reform. And during crisis reforms are accelerated at the time when the effectiveness of reforms is likely to be the lowest and, in some cases, they could have counterproductive effects.

What is the role of Europe and European institutions in the reform process? Europe has served as a catalyst for reform in some of the least-advanced EU economies. Through the imposition of requirements to join certain European initiatives it has fostered enough social consensus around the need for compromises. As an example, it worked well to transform and standardize the macroeconomic institutions of European countries, especially when it comes to monetary policy and inflation.

But these dynamics are not always productive. Reform is ultimately a domestic political business where trade offs are being made between economic efficiency, social goals and the way power and income are distributed in a society. Having Europe always as the reason why reforms need to happen is likely to generate unhealthy dynamics. In addition, it is not always easy to link reforms to the benefits of European integration. As an example, the current negotiations between Greece and its European partners combine a very strong support among the Greek population to stay in the Euro area while there is limited support to implement the reforms that 'Brussels' believe are necessary.

The only way to change these dynamics would be through a much more contractual and ex-ante approach to reforms. This was partly the spirit of regulations of the Maastricht Treaty that established rules of behavior to be a member of the Euro. But, as experience has shown, those were not enforceable rules. The rules only worked well as an entry condition but once the entry decisions were made the rules became very weak. Rules have been renegotiated, changed, and violated on numerous occasions. Why not make the entry conditions more binding? The reality is that if countries were asked to reform or adopt irreversible commitments before joining any process of European integration, there would be very few members of the European Union or the Euro area left.

The second role that Europe could play is as a way to share best practices and to generate enough peer pressure (a process that also happens at the OECD level). This is partially working today but in order to make it more effective it requires clarity on the benefits ahead, a sense of the common good and patience to see the results of those reform plans. For this to take place a much stronger shared sense of the political goals of the European Union would be needed.

As we look at a path for reforms ahead, there is one additional complication coming from the current state of many European economies. A long-lasting crisis and a weak recovery have created a very difficult environment to introduce reforms. While crisis are wake up calls for change, successful implementation of reforms requires consensus around policies and growth to ensure continued support. Consensus around policies has

broken down because of what has been seen as a failure of European economic policies to handle the economic crisis. The crisis was handled through a package of economic policies that put together austerity and reform. These policies have resulted in a deep crisis and a slow recovery that has led to a fall in potential output by a magnitude that is in some cases comparable to the potential effects of reforms.

To get out of the current environment there is the need to come up with a combined growth and reform plan at the European level (see Enderlein and Pisani-Ferry (2014) or PIIIE (2014)). This plan needs to first address the lack of confidence and demand deficiencies that have impaired a proper economic recovery. It needs to generate the sufficient investment, private and in some cases public, that is required to ensure continuing growth in the years ahead. It needs to reinforce key European-wide initiatives to reform sectors that are central to the generation of growth and new ideas (R&D, financial sector). These initiatives will stress the European dimension of reforms and the benefits of the overall process. And the countries that are behind the traditional reforms (labor markets, product markets) need to use this opportunity to sell these policies and the resulting growth domestically to gain enough support for a strategy based on broad reforms.

Some will argue that providing a positive growth environment can slow down reforms because it buys time for governments that are not committed to change. This is possible but the alternative, to generate reforms out of forcing “good behavior” has already failed, at least in the current environment.

We need to be realistic as well and Europe needs to find a way to deal with countries and governments that do not want to go along with the reform process or that they are unable to do so. At the end of the day the speed of reform remains the decision of individual countries. Its citizens are the ones that will suffer the consequences of no reforms and low growth. This is true for any country, advanced or emerging, and this is true for Europe.

The reason why the reform debate becomes more visible and relevant in the European context relative to other advanced economies that might struggle with similar issues of performance is that the process of European integration might occasionally force countries to move together. When you share risk via the balance sheet of a central bank or when you design a program of transfers from rich to poor regions, the reform agenda becomes a supranational issue not anymore a pure national debate. Maybe Europe needs to find ways to separate the two. Either through a much more contractual approach to institutions that leaves no room for further negotiation or by changing the design of those institutions so that the links between countries and the shared risks are minimized. This might be suboptimal as it might come at a cost of reducing the effectiveness of those institutions but it might be the only way to make the process of European integration and economic reforms compatible.

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- Doing Business Distance to Frontier: Doing Business database, World Bank.

10. Appendix. Governance Indicators (World Bank)

10.1 Governance and Economic Performance.

We now replicate several of the results of the paper using the governance indicators produced by the World Bank that capture “the views of a large number of enterprise, citizen and expert survey respondents in industrial and developing countries.”

They include measures of six variables:

- Voice and Accountability
- Political Stability and Absence of Violence
- Government Effectiveness
- Regulatory Quality
- Rule of Law
- Control of Corruption

We first check if these broad measures see how policies and government effectiveness are related to economic performance gaps. We start with an indicator that is simply the arithmetic average of the six variables. The indicator ranges from -2.5 to 2.5. In Table 10 we present the results of a simple univariate cross-country regression of three measures of performance gaps against the governance indicator.

Table 10. Governance and Performance (2013)

VARIABLES	GDP Per Capita	GDP Per Hour	Hours Per Capita
Governance	35.70*** (5.794)	31.71*** (4.883)	4.947 (3.668)
Constant	27.73*** (4.893)	32.59*** (4.964)	94.40*** (4.310)
Observations	40	39	39
R-squared	0.529	0.504	0.040

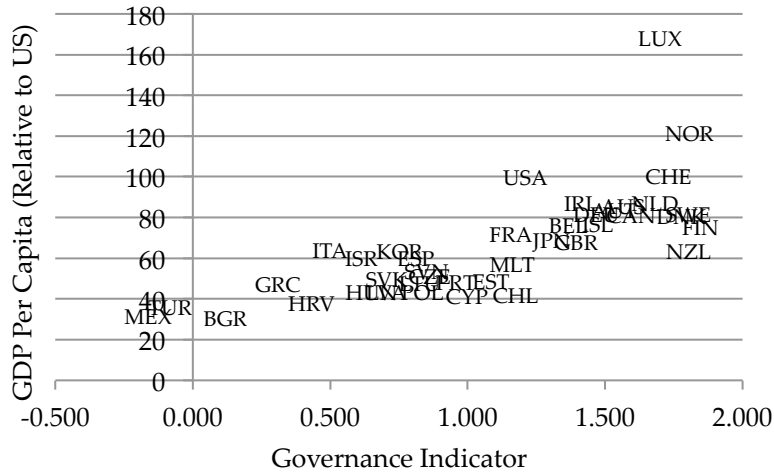
Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

The table shows a strong and robust correlation between GDP per capita and the governance indicator across our sample of advanced countries (R-squared of more than 50% with the full sample and as high as 64% after removing Luxembourg, an outlier). This relationship is fairly stable across all income groups and the EU countries just fit the same pattern as the other OECD economies (see Figure 20). Looking at the next column we can see that relationship is mainly due to difference in productivity (GDP per hour).

The correlation with hours per capita, a simple measure of labor market performance, is positive but the fit is very low (R-squared of only 4%) and the coefficient is not significant (Figure 21).

Figure 20. Governance and GDP per Capita



The fact that labor market performance is not related to the governance indicators might not be a surprise given the absence of explicit labor market institutions in the construction of these indicators.

We can check which of the six indicators behind our index has a stronger explanatory power. In Table 11 we regress the three measures of economic performance on each of the six indicators. We then remove one by one the least statistically significant ones until we end up with a subset of significant coefficients. When it comes to GDP per capita or GDP per hour, the strongest explanatory variable for this sample is voice and accountability. Political stability ends up being significant and with the wrong sign despite the fact that if introduced by itself in a regression the correlation is positive and significant. For labor market outcomes only regulatory quality is significant.

Figure 21. Governance and Labor Market.

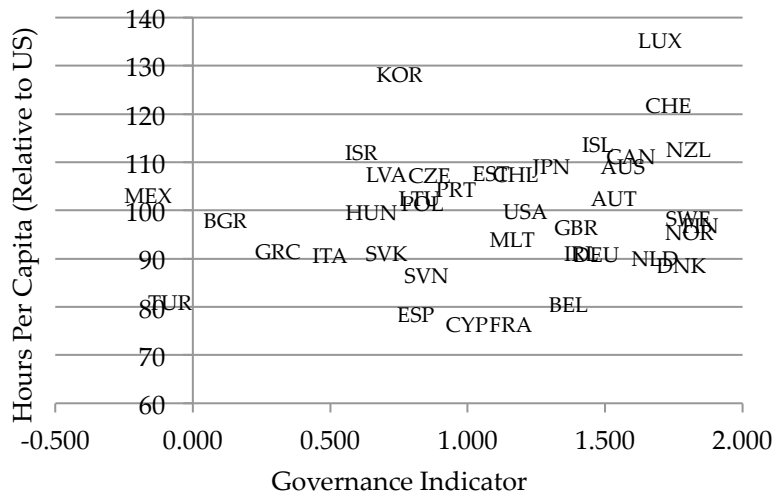


Table 11. Governance and Economic Performance

VARIABLES	GDP		GDP		Hours	
	Per Capita		Per Hour		Per Capita	
Voice & Accountab.	32.76*	54.11***	56.56**	58.21***	-26.98	
	(17.85)	(7.335)	(24.74)	(8.399)	(20.63)	
Pol Stability	-7.135	-10.70***	-17.22**	-16.84***	10.56	
No Violence	(4.821)	(3.896)	(7.000)	(6.048)	(7.718)	
Government Effectiveness	-7.292		3.109		-6.065	
	(26.04)		(21.19)		(17.70)	
Regulatory Quality	-2.352		-17.36		21.22*	8.175*
	(12.03)		(13.79)		(11.89)	(4.486)
Rule Of Law	13.13		12.56		2.977	
	(15.39)		(14.08)		(13.46)	
Control of Corruption	5.731		-1.656		2.277	
	(16.91)		(14.77)		(11.89)	
Constant	25.80**	14.99**	21.49	14.92**	97.53***	89.75***
	(12.47)	(6.509)	(17.52)	(6.768)	(15.05)	(5.745)
Observations	40	40	39	39	39	39
R-squared	0.555	0.542	0.601	0.580	0.165	0.070

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

These results show how difficult is to develop from this type of empirical analysis a concrete set of reform proposals. Variables are too broad, correlated with each other and there are possibly many omitted variables that are also correlated with these indicators. This is something recognized by the World Bank in its discussion of the value of these governance indicators:

“The six composite WGI measures are useful as a tool for broad cross-country comparisons and for evaluating broad trends over time. However, they are often too blunt a tool to be useful in formulating specific governance reforms in particular country contexts. Such reforms, and evaluation of their progress, need to be informed by much more detailed and country-specific diagnostic data that can identify the relevant constraints on governance in particular country circumstances.”

10.2 Governance Reforms.

We now verify whether we have seen reforms using the Governance indicators. Because of the way the indicators are constructed, the units are relative to the data from all the other countries so, by definition, we cannot see an improvement in everyone's index. But we can still ask the question of whether within the group of OECD and EU economies the differences are narrowing. Do we see convergence in these indicators?

