

A Closer Look at the German Labor Market ‘Miracle’

BY SHIGERU FUJITA AND HERMANN GARTNER

Compared with the steep, persistent increase in unemployment that the Great Recession triggered in the United States, its effect on unemployment in Germany was surprisingly mild. While U.S. unemployment soared from 4.8 percent to 9.5 percent between the fourth quarter of 2007 and the fourth quarter of 2010, the German unemployment rate actually fell from 7.6 percent to 6.4 percent over the same period (Figure 1).¹ The marked contrast may make one wonder whether the magnitude of the recession itself was smaller in Germany. Actually, the severity of the recession as measured by the drop in output was greater in Germany than in the United States. German output, as measured by the peak-to-trough difference in real gross domestic product, declined roughly 10 percent, while U.S. output declined 7 percent (Figure 2). Germany’s more severe downturn makes its labor market response to the Great Recession even more surprising. No wonder it is sometimes referred to as the “German labor market miracle.”

Some commentators have attributed the different responses of the U.S. and German labor markets to several German job protection programs that are absent in the U.S. — including the so-called short-time work policy that subsidizes firms that reduce workers’ hours rather than lay them off.² However, it may be premature to suggest that similar job protections would

¹ According to the National Bureau of Economic Research, the Great Recession officially started in the U.S. in the final quarter of 2007 and ended in the second quarter of 2009. However, the U.S. unemployment rate remained elevated through 2010 and beyond.

² See, for instance, economist Paul Krugman’s *New York Times* column of November 2009.

work well in the U.S. As we will show, the German labor market’s response during the Great Recession differed not only from the U.S. response but also from Germany’s own experience during prior recessions in which job protections were also in effect.

Then, what did spare Germany from a sharp rise in unemployment during the Great Recession? In this article, we argue that the most important reason is that there had already been an underlying upward trend in German employment, made possible by the Hartz labor market reforms of 2003-05, that masked the negative impact that the Great Recession had on employment.

To explore the differences between the labor market responses in the U.S. and Germany, we first need to understand how German and U.S. firms tend to adjust the size of their work forces to changes in the economic environment. As we will show, U.S. and German firms exhibit some similarities as well as differences. More important for our discussion, German firms’ employment adjustment response during the Great Recession differed from their usual pattern during past recessions. We will discuss specific reasons why German firms retained more workers during the Great Recession than during prior recessions and show why it is misleading to attribute that reaction to job protection programs that had been in existence for a long time.

HOW U.S. FIRMS ADJUST THEIR WORK FORCES

To characterize how individual firms expand or contract their work forces, we draw on a useful methodology developed by Steven Davis and his coauthors showing the relationship between the rate at which a firm’s work force grows or contracts on net (*job flows*) and the rate at which workers are hired or leave (*gross worker flows*).

These rates can differ from each other. For example, workers may leave a firm during a given quarter, but the firm may hire other workers to fill those positions. So there is no job flow even though there are still gross worker flows (separations and hires). The idea is that job flows capture firms’ underlying motivation to increase or decrease the number of positions they have. When the job flow rate is positive, the firm is increasing the size of its work force



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on net, resulting in *job creation*. When the job flow rate is negative, the firm is shrinking the size of its work force on net, resulting in *job destruction*. Separations and hires, on the other hand, are gross measures of individual comings and goings, which can exceed job flows.

Figure 3 shows the relationship

between job flows (horizontal axis) and worker flows (vertical axis) for individual U.S. firms. Notice that a firm that is shrinking its work force by 20 percent (horizontal axis) has a hiring rate of roughly 10 percent (vertical axis). This relationship shows, perhaps surprisingly, that firms that are reduc-

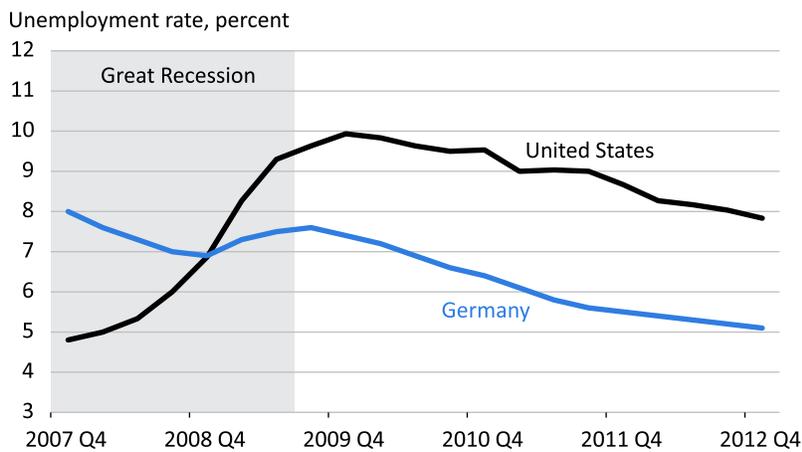
ing the number of positions on net are still doing some hiring.³ But the key takeaway from Figure 3 is that, as one would expect, when firms cut jobs, they do so by laying off workers, and they expand their work forces by hiring more workers.

Another important finding by Davis and his coauthors is that the relationship between job flows and gross worker flows stays roughly the same over business cycles. So regardless of whether the economy is in a recession or a boom, when a firm wants to reduce the number of jobs by, say, 20 percent, it tends to achieve that goal by laying off 30 percent of its workers while hiring 10 percent more workers.

Of course, in a recession, total employment across the economy drops. Why does it drop if the relationship between job flows and worker flows has not changed? It drops because many more firms are growing (landing them on the right side of Figure 3) in an expansion than in a recession, and many more firms are shrinking (placing them on the left side of Figure 3) during a recession.

FIGURE 1

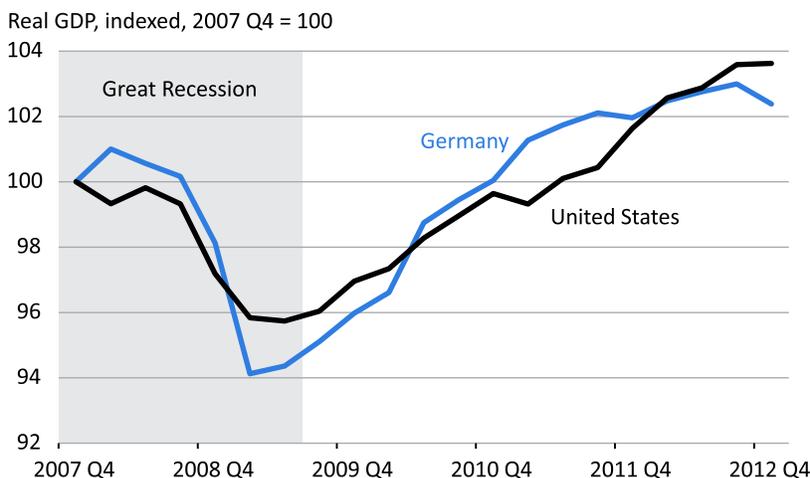
Milder Rise in German Unemployment...



Source: U.S. Bureau of Economic Analysis and Statistisches Bundesamt via Haver Analytics.

FIGURE 2

...Yet German Output Fell More Severely



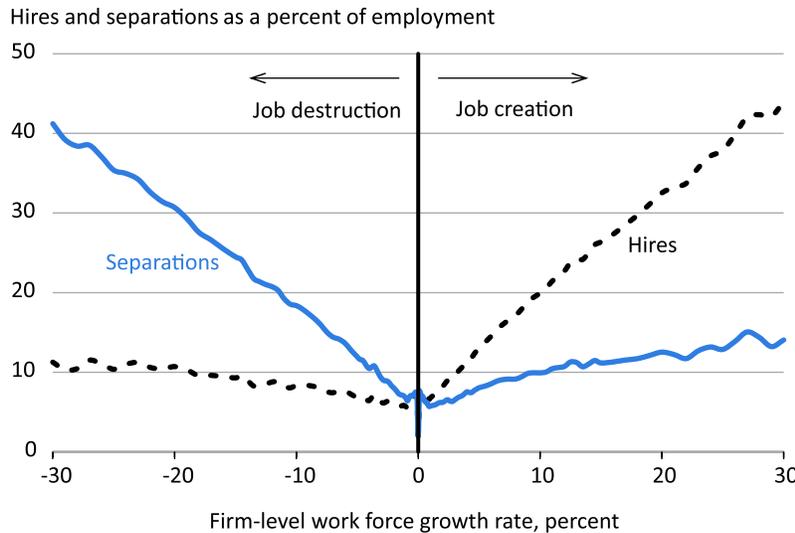
Source: U.S. Bureau of Economic Analysis and Statistisches Bundesamt via Haver Analytics.

HOW GERMAN FIRMS ADJUST THEIR WORK FORCES

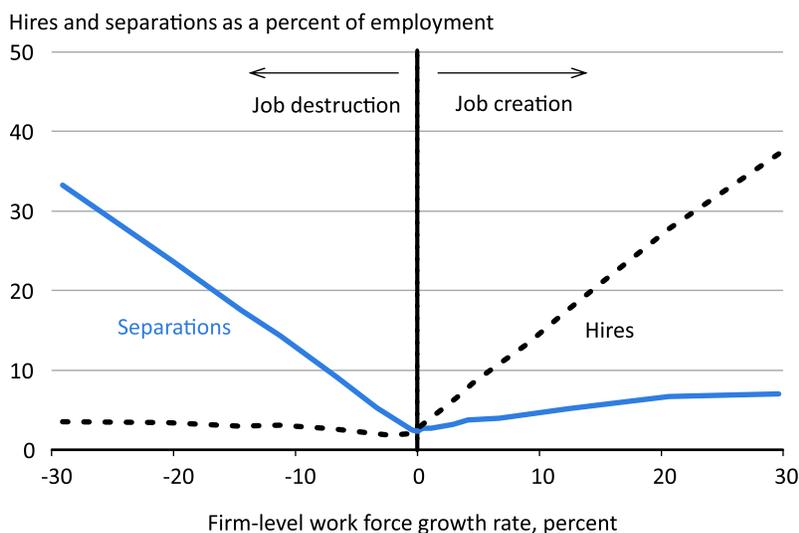
Now let us turn to how German firms adjust their work forces. We apply the same methodology developed by Davis and his coauthors to German employment data.⁴ Unlike the quarterly U.S. data used by Davis and his coauthors, the German survey collects information on job flows and worker

³ Why shrinking firms still hire is not very important for our main interest. However, one can easily imagine a scenario in which workers are voluntarily leaving a struggling firm, yet the firm still needs to replace at least essential personnel.

⁴ We draw on data from the IAB Establishment Panel, an annual nationwide employment survey of about 16,000 German firms of all sizes and sectors conducted via in-person interviews from the end of June until October.

FIGURE 3**Even as They Cut Payrolls, U.S. Firms Still Hire...****Relationship between U.S. job flows and worker flows, 2000 Q1-2009 Q3.**

Source: Adapted from Davis, Faberman, and Haltiwanger (2012).

FIGURE 4**...as Do German Firms, but to a Lesser Extent****Relationship between German job flows and worker flows, 2000-2010.**

Source: IAB German Establishment Panel.

flows that occurred in the first six months of the year, so we have to be careful in comparing the German and U.S. results. Otherwise, the German survey is also nationally representative and collects similar information.

Figure 4 pools all the surveys between 2000 and 2010 to give an overall picture of job flows and worker flows. A comparison between Figures 3 and 4 demonstrates two things. The first is the similarity of the relationship between job flows and worker flows in the two countries. That is, more job cuts are achieved by more separations, more expansions are achieved by more hiring, and worker flows exceed job flows, just as in the U.S.

The second is that in Germany, worker flow rates exceed job flow rates by a smaller margin than in the U.S. Remember that in the U.S., even when a firm is reducing its work force by 20 percent on net, the firm is still hiring 10 percent more workers while shedding 30 percent of its work force. In Germany, the hiring rate of a firm that is cutting its work force by 20 percent is less than 5 percent. This smaller “excess” worker flow rate in Germany makes sense, given that the cost of laying off workers is considered higher in Germany: When German firms want to achieve a net employment reduction of 20 percent, they have a stronger incentive to do so with fewer excess separations.⁵

To link the firm-level pattern in Figure 4 with overall employment, we need to also look at what percentage of firms are expanding or contracting their work forces and at what rates under different economic conditions. Here we also see a significant difference between the two countries. Table 1 gives the percentages of firms in five

⁵ Interested readers can also look at a study by Lutz Bellmann and his coauthors, who conduct an analysis similar to ours and reach the same conclusion.

TABLE 1**Smaller Work Force Fluctuations at German Firms****U.S. and German firm-level work force growth distributions.***

Percent of firms whose work forces:	U.S.	Germany
Contracted >10%	12.6%	4.5%
Contracted ≤10%	28.0	27.5
Had no net change	15.5	35.9
Expanded ≤10%	30.7	24.7
Expanded >10%	13.2	7.4

Sources: U.S. Bureau of Labor Statistics Business Employment Dynamics as tabulated in Davis et al. (2012); German IAB Establishment Panel.

*U.S. data are quarterly; German data are six-month rates. All data are from 2006.

growth categories: (1) no change, (2) expansion of 10 percent or less, (3) contraction of 10 percent or less, (4) expansion of more than 10 percent, and (5) contraction of more than 10 percent.⁶ Note that the U.S. data are collected each quarter, so these growth rates were calculated over three-month intervals, while the German data are collected each year, asking firms about the first six months of each year, and thus the growth rates were calculated over six-month intervals. As we will see, it is important to keep this difference in mind in interpreting the numbers in the table.

A much larger fraction (about 36 percent) of German firms made no net change in the size of their work forces over the six-month period than did U.S. firms (about 16 percent) over the three-month period. Note that it is plausible to assume that the longer the interval for the growth rate calculation, the less likely it is that

⁶ This table looks at 2006 because it is the only year for which we have data from both countries. But this cross-sectional pattern should hold for other phases of business cycles as well.

employment stays constant. Thus, if the intervals were the same, the difference in the percentage of German versus U.S. firms with no change in work force size would likely be even larger. Another notable observation is that U.S. firms were more likely to make drastic changes. More than 25 percent of U.S. firms were either expanding or shrinking their work forces by more than 10 percent over a quarterly period versus only 12 percent of German firms. Again, the differences could be even larger if the growth rates were measured over the same interval. Thus, in terms of work force growth and worker flows, many more German firms appear to have made no net change in their work forces, and many more U.S. firms appear to have made more extreme changes in payrolls.

A high percentage of “inactive” firms that keep their work force size unchanged is usually considered an indication of a rigid labor market. For example, an important paper by Hugo Hopenhayn and Richard Rogerson shows that stronger job protections such as Germany offers increase the percentage of firms that are inac-

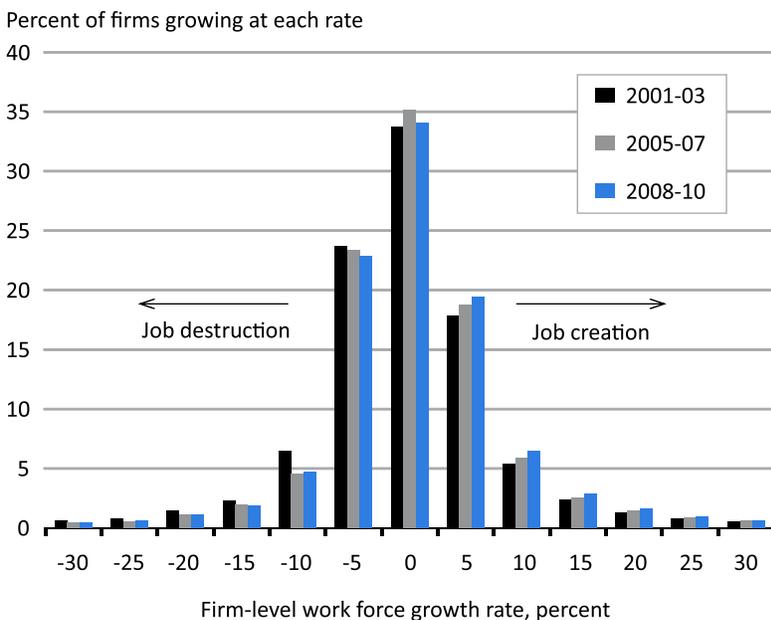
tive. Furthermore, Germany’s larger percentage of inactive firms means that its overall job flows are lower than in the U.S., which many studies have empirically verified. However, it is important to keep in mind that low turnover does not rule out the possibility that job creation declines and job destruction increases in recessions and that the opposite is true during economic expansions.

EFFECTS OF ECONOMIC UPS AND DOWNS

Next, let’s turn to how German firms have responded to changes during various business cycles. In Figure 5, we split our 2000-10 survey sample into three periods: a recession and slow recovery in 2001-03, an economic expansion in 2005-07, and the Great Recession and immediate aftermath in 2008-10.⁷ Let’s compare the first two periods to set the benchmark for evaluating the labor market reaction to the Great Recession. The black bars in Figure 5 represent the work force growth distribution during the period encompassing the recession and sluggish employment recovery in the early 2000s. The gray bars are for the economic expansion of 2005-07. Figure 6 confirms that overall employment contracted in Germany during the recessionary period in the early 2000s, while during the subsequent expansion, overall employment grew relatively strongly.

In Figure 5, one can see that the black bars are always higher than the gray bars for firms that are shrinking their work forces (the negative side of Figure 5). That is, more firms are shrinking in the downturn (2001-03) than in the expansion (2005-07). Simi-

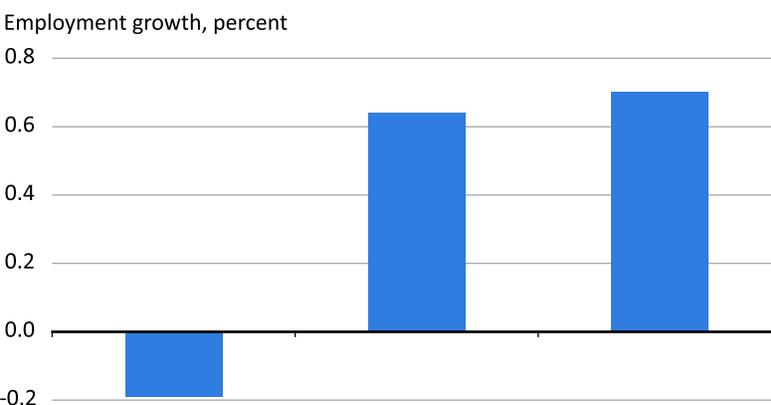
⁷ The recession in the early 2000s officially started in late 2001 and ended after six months in 2002. However, given that labor market sluggishness lasted much longer, we pool the data for the three years from 2001 through 2003.

FIGURE 5**German Firms' Work Force Growth Distribution**

Source: IAB Establishment Panel.

FIGURE 6**German Employment Actually Grew Faster in the Great Recession**

Aggregate work force growth rates.



Source: Calculated from the IAB Establishment Panel.

Note: Growth rate over the first six months of each year, averaged over each three-year period.

larly, the gray bars are always higher than the black bars for firms that are expanding their work forces (the positive side of Figure 5). More firms are expanding in mid-decade than during the recession and slow recovery. These results illustrate how economy-wide employment growth fluctuates because of shifts in the share of firms that are shrinking their work forces versus those that are expanding.

Although our discussion above focuses on only two episodes (2001-03 versus 2005-07), the literature suggests that the pattern we discussed holds for previous business cycles in Germany.⁸ As mentioned above, in Germany, job turnover is slow, reflecting its stronger job protections. But the pace of job creation and destruction does change over the business cycle. The change in the pace of job flows occurs through the shifts in the share of firms expanding versus shrinking their work forces. The work force adjustment pattern at German firms is similar to that of U.S. firms in this respect.

Let's now take a closer look at how German firms behaved during the Great Recession. When we look at the blue bars in Figure 5, which give the work force growth distribution for the Great Recession, it is quite surprising that the blue bars in the job creation region are always higher not only than the black bars representing the recessionary period in the early 2000s but also compared with the gray bars representing the expansion in 2005-07. Also interestingly, the percentage of German firms destroying jobs during the Great Recession was always lower than during 2001-03. Even compared with the economic expansion, the percentage of firms destroying jobs tended

⁸ See, for example, the article by Gartner, Merkl, and Rothe, who look at the rates of worker transition into unemployment in Germany and show that both the rate of layoffs and the rate at which people find jobs are similar to the corresponding U.S. rates.

to be lower during the Great Recession. (The exception is the percentage of firms cutting their work forces by 5 percent to 10 percent.) Figure 6 confirms that overall employment in Germany not only grew during the Great Recession but actually grew slightly faster than it had during the previous economic expansion.

WHAT EXPLAINS THIS 'MIRACLE'?

An often-cited reason for this “German labor market miracle” is the existence of programs that promote labor “hoarding.”⁹ One is the short-time work program. When employees’ hours are reduced, the participating firm pays wages only for those reduced hours, while the government pays the workers a “short-time allowance” that offsets 60 percent to 67 percent of the forgone earnings.¹⁰ Moreover, the firm’s social insurance contributions on behalf of employees in the program are lowered. In general, a firm can use this program for at most six months. At the beginning of 2009, though, when the slowdown of the economy became apparent, the German government encouraged the use of the program by expanding the maximum eligibility period first to 18 months and then to 24 months and by further reducing the social security contribution rate. The usual eligibility requirements were also relaxed.

An important thing to remember here is that these special rules had also been applied in past recessions and thus were not so special after all.¹¹ True, the share of workers in the program increased sharply in 2009, and

⁹ See, for example, the article by Graef and Schneider.

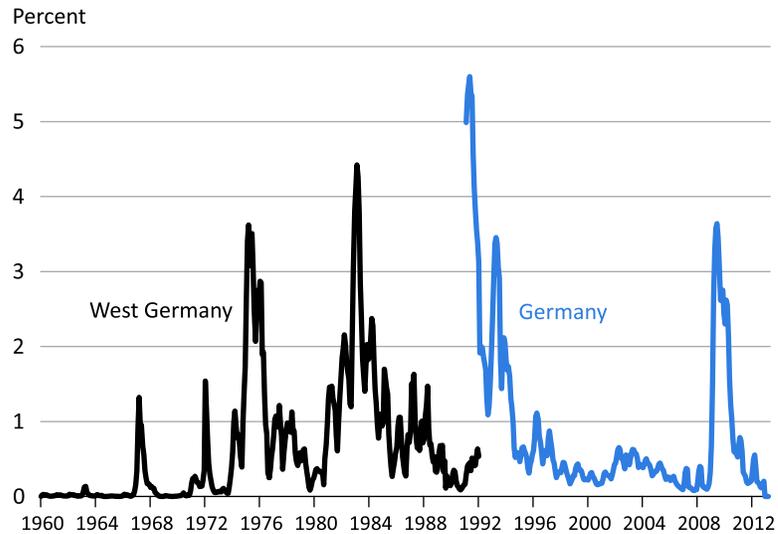
¹⁰ Workers receive the allowance from their employers, who are then reimbursed by their local employment agency.

¹¹ See the article by Jens Boysen-Hogrefe and Dominik Groll for more details.

FIGURE 7

2009 Spike in Job-Saving Programs Was Typical of Recessions

Share of German workers in short-time work programs.



Source: Federal Employment Agency of Germany.

thus it certainly helped reduce the impact of the Great Recession on German employment (Figure 7). But a more important observation is that even at its peak during the Great Recession, participation in the program was not extraordinary compared with the levels observed in past recessions. Moreover, in previous recessions, the German labor market had responded in a similar manner to the U.S. labor market.

Another German program that some have credited with staving off high unemployment is the working-time account, which allows employers to increase working hours beyond the standard workweek without immediately paying overtime. Instead, those excess hours are recorded in the working-time account as a surplus. When employers face the need to cut employees’ hours in the future, they can do so without reducing workers’ take-home pay by tapping the surplus account. German firms overall came into the recession with surpluses in

these accounts. Thus, qualitatively speaking, this program certainly reduced the need for layoffs. However, less than half of German workers had such an account, and most working-time accounts need to be paid out within a relatively short period — usually within a year or less.¹² According to Michael Burda and Jennifer Hunt, the working-time account program reduced hours per worker by 0.5 percent in 2008-09, accounting for 17 percent of the total decline in hours per worker in that period.

WHY WAS THE GREAT RECESSION DIFFERENT?

The evidence above clearly casts doubt on the argument that Germany’s stronger job protections were responsible for its labor market’s muted response to the Great Recession. The question, then, is why German firms

¹² See the article by Peter Ellguth, Hans-Dieter Gerner, and Ines Zapf.

responded differently — not only from U.S. firms but also from their own past behavior. Let us first point out that there had been a strong upward trend in German employment leading up to the Great Recession. In Figure 8, one can see that the overall employment level had been generally stagnant from 1991 until just before 2005. However, since then, employment has grown steadily. The Great Recession barely affected this trend. We saw in Figure 5 that the share of firms expanding their work forces during 2008-10 was higher than during 2005-07, while Figure 8 illustrates how the longer-term trend has drifted upward starting a bit before 2005.

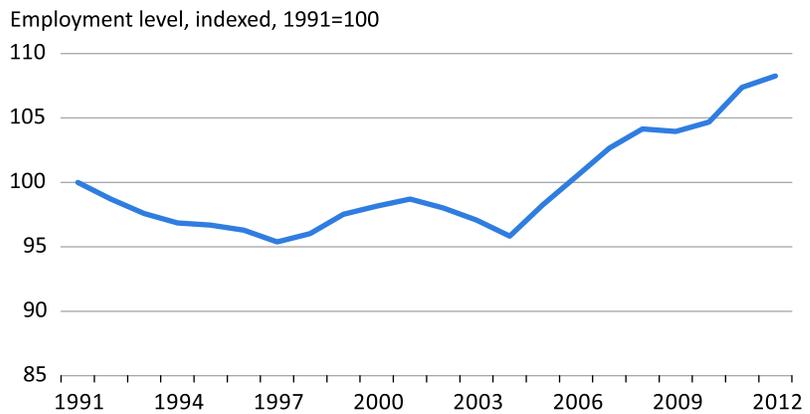
This underlying upward trend since the mid-2000s masked the negative impact of the Great Recession in Germany. We argue that the underlying upward trend was made possible by labor market policies called the Hartz reforms, implemented in 2003-05. The literature has emphasized the role that the reforms played in the moderation of labor costs. (See the adjoining discussion, *Germany's Hartz Labor Market Reforms*.)

The most important part of the reforms was the reduction in unemployment benefits. With less generous benefits, workers will tend to accept job offers they would have tended to reject when collecting unemployment benefits was more financially advantageous. This means that firms can hire workers at lower wages, thereby stimulating job creation. Moreover, job protections and the regulation of temporary employment agencies and fixed-term labor contracts were also significantly relaxed, making the labor market more flexible.

While there is no study directly quantifying the impact of the reforms on firm-level employment decisions, some researchers have shed some light on this issue by examining the changes in overall wages, employment, and out-

FIGURE 8

Jobs Rose Steadily Well Before Great Recession
German employment trend, 1991-2012.



Source: EU Labor Force Survey.

Germany's Hartz Labor Market Reforms

Persistently high unemployment in Germany since the 1990s led German society to recognize the urgent need to reform its labor market. To stimulate job creation by reducing labor costs, a series of labor market policies called the Hartz reforms were put into place between 2003 and 2005. The Hartz reforms are regarded as one of the most important social reforms in modern Germany.

The most important change was in the unemployment benefit system. Before the reforms, when workers became jobless, they were eligible to receive benefits equal to 60 percent to 67 percent of their previous wages for 12 to 32 months, depending on their age. When these benefits ended, unemployed workers were eligible to receive 53 percent to 57 percent of their previous wages for an unlimited period. Starting in 2005, the entitlement period was reduced to 12 months (or 18 months for those over age 54), after which recipients could receive only subsistence payments that depended on their other assets or income sources. Moreover, unemployed workers who refused reasonable job offers faced greater and more frequent sanctions such as cuts in benefits.

To further lower labor costs and spur job creation, the size of firms whose employees are covered by unemployment insurance was raised from five to 10 workers. Also, regulation of temporary contract workers was relaxed. Furthermore, starting in 2004, the German Federal Employment Agency and the local employment agencies were reorganized with a stronger focus on returning the unemployed to work and by, for example, outsourcing job placement services to the private sector.

The Hartz reforms leave untouched the system of wage negotiations, in which labor unions play an important role. However, it is conceivable that the Hartz reforms, together with the generally declining trends of union membership and the number of workers covered by collective bargaining contracts, have played an important role in wage moderation.

put before and after the reforms. For example, some studies show that the wage moderation prior to the Great Recession had played an important role in stabilizing the employment response during the recession years.¹³ An econometric study by Jens Boysen-Hogrefe and Dominik Groll finds that the actual employment response in the Great Recession was too small, relative to what is implied by the past relationship between output and employment, and that once wage growth is incorporated into the analysis, their model explains the “miraculous” employment response fairly well. In other words, in the boom leading up to the Great Recession, wage growth was much more muted than during previous booms, and thus this wage moderation was an important factor in creating the upward trend in employment.

The literature points out another factor that contributed to the muted employment response in the Great Recession: The recession in Germany was brought about by a different shock than that which triggered the recession in the U.S.¹⁴ The U.S. economy

¹³ See Hermann Gartner and Sabine Klinger (2012), and Gartner and Christian Merkl (2011).

¹⁴ See, for example, the paper by Burda and Hunt.

suffered a decline in domestic demand as the plunge in home values reduced households’ net wealth, whereas Germany had experienced no housing bubble. Instead, the decline in German output was driven by a short-term plunge in world trade. Whether a recession is expected to be short or long-lasting is an important factor in firms’ hiring and firing decisions. If a firm expects a downturn to last only a short period, it may well choose not to cut its work force, even though it faces lower demand, especially if laying off and hiring workers is costly, as it is in Germany. Consistent with this possibility, Burda and Hunt point out anecdotal evidence that, especially by 2009, German firms were reluctant to lay off their workers because of the difficulty in finding suitable replacements.

CONCLUSION

Job protection programs in Germany cannot be the main cause of the “German labor market miracle” for a simple reason: These programs have existed for a long time in Germany, while the muted response of German employment during the Great Recession was at odds not just with the U.S. labor market response but with its own history.

The literature has suggested sev-

eral plausible reasons why the German labor market response was different this time. First, the Great Recession was perceived in Germany to a short-lived, albeit sharp, shock that was external to the German economy. Second, labor market reforms in 2003-05 provided the basis for a strong underlying trend of expanding employment, masking the negative impact from the Great Recession. There is no doubt that government policies, such as the short-time work program and working-time accounts, helped German firms weather the storm in 2008-09. But it may well be that those programs were effective only because the labor market reforms had already been put into effect prior to the Great Recession and because the decline in demand was brought about by a short-term shock.

The analysis in this article suggests that it is misleading, or at least premature, to say that similar job protection policies would work well in the U.S. Indeed, it is well established in the economics literature that stronger job protections can dampen overall employment and productivity in the long run.¹⁵ 

¹⁵ See Hopenhayn and Rogerson, 1993.

REFERENCES

Bellmann, Lutz, Hans-Dieter Gerner, and Richard Upward. "Job and Worker Turnover in German Establishments," Institute for the Study of Labor Discussion Paper 6,081 (2011).

Boysen-Hogrefe, Jens, and Dominik Groll. "The German Labour Market Miracle," *National Institute Economic Review*, 214 (2010), pp. 38-50.

Burda, Michael, and Jennifer Hunt. "What Explains the German Labor Market Miracle in the Great Recession?" *Brookings Papers on Economic Activity* (Spring 2011), pp. 273-319.

Davis, Steven, Jason Faberman, and John Haltiwanger. "Labor Market Flows in the Cross Section and over Time," *Journal of Monetary Economics*, 59 (2012), pp. 1-18.

Ellguth, Peter, Hans-Dieter Gerner, and Ines Zapf. "Flexibilität für Betriebe und Beschäftigte: Vielfalt und Dynamik bei den Arbeitszeitkonten," *IAB-Kurzbericht*, Nürnberg (March 2013).

Gartner, Hermann, and Christian Merkl. "The Roots of the German Miracle," *Vox* (March 2011), www.voxeu.org/article/roots-german-miracle.

Gartner, Hermann, and Sabine Klinger. "Verbesserte Institutionen für den Arbeitsmarkt in der Wirtschaftskrise," *Wirtschaftsdienst*, 90:11 (2012), pp. 728-734.

Gartner, Hermann, Christian Merkl, and Thomas Rothe. "Sclerosis and Large Volatilities: Two Sides of the Same Coin," *Economics Letters*, 117:1 (2012), pp. 106-109.

Graef, Bernhard, and Stefan Schneider. "Germany's Jobs Miracle," *Deutsche Bank Research Briefing* (April 2010).

Hopenhayn, Hugo, and Richard Rogerson. "Job Turnover and Policy Evaluation: A General Equilibrium Analysis," *Journal of Political Economy* 101:5 (1993), pp. 915-938.

Krugman, Paul. "Free to Lose," *New York Times* (November 12, 2009).



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Should Defaults Be Forgotten? Evidence from Variation in Removal of Negative Consumer Credit Information

Practically all industrialized economies restrict the length of time that credit bureaus can retain borrowers' negative credit information. There is, however, a large variation in the permitted retention times across countries. By exploiting a quasi-experimental variation in this retention time, the authors investigate what happens when negative information is deleted earlier from credit files. The authors find that the loss of information led banks to tighten their lending standards significantly as the expected retention time was diminished from on average three-and-a-half to three years exactly. Simultaneously, they find that borrowers who experience this shorter retention time default more frequently. Since borrowers nevertheless obtain more net access to credit and total defaults do not increase overall, the authors cannot rule out that this reduction in retention time is optimal.

Working Paper 14-21. Marieke Bos, SOFI, Stockholm University, Federal Reserve Bank of Philadelphia Visiting Scholar; Leonard Nakamura, Federal Reserve Bank of Philadelphia. www.philadelphiafed.org/research-and-data/publications/working-papers/2014/wp14-21.pdf.

Fiscal Policy: Ex Ante and Ex Post

The surge in fiscal deficits since 2008 has put a renewed focus on our understanding of fiscal policy. The interaction of fiscal and monetary policy during this period has also

been the subject of much discussion and analysis. This paper gives new insight into past fiscal policy and its influence on monetary policy by examining the U.S. Federal Reserve Board staff's Greenbook forecasts of fiscal policy. The authors create a real-time database of the Greenbook forecasts of fiscal policy, examine the forecast performance in terms of bias and efficiency, and explore the implications for the interaction of fiscal policy and monetary policy. The authors also attempt to provide advice for fiscal policy by showing how policymakers learn over time about the trajectory of the U.S. federal government's fiscal balance as well as the changing roles of structural and cyclical factors.

Working Paper 14-22. Dean Croushore, University of Richmond, Federal Reserve Bank of Philadelphia Visiting Scholar; Simon van Norden, HEC Montréal, CIRANO, CIREQ, and Federal Reserve Bank of Philadelphia Visiting Scholar. www.philadelphiafed.org/research-and-data/publications/working-papers/2014/wp14-22.pdf.

The Impact of the Home Valuation Code of Conduct on Appraisal and Mortgage Outcomes

During the housing crisis, it came to be recognized that inflated home mortgage appraisals were widespread during the subprime boom. The New York State Attorney General's office investigated this issue with respect to one particular lender and Fannie Mae and Freddie Mac. The investigation resulted in an agreement between the Attorney General's office, the government-sponsored enterprises (GSEs), and the Federal Housing Finance Agency (the GSEs' federal regu-