Have Macron's Recent Labour Reforms Been as Impactful as Past German Reforms?

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Abstract

Structural reforms can sometimes take many years for the effects to be visible in economic data: but one area where impacts can manifest more swiftly is the labour market. In particular, Germany's experience in the mid-2000s is often cited as a clear example of how macroeconomic dynamics can shift relatively swiftly if the reforms are effective. More recently, France has seen a number of structural reforms, driven by President Macron's desire to revitalize the French economy after his 2016 election. This paper examines the macroeconomic impact of recent French labour market reforms, comparing and contrasting this impact against the German experience in the 2000s. If idiosyncratic policy changes were a significant driver of labour market dynamics, then empirical outcomes should be different for those countries experiencing policy changes, relative to their peers. Using a variety of different statistical techniques, we find that – while there is clear evidence of the German labour market outperforming its peers when the Hartz reforms were enacted – there is no sign of the French labour market doing so under Macron's presidency.

Keywords: labour market, policy reforms, economic impact

1. Introduction

A longstanding challenge for policymakers is how to effect structural changes in national economies. While cyclical developments can be amplified or dampened by policy – notwithstanding the current debate on the efficacy of monetary versus fiscal policy in many advanced economies – empirical evidence on the impact of structural reforms remains highly variable.

This is largely because quantifying the effect of reforms is not a straightforward task. In essence, many estimates of structural reform benefits try to 'unpack' the Solow residual first identified by Solow (1956) – the component of economic growth that cannot be accounted for by capital or labour (or, in some growth models, intermediate inputs). Bouhol, Serres and Molnar (2008) is one example of this, focusing on geographical constraints rather than structural reforms but essentially adopting a Solow-based approach to estimate these impacts.

One notable contribution is from Barnes, Bouis, Briard, Dougherty and Eris (2013), which proposed a simple framework for estimating the impact of different reforms on GDP. The authors collate results from a variety of papers focusing on structural reform measures – some of which are listed above – and then use a system of reduced-form equations to estimate the impact of changes. Their estimates suggest a typical OECD country could raise GDP per capita by as much as 25% if it aligned lagging policies to the OECD average.

This estimate is at the higher end of structural reform impacts, but other research has been similarly optimistic about the impact of reforms. For instance, Bouis and Roval (2011) proposed that structural reforms could boost potential growth in OECD countries after the 2008/9 recession; but the estimates from this research are not readily evident in the growth paths that subsequently ensued across those countries, despite reforms being enacted in a number of instances.

The literature on the impact of structural change is not limited to advanced economies, which make up the bulk of OECD countries. For instance, Çeçen, Doğruel and Doğruel (1994) examine structural change in Turkey over almost thirty years, in particular examining its integration into global markets in the 1980s and the impact that had on domestic activity. In a similar vein, Nassif, Feijó and Araújo (2014) examine structural change in Brazil using an econometric approach, finding that Brazil was falling behind global growth due to a shift in the income elasticity of demand for imports and the absence of an appropriate policy response. And more recently Gumata and Ndou (2019) have examined the impact of structural change on growth in South Africa, finding that displaced labour has been significantly concentrated within low productivity or informal sectors of the economy, alongside unemployment, thereby weighing

on aggregate GDP growth. Although these three papers adopt different approaches, they illustrate that structural change is an important issue of global interest.

However, data quality in emerging markets is still, in general, lower than for many advanced economies, and the bulk of the empirical literature still focuses on the latter. However, it is important to note that other estimates for advanced economies are less pronounced than those outlined above, but still sizeable. For instance, Varga and Veld (2014) find smaller impacts from structural reforms across EU member states. Anderson, Barkbu, Lusinyan and Muir (2014) also present an analysis of the gains from structural reforms in the euro area.

In part, these different impacts will reflect different approaches. Many studies, such as Barnes *et al* (2013), attempt to quantify the impact of structural reforms essentially adopt add up separately estimated impacts from different studies – they combine partial equilibrium results – rather than considering reforms from a general equilibrium perspective. Moody's (2015) investigates this, finding that the estimated GDP benefit from reforms may be only a third of that suggested by Barnes *et al* (2013) once a general equilibrium perspective is taken.

More generally, these differences in results illustrate the high degree of uncertainty around the impact of structural reforms. It can take years – and potentially even decades – for the economy to fully adjust to some structural changes, as Friedman (1968) famously noted.

However, it is also possible for the impact of some reforms to be visible rather more swiftly – and particularly in the labour market. The rest of this paper examines two of these episodes in detail, looking at the impact of recent labour market reforms introduced by President Macron, and comparing those against the impact of German labour reforms in the mid-2000s.

1.1 Detail on Recent French Labour Market Reforms and Past German Ones

President Macron swept to power in the 2017 French Presidential elections promising a broad swathe of far-reaching reforms to the French economy. While not all of these have yet been enacted, he made a point of focusing on reforms to the labour market at the start of his administration. While pension reforms are still ongoing at the time of writing, Macron's administration has already implemented several labour reforms.

In terms of education and skill building, compulsory education will start from three years old rather than six, with class sizes in disadvantaged neighbourhoods being reduced. A more recent "Skills Investment Plan" will also aim to train millions of young people and unskilled workers, at a cost of €15 billion. The apprenticeship system has also been overhauled and simplified, and the accessibility of lifelong training options has increased.

In terms of workforce management, the so-called "labour ordonnances" have been set to reduce legal uncertainty around dismissals for permanent staff and reduce costs for employers. These efforts also built on the 2016 Labour Law that allowed collective bargaining at the firm rather than sector level, simplified labour representation and tried to improve dialogue between employers and workers.

Tax reforms have also reduced the effective tax rate for low-wage workers, boosting the incentive to work more hours. More recent reductions of social security contributions for both employees and employers should bolster both working and hiring incentives.

Perhaps most importantly, the reform of unemployment benefit has targeted the increased in temporary employment that had characterised the French economy prior to 2017. These temporary roles offered little job security and had very low conversion rates into permanent roles, which the Macron administration wanted to discourage. Repeated uses of short-term contracts are now less attractive for employers, while at the same time a new Career Path Act includes provisions for longer-term or open-ended contracts from temporary employment agencies.

While there are some notable labour reforms lacking – such as direct and outright reductions in unemployment benefit and social security, to further shift the balance of incentives between working and not working – the reforms set out above are the most comprehensive and targeted set of reforms to affect the French labour market in over 20 years.

Macron's sizeable majority in the French National Assembly means that he has been able to push through reforms with greater speed than many previous French presidents, and has had the luxury of focusing on those reforms that he wanted to prioritise. While pension reform has been slower, and protests still persist in early 2020, that is targeted more at the efficiency and affordability of the French pension system, rather than directly boosting labour market efficiency (although there may be some second-round effects).

There are some striking parallels between recent French and past German experience. After a long period of relative inaction, it took a relative newcomer – it is important to remember En Marche was only founded in April 2016 – to win the French Presidency on a platform of reforms to create the impetus and win the political capital to enact labour reforms. It took time for the economic and political pressure to build sufficiently before policymakers could take action.

Following the reunification of East and West Germany during 1990, German economic performance subsequently deteriorated, particularly in the labour market. At the start of 1991, the German unemployment rate was just 5.1%, but by 1997 that had risen to 9.7% and it generally remained above 8% in subsequent years.

As with recent French experience, it took time for economic and political pressure to build before decisive action was taken. As part of then-Chancellor Schröder's broader drive for reform, Germany established a "Committee for Modern Services in the Labour Market" in 2002, which was tasked with recommending reforms to the German labour market to reduced unemployment. The Committee's recommendations became known as the Hartz reforms after Peter Hartz, the head of the group.

The Hartz reforms were grouped into four broad categories. Hartz I and Hartz II were implemented at the start of 2003, and founded new staff service agencies, provided more support for vocational education, created new types of employment with lower taxes, increased job centres and offered grants for entrepreneurs, among other reforms. Hartz III aimed at restructuring and reforming job centres, and came into effect at the start of 2004.

However, the biggest impact from the reforms is normally attributed to Hartz IV. A key aspect of these reforms was to rationalize welfare and unemployment benefits, leaving them both close to the lower level of the two. In addition, this group of reforms required benefit recipients to regularly attend meetings with job centre advisors and demonstrate they were actively looking for work; benefits could be withheld if claimants refuse jobs, or cut if meetings were missed. As such, it represented a sizeable shift in relative incentives, by reducing the effective income unemployed persons would receive.

Hartz IV was implemented at the start of 2005, and the reduction in long-term unemployment benefits led to a significant increase in transition rates from unemployment to employment, as noted by Nagl and Weber (2014).

In the case of the German reforms, it is striking that the implementation of Hartv IV coincided with a significant reversal in the previous upward trend in unemployment, and a new downward trend took force (Figure 1). At face value, this suggests the reforms very quickly had an impact on labour market dynamics, as evident in summary statistics like the unemployment rate. In part, this may have reflected the fact that the reforms were well trailed and hence expected by employers, workers and the jobless – much as Macron's broad thrust to reform the French labour market was, being a central tenet of his election campaign – and hence were swiftly impactful.
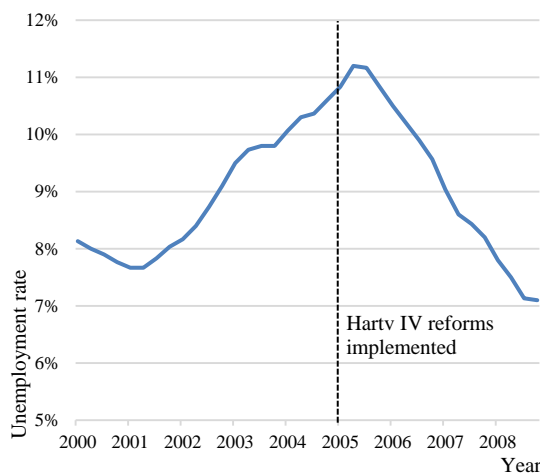

Figure 1. German unemployment rate

Description: Headline Labour Force Survey (LFS) unemployment rate around the time of the Hartz IV reforms.
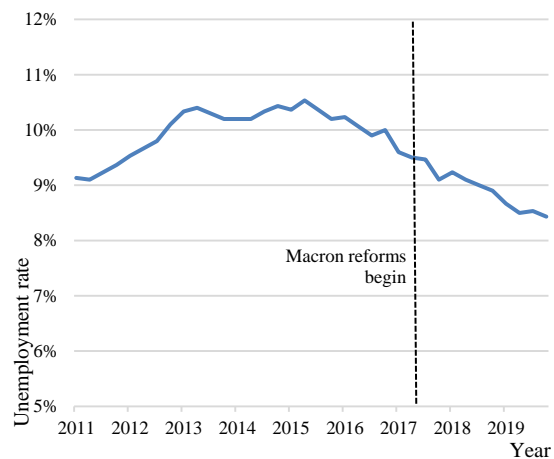

Figure 2. French unemployment rate

Description: Headline Labour Force Survey (LFS) unemployment rate in recent years.

The French unemployment rate has fallen since President Macron took office and launched his reform drive; but in contrast with the German experience, it was already trending downwards before that point (Figure 2). As such, at face value it is difficult to attribute the more recent decline in the French unemployment rate to Macron's reforms.

This central question – examining how much movements in these unemployment rates reflect specific policy changes – is what the remainder of this paper will address.

2. Method

In light of concerns around estimates from the kind of partial equilibrium analysis of structural reforms noted earlier, this analysis takes a deliberately different tack. Movements in unemployment rates across countries will reflect a range of factors that are either global, regional or domestic in nature. Where global influences are prevalent, unemployment

rates across a range of countries will tend to move in the same direction; but where solely domestic factors are the key driver of labour market dynamics in a given economy, that country may "stand out" among its peers in terms of the data.

The aim in this analysis is therefore to try to identify the domestic component of movements in unemployment – or put another way, to identify what part of movements in headline unemployment rates reflected common factors across countries, or specific developments – such as policy changes – within countries. In that sense, it mirrors the analysis in Sinclair and Ellis (2012), which examined co-movements in financial market prices across countries in order to identify country-specific developments. By definition, the impact of domestic policy changes such as those described above should be evident in these country-specific movements, provided other countries did not enact the same labour reforms at the same times. While this does not define a formal counterfactual for any domestic policy changes that occurred, at a bare minimum it can illustrate whether those policy changes significantly affected domestic labour dynamics or not.

The focus of this piece is to compare and contrast analysis centred on French and German labour market reforms. In principle, as noted above any change in labour market conditions in either ctounry could reflect global factors, regional (European) factors, or country-specific factors. Any domestic policy changes should only be evident in the country-specific component, and not in regional or global trends. Happily, given the relatively open and integrated nature of the German and French economies with other countries in the region, this means that their European neighbouts are likely to form a natural peer group. In other words, changes in global economic conditions will not just impact the German labour market, but also labour markets in countries such as the United Kingdom, Italy, Sweden, Belgium and others. In fact, given the given the strong trading and financial relationships between European economies, shocks can be swiftly transmitted between countries, and common trends should be relatively easy to identify. Once these common components are identified – be they global or just regional – they can then be used to identify country-specific differences where idiosyncratic policy changes should be evident.

There are three broad approaches that we will use here: first, principal component analysis (PCA) to identify common trends (and hence also country-specific movements); second, state-space modelling to identify common trends; and third, the synthetic control method to construct a formal counterfactual for specific countries around the implementation of policy changes. All of these are established approaches for conducting statistical analysis across countries: the contribution of this paper is not to propose a new methodological approach, but instead to examine broad results from different statistical approaches across countries for two specific episodes.

The key contribution of this paper, as such, is the use of these three different approaches to examine the episodes in question: and indeed the choice and comparison of those episodes themselves. In particular, the earlier German experience represents an episode that is generally accepted to have had a significant impact on labour market dynamics, as noted earlier. So by focusing on this episode, we can examine the appropriateness of the different methodological approaches we employ alongside each other, and the consistently (or lack thereof) between them. If the results are broadly consistent across the approaches for the German experience, and align with prior results from other research, that will provide a degree of confidence that taking the same analytical approach for France – or indeed for other episodes – will be both reasonable and informative. In essence, we are cross-checking the different approaches against prior results before then using them to examine the impact of more recent policy actions.

The following sections discuss each of the three approaches listed above in turn.

2.1 Principal Component Analysis (PCA)

Our first method of analysing common and specific trends will be PCA. This form of analysis is often used to summarise and compress large data sets, but also to identify and extract common components from the data. The technical approach is to construct the first principal component is calculated as the linear (weighted) combination of the underlying series that accounts for the maximum share of the variance in the underlying data series. The second principal component is then the linear combination that captures the second-largest share of the variance of the underling data, while at the same time being orthogonal to the first component, and so on. Typically, a reatively small number of principal components can account for the majority of the variance evident in the underling data. It also has the advantage of being a relatively simple approach to adopt from a statistical perspective. However, one drawback is that it does not allow users to specify any structural (economic) priors that then underpin the estimation of the principal components

Past research that has used a form of principal components (or similar mechanisms) to summarise datasets and extract common trends include Bernanke, Boivin and Eliasz (2005) and Ellis, Mumtaz and Zabczyk (2014). More information on PCA is provided by Joliffe (1998) and Johnson and Wichtern (2007), among others.

2.2 State-space Modelling

A second approach to identifying and modelling common trends is state-space analysis. State-space models allow unobserved variables — in this instance a common trend in unemployment across countries — to be modelled and estimated using observed data, such as individual country unemployment rates, while incorporating differences across

countries both in relation to the importance of the common factor, and the degree of variance in domestic factors.

In practice state-space models can take many forms, depending on how complex the underlying relationships in the model are. The models are typically estimated using the Kalman filter, a powerful recursive algorithm. More details on state-space modelling are described by Hamilton (1994) and Harvey (1989), among others.

For the purposes of this research, a relatively simple form of model was used, where the common trend across countries is the unobserved variable. This is similar to the type of analysis conducted by Ellis and Turnbull (2007) in the context of capacity pressures, as state-space modelling allows unobserved variables to be modelled using observable data. Another illustration of state-space modelling is provided by Greenslade, Pierse and Saleheen (2003), among others.

Formally, the broad functional form of the model was:

$$U_t^i = \alpha_i C_t + \beta_i U_{t-1}^i + \varepsilon_t^i \tag{1}$$
$$C_t = C_{t-1} + \varepsilon_t^C$$

Where U^i is the vector of individual country (i) unemployment rates, C represents the state variable and common trend across the N countries of the sample, and ε are Gaussian shock terms with zero mean and fixed (estimated) variances. The specification of the state variable as a random walk allows a large degree of freedom for the estimation of the unobserved factor: very limited prior beliefs are imposed on its behaviour. In principle, the signal equations can be adjusted to remove or add lags (or other data) as desired.

As with PCA, once the common component across countries has been estimated and identified, it is then possible to examine the remaining country-specific components of movements in the unemployment rate. As before, the impact of any idiosyncratic policy changes should be evident in these country-specific estimates. While the state-space approach is computationally more complex than PCA, and the functional form of the model can be important, one advantage of this approach is that is allows users to specify the underlying structural relationships that can then be estimated and tested against the empirical data.

2.3 Synthetic Control Method (SCM)

The third and final statistical approach considered herein is the synthetic control method (SCM). Technically, the SCM is an approach for estimating the impact of a treatment (or policy change) on a single unit in setting with a modest number of control units and many pre-treatment outcomes for all units. In principle, the synthetic control method is a particular form of counterfactual analysis, and is often applied to estimate the impact of policy changes differences using data across countries. In essence, the method constructs a 'synthetic' version of the measure of interest – such as an unemployment rate in a particular country – based on observed past relationships between that variable and other measures (eg unemployment rates in other countries), while imposing restrictions on the functional form of the relationship between the measure of interest and other measures.

Originally proposed by Abadie and Gardeazabal (2003), in essence SCM is based on the idea that a combination of unaffected observable units – for instance, data from countries where policy changes do not take place – will provide a more appropriate comparison than any single unaffected unit by itself. Abadie (2019) provides more detail on SCM; one recent application of this approach is Gyoerk (2017), who examines whether Sweden would have benefited from membership of the single European currency. While there are parallels between SCM and linear regression analysis, there are also some important differences, as set out and examined by Doudchenko and Imbens (2017).

By its very nature, SCM has one significant advantage over PCA and state-space modelling: it is precisely designed to generate direct counterfactuals for both the French and German episodes that are the focus of this paper. As such, there is no need to subsequently decompose unemployment rates into cross-country and country-specific components, on contrast to the two approaches described above. However, results from SCM can be sentitive to the panel of data used to construct the synthetic series, and – depending on the functional form – may be more susceptible to structural breaks in the data (other than the period of interest) than more techniques.

3. Results

Armed with these different statistical approaches, we can now apply these to examine whether there are country-specific differences evident in the German and French data around the times of the policy reforms. To do so, we first need to gather relevant data.

3.1 Data

In order to apply the techniques outlined previously to examine the impact of labour market reforms, the final key ingredient needed is comparable data across similar countries for a substantial period of time. Many European countries are highly integrated with each other and exhibit strong linkages via trade and financial flows. But for the purposes of

this analysis, we focused on a number of large European economies with good statistical track records: Germany, France, Italy, the United Kingdom, the Netherlands, Belgium and Sweden. The key data here are comparable assessments of labour markets: unemployment rates, published on a harmonized basis by Eurostat, are shown for all of these countries in Figure 3.
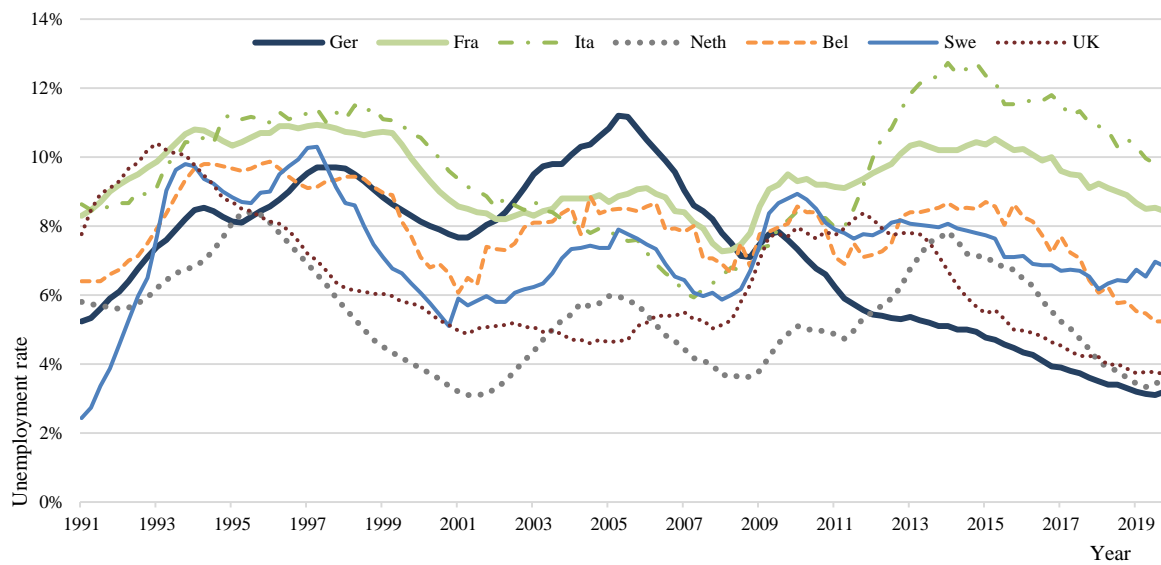

Figure 3. Unemployment rates across European economies

Description: Headline LFS unemployment rates across the major European economies used in this analysis.

The data are available on a quarterly frequency from 1991, and the sample ends in 2019. Overall, there are over 800 observations in our data sample, allowing for powerful cross-country estimation and inference. These data were used consistently across the three approaches outlined above: results for each are reported in turn.

3.2 Results from PCA

The first statistical approach was to use PCA to construct common components from the panel of unemployment rates. The first principal component is calculated as the linear combination of the underlying series that accounts for the maximum share of the variance in the underlying data series.

The first principal component, based on the data in Figure 3, is presented below in Figure 4. The series exhibits a strong rise from 1991, at the time the European recession, before declining from 1997 onwards. Interestingly, during the two periods we will examine – around 2005 for Germany, and 2017 for France – clear downward trends are evident.
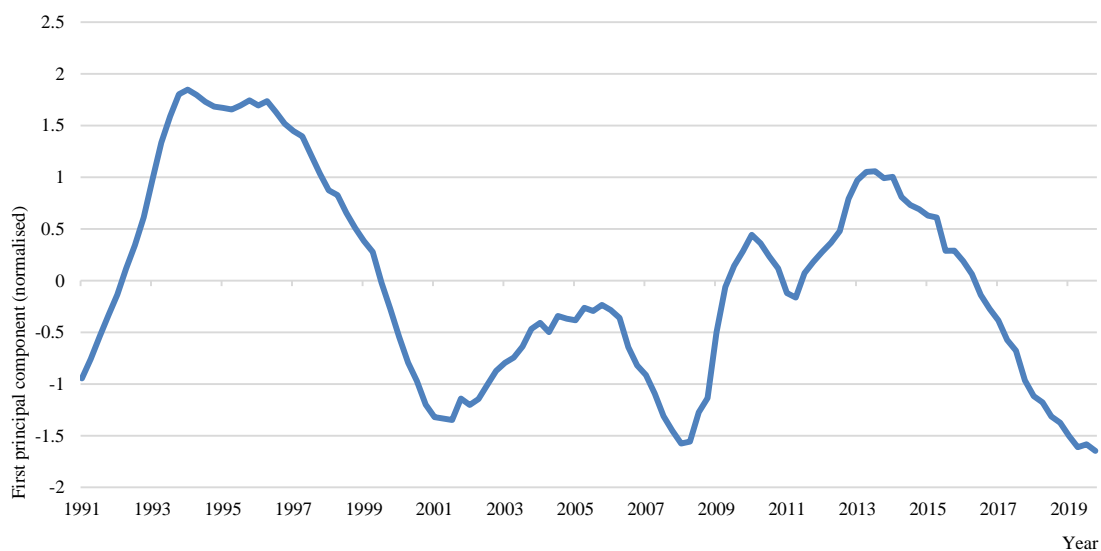

Figure 4. First principal component of unemployment

Description: First principal component from PCA analsyis across European economies shown in Exhibit 3.

Armed with this common trend, we can now assess what role it played in driving individual countries' labour market performance. In principle, we could do this by using the eigenvectors calculated in the PCA in order to subtract the common trend from each country; but a simpler and less restrictive approach is just to regress the unemployment rate in each country against the common trend. The residual from this regression – essentially, the country-specific 'domestic labour market' factor – will represent the dynamics in the domestic labour market that cannot be accounted for by cross-country influences.

Unless other countries in the sample had also implemented reforms to their labour markets at the time as the countries we wish to focus on, the impact of any country-specific reforms should be contained within this 'domestic residual'.

The first period in question is the period following the implementation of the Hartz IV reforms in Germany at the start of 2005. Prior to that point, the Germany unemployment rate had been rising markedly, and had not been below 7.5% (on a quarterly basis) since the start of 1993. But at the implementation of Hartz IV in January 2005, the unemployment rate peaked at 11.2% in 2005 Q2, and subsequently began to fall steadily; by the first quarter of 2007 the unemployment rate had already declined by 2.2 percentage points (pp) from its peak, and was on a clear downward trend. That trend was not even reversed following the onset of the global financial crisis in 2007/8.

But was this marked shift in German labour market conditions unique to Germany, or evident elsewhere? Figure 3 shows that several other European countries also saw declining unemployment rates around the same time. But the 'domestic residual' for Germany from the PCA analysis exhibits a clear downward trend from 2005, as shown in Figure 5. Put another way, the German labour market saw a significant turnaround at that time whereby it then started to outperform the common trend evident across major European economies (including Germany) around the time of the Hartz IV reforms.
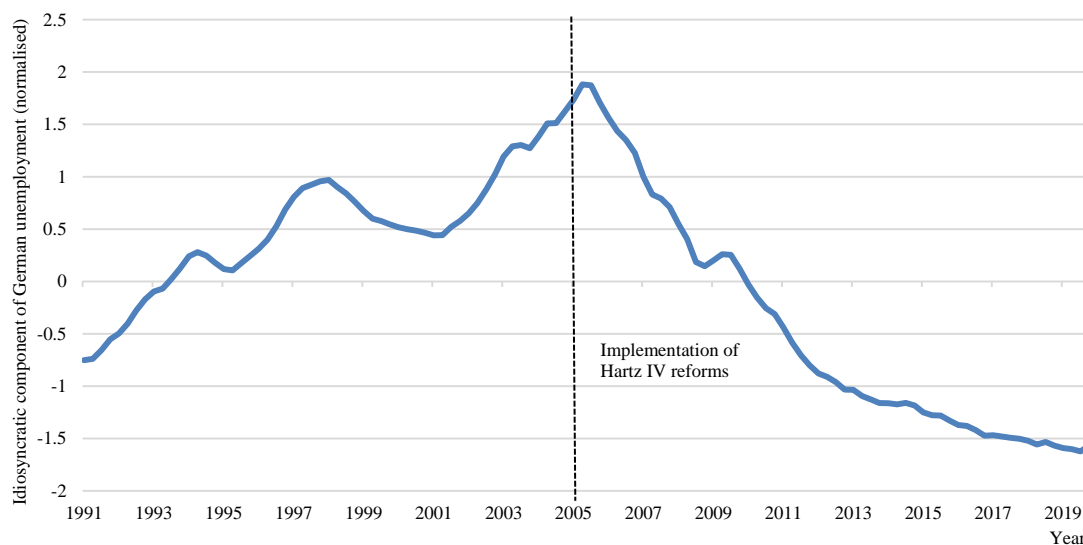

Figure 5. Country-specific component of German unemployment

Description: Headline German unemployment rate less the common component shown in Exhibit 4.

Under President Macron French labour market reform was promised swiftly following his election in June 2016, and some measures were addressed very swiftly. While the rollout of different reforms does not lend itself as naturally to a specific date as the Hartz IV reforms, in this analysis we use a reference date of 2017 Q3 in order to gauge the impact of French reforms. We test this assumption later.
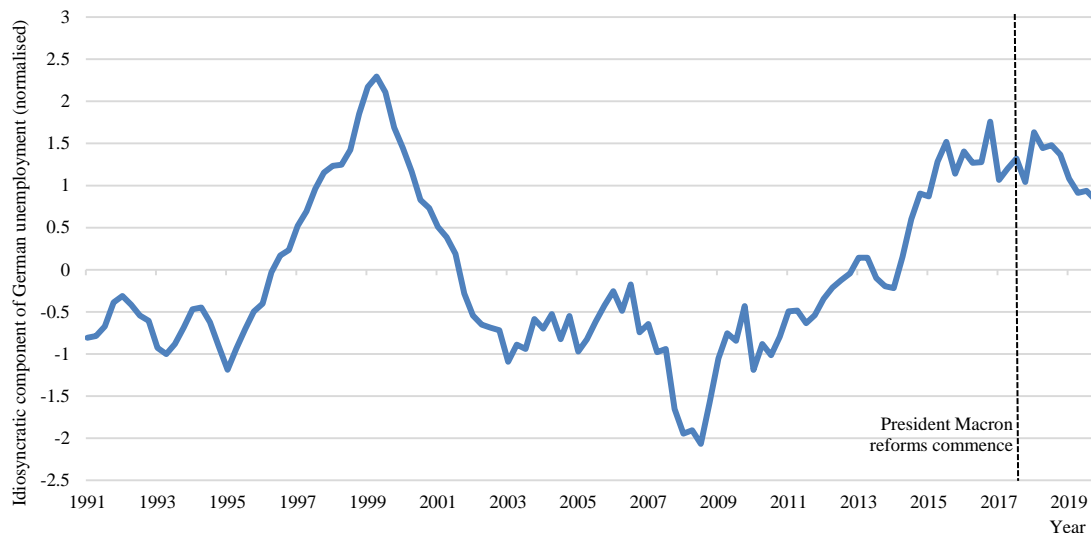
Figure 6. Country-specific component of French unemployment

Description: Headline French unemployment rate less the common component shown in Exhibit 4.

The French domestic labour market component, based on the same PCA analysis as used for Germany, is shown in Figure 6. The contrast with the German experience in the mid-2000s is immediately obvious. The series is more volatile, which reflects underlying volatility in the French data given the smoothness of the principal component; but there is nothing like the substantial downward trend evident towards the end of the sample, after Macron was election. On this basis, there is little reason to believe that recent French labour market reforms have had a similar impact to those seen in Germany in the mid-2000s. Put another way, on the basis of the PCA results Macron's reforms have simply just not been as impactful, so far at least. However, it is important to test the robustness of this result by comparing these outcomes to those from other statistical approaches.

3.3 Results from State-space Modelling

The second statistical approach was to apply state-space modelling to estimate the unobserved common component of labour market dynamics across the panel of countries. A variety of state-space models were explored, but for simplicity the results here follow the simple model described earlier. However, the broad results presented below were robust to alternative specifications. The underlying model exhibited statistically significant fit and coefficients, but for brevity we focus here on the estimated common trend.

In particular, the common component from a simple model for the state space approach was remarkably similar to the first component from the PCA (Figure 7). This was also true for more complex forms of the model, albeit to varying degrees. This suggests that both approaches are valid mechanisms for estimating common trends. It also meant that, when the 'domestic' component of labour markets were examined based on the state space approach, the results were entirely consistent with the evidence presented in Figures 5 and 6: recent French labour reforms are demonstrably less impactful than past German ones.
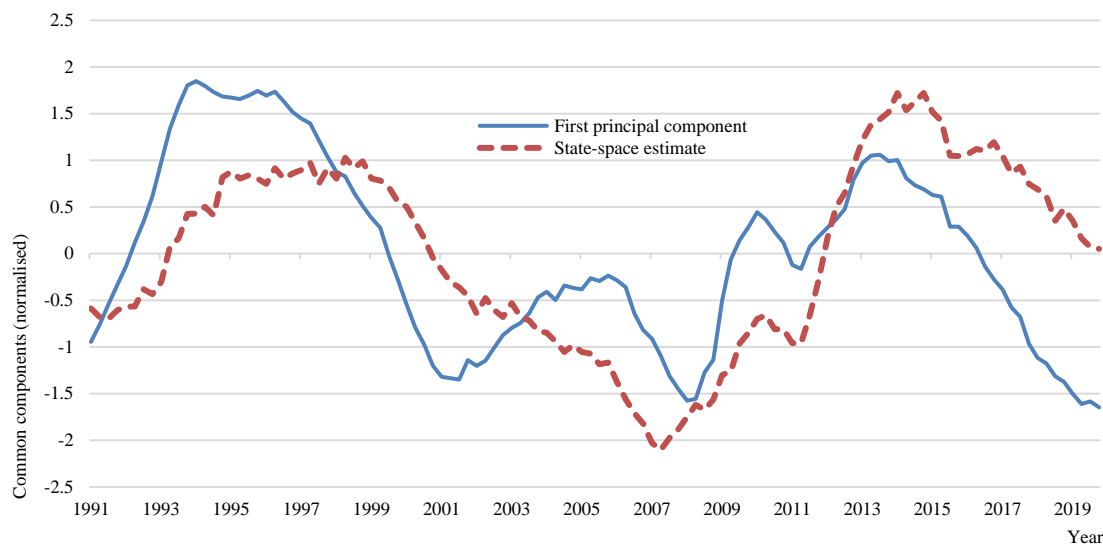
Figure 7. Common component across countries from PCA and state-space model

Description: First principal component from PCA analysis and common component estimated from state-space model, using data for European economies shown in Exhibit 3.

Given the high degree of consistency from these two statistical approaches, this suggests the results from the empirical data are likely to be robust. However, both the PCA and state-space approaches investigate this issue by estimating a common component that can then be differentiated from country-specific experiences. In contrast, the final statistical method examined herein takes a different approach, so it is important to consider that as well.

3.4 Results from SCM

The third and final statistical approach present here is the synthetic control method (SCM). As noted previously, the direct aim of this approach is to construct a counterfactual for an individual entity in order to examine the impact of policy changes or other factors.

By its very nature, SCM will generate outright counterfactuals for both the French and German episodes were are comparing. Based on a simple model using the unemployment rates shown earlier, Figure 8 presents results from the SCM for Germany; the dotted line prior to 2005 is the 'fitted' synthetic series, while after that point it is the counterfactual analysis implied by the analysis.
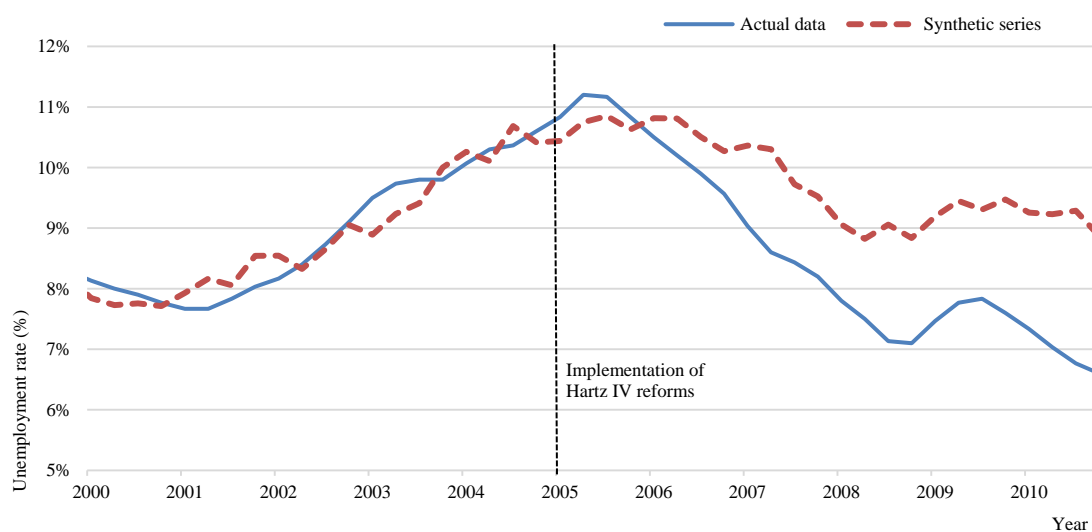

Figure 8. Actual and synthetic German unemployment rates

Description: Headline German unemployment rate and the synthetic rate estimated using the SCM.

The pattern here is similar to the results presented earlier, but quantitatively different. In particular, while a clear gap

emerges between the synthetic German series and the actual data, that gap takes time to emerge. After one year the actual unemployment rate is just 0.3 percentage points (pp) below the synthetic counterfactual; after two it is 1.3pp; and after three years it is 1.9pp. Thereafter, the synthetic measure persists at around 8-9%. On this basis, there is clear evidence that the German labour market saw changes that permanently lowered the unemployment rate, consistent with structural change.
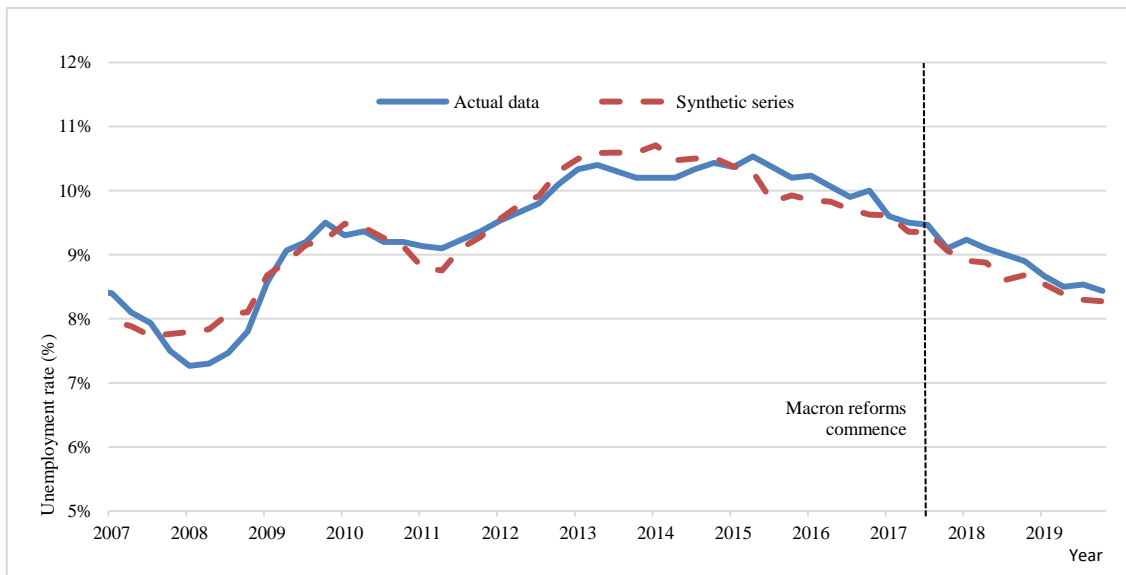

Figure 9. Actual and synthetic French unemployment rates

Description: Headline French unemployment rate and the synthetic rate estimated using the SCM.

Relatively less time has passed since Macron's election and the enactment of reforms; but it is still instructive to consider the results of the same type of SCM for France. Figure 9 shows that, even two and a half years after the reference point of Macron's election, there has been absolutely no gap open up between the observed unemployment rate in France, and what would have been expected from the synthetic France, where policy changes by definition are not impactful. In fact, the synthetic series for French unemployment has been below the actual data, suggesting that – if anything – the French labour market has underperformed. However, the differences here are very small – on average just 0.2pp – and should not be overinterpreted.

Once again, these results are clearly very different between past German experience and recent French data. Given the consistency of this finding across the three different quantitative approaches used here, this strongly suggests that – thus far at least – Macron's efforts to reform the French labour market have fallen far short of the effectiveness of past German reforms.

3.5 Consistency and Robustness Checks

The results presented above are strikingly unambiguous in their findings. Indeed, the choice to employ three different quantitative approaches was in part to offer a natural check for consistency and robustness. But it is still important to test the robustness of these results to different specifications and assumptions.

One simple check was to move the 'reference' dates – 2005 and 2017 – for both Germany and France, and see if the disparity was still evident. While shifting these dates did impact on the precise quantitative results, for instance the synthetic constructions for both countries, these changes were not significant: there was still a clear distinction between Germany and France.

Similarly, considering more complex analytic formations – such as adding more countries or data to the SCM estimates, or adding more variables to the state-space model – did not affect this clear distinction. As such, the key result from this paper – that French labour reforms have been less impactful than past German ones – seems robust.

4. Discussion

As noted at the start of this paper, making genuinely structural changes to economies can be difficult, especially in advanced economies with higher per capita incomes and lower trend growth rates than their less developed peers. Governments can struggle to deliver lasting changes to productivity, growth or labour markets without concerted and targeted measures.

The labour market in particular is one area where policy reforms can be critical, particularly when faced with persistently high unemployment. This was the situation facing the German government following reunification; and also the French government for a number of years more recently.

Based on the analysis and empirical evidence presented here, the policy reforms undertaken in Germany in the mid-2000s appear to have had a significant and dramatic impact in altering labour market dynamics and as such permanently reducing unemployment. This is consistent with previous assessments of these reforms, which lends confidence to the analytical approach that has been adopted here: our results chime with past research, despite taking different approaches.

In contrast, President Macron's promises to transform the French labour market have, thus far, borne no such fruit, at least based on the empirical data and analysis presented herein. There is a clear contrast between the German results – which match past research – and those for France.

It is important to note that relatively little time has passed since Macron's election, at least relative to a full business cycle context. It is certainly possible that the impact of recent French reforms becomes more evident over time, notwithstanding the significant recent shocks that have hit all economies since the end of 2019. But at the same time, the end-2019 data represent a similar amount of time having passed since Macron's election to that when the impact of the German reforms was already evident. As such, more time may not be the missing ingredient: instead this may speak to the ineffectiveness of the reforms, which would be consistnet with past failed reforms that have failed to reduce unemployment. As such, President Macron may need to look again at Germany's policy changes if he wants to have a lasting impact on French unemployment.

Acknowledgements

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