



IMF STAFF POSITION NOTE

November 11, 2010
SPN/10/18

Cross-Cutting Themes in Employment Experiences during the Crisis

Reginald Darius, Mwanza Nkusu, Alun Thomas, Athanasios Vamvakidis, Edouard Vidon, and Francis Vitek

INTERNATIONAL MONETARY FUND

Strategy, Policy, and Review Department

Cross-Cutting Themes in Employment Experiences during the Crisis

Prepared by Reginald Darius, Mwanza Nkusu, Alun Thomas, Athanasios Vamvakidis,
Edouard Vidon, and Francis Vitek

Authorized for distribution by Reza Moghadam

November 11, 2010

DISCLAIMER: The views expressed herein are those of the author(s) and should not be attributed to the IMF, its Executive Board, or its management.

JEL Classification Numbers: E2, E24, E6, J6, J8

Keywords: Employment; recessions; labor markets

Authors' e-mail addresses: TBayoumi@imf.org, RDarius@imf.org,
MMuhleisen@imf.org, MNkusu@imf.org,
AThomas@imf.org, AVamvakidis@imf.org,
EVIDon@imf.org, and FVitek@imf.org

CONTENTS	PAGE
Executive Summary	4
I. Introduction	5
II. The Facts	6
A. Country-Specific Shocks	6
B. Policy Responses.....	9
C. Labor Market Outcomes.....	12
III. Modeling and Explaining Dispersed Labor Market Outcomes and Assessing Policy Responses.....	16
IV. Key Conclusions and Policy Implications.....	21
References.....	22
 Tables	
1. Employment Growth Across Industries.....	6
2. Active Labor Market Policies during the Crisis	9
 Figures	
1. Changes in the Unemployment Rate and the Output Gap, OECD Economies, 2006–09 versus Past Crises	5
2. Output Growth Decompositions, 2000–10	7
3. Fiscal and Monetary Policy During the Crisis (2008–09).....	9
4. Annual Average Stock of Employees Participating in Short-Time Work Schedules.....	11
5. Trends in Selected Labor Market Indicators.....	13
6. Hours Worked and Real Hourly Earnings per Employee and Share of Temporary Employment	14
7. Change in Labor Force Participation Rates in Different Age Groups, 2006–09	15
8. Change in Real Effective Exchange Rate, 2007–09	16
9. Output and Unemployment Gaps: WEO and Estimates from an Unobserved Components Model.....	17
 Boxes	
1. Active Labor Market Policies Introduced in Response to the Recent Crisis.....	10
2. Shaping Labor Markets Outcomes: Institutions, Country-Specific Shocks and Policy Responses	20

EXECUTIVE SUMMARY

The human cost of the recent global crisis is reflected in its impact on the labor market.

Explaining why economies with similar downturns had very different employment trends can help in the design of policies to reduce such costs and improve labor markets.

This paper analyzes the recent employment experiences of six economies: Germany, Korea, Mexico, New Zealand, Spain, and Sweden. These economies represent a wide range of labor market institutions, policy responses, and outcomes to the crisis.

The divergence of labor market outcomes and of the effectiveness of policies during the crisis can be explained by the interaction between the nature of the shocks and differences in the structure and institutions of each country's economy. The worst job losses compared to the drop in output followed permanent shocks, particularly in dual labor markets and in the presence of wage rigidities. Policies to avoid job cuts were much more effective when they were well-targeted and responded to temporary shocks. In contrast, policies to facilitate labor movements were more appropriate following permanent shocks.

The analysis suggests a number of policy implications:

- *Policies to support employment are justified during severe downturns but have to be tailored to the expected duration of the shock and the institutions in place.*
- *Policies are also justified to avoid an increase in long-term unemployment and a drop in labor force participation during severe downturns.*
- *Reforms to reduce employment protection gaps in dual labor markets could lead to smoother labor market adjustments, both by avoiding strict protection for regular contracts and abuse of temporary employees.*
- *Wage-setting mechanisms work best when they allow for adjustment via centralized coordination for economy-wide shocks and firm-level bargains for specific ones.*
- *Crisis-driven labor market policies should give way to broader structural reforms in the medium term.*

I. INTRODUCTION¹

The human cost of the recent global crisis is reflected in its impact on the labor market. With 210 million people currently out of work worldwide, official unemployment has reached its highest level in history. The human impact in terms of persistent loss of earnings, skill erosion, and reduced life expectancy can be substantial.² Understanding the different labor market experiences of countries during the crisis can help design better policies to reduce some of these costs and improve labor markets looking forward.

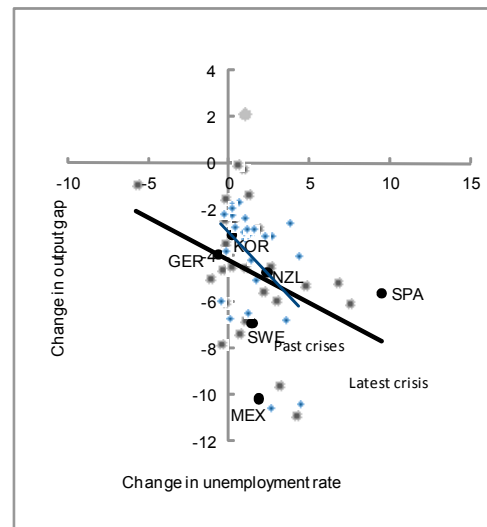
The dispersion of labor market outcomes for a given drop in output has been much larger in this crisis than earlier ones

(Figure 1). The degree of output contractions during the crisis differed considerably and so did the increase in countries' unemployment rates. However, labor market responses this time around have been larger than in the past and deviated far more from an estimated negative relationship between the severity of the recession and the increase in unemployment.³ As economies with similar downturns had very different labor market outcomes, the collapse of growth during the crisis cannot fully explain the differences in labor market performance.

To look into the role labor market policies have played in this outcome, this note analyzes the experiences of six economies: Germany, Korea, Mexico, New Zealand, Spain, and Sweden. These economies were hit by different shocks and experienced

various ranges of contraction during the crisis. Spain had the worst employment performance among OECD economies during the crisis, while Germany had the best. Furthermore, Spain was hit primarily by domestic shocks, whereas Germany by external shocks. The other countries represent interesting cases between these two extremes: New Zealand as an

Figure 1. Changes in the Unemployment Rate and the Output Gap, OECD Economies, 2006–09 versus Past Crises



Sources: IMF, World Economic Outlook; OECD, and author's calculations.

¹This Staff Position Note summarizes the key results of an IMF Board paper prepared by a team comprising Reginald Darius, Mwanza Nkusu, Alun Thomas, Edouard Vidon, and Francis Vitek, led by Athanasios Vamvakidis under the supervision of Tamim Bayoumi and Martin Mühleisen. Tola Oni provided able research assistance. For more details see IMF (2010a). The note also reflects key insights from discussions with the authorities in all six economies.

²The human costs of the job crisis following the global financial crisis and policies to address them were analyzed during a Joint ILO-IMF Conference in Oslo, Norway (September 13, 2010). For details see Dao and Loungani (2010).

³Past crises are defined as in IMF (2010b).

advanced economy that was hit by multiple external shocks; Mexico as an emerging economy that was also hit by multiple external shocks; Korea as a case of a fast recovery following external shocks; and Sweden as a case of financial sector external shocks.⁴

The selected countries represent a large range of institutions.⁵ New Zealand has the least regulated labor market, Spain and Mexico the most regulated. Germany, Korea and Sweden are in between. Employment protection is relatively strict in Spain and Mexico, but rigid permanent employment coexists with flexible temporary employment in the former, while rigid formal employment coexists with flexible informal employment in the latter. Wage setting mechanisms are the most rigid in Spain.

II. THE FACTS

A. Country-Specific Shocks

Although the recent crisis was global, its impact on countries differed substantially and was transmitted through different channels. External demand declined throughout, as trading partner growth collapsed. However, the crisis-induced collapses in asset prices and trade flows reduced domestic and external demand to varying degrees across different countries (Figure 2). In some cases, the shocks took primarily the form of substantial output drops in specific domestic sectors (Table 1) and were often perceived as permanent changes (particularly in construction), while in others it reflected more temporary drops in domestic or external demand for easily postponed purchases—investment goods and consumer durables.

Table 1. Employment Growth Across Industries 1/ (In percent per annum)

	Agriculture	Industry (non-manuf.)	Industry (manufacturing)	Construction	Trade	Finance and Real Estate	Other Services
OECD							
2000-09	-1.4	0.4	-0.8	2.1	1.4	3.2	2.0
2009	-2.1	-1.2	-6.1	-7.1	-2.2	-2.1	1.4
Germany							
2000-09	-1.1	-2.4	-0.6	-2.9	0.5	2.8	1.0
2009	0.6	-2.0	-2.8	0.3	0.3	-1.2	2.0
Korea							
2000-09	-3.4	3.6	0.1	4.5	0.3	5.7	4.9
2009	-2.7	5.7	-6.2	-3.4	-5.2	-5.8	14.6
Mexico							
2000-09	-3.1	2.9	0.2	3.4	4.6	6.9	1.4
2009	3.1	-2.8	-9.7	-10.1	-1.1	-1.5	2.8
New Zealand							
2000-09	0.3	2.7	0.2	5.8	2.0	4.1	2.2
2009	-21.2	6.7	-7.6	-7.7	-1.3	-0.1	3.4
Spain							
2000-09	-1.8	8.0	0.2	4.4	3.7	5.7	3.2
2009	-3.4	7.8	-15.9	-26.4	-6.2	-4.2	1.6
Sweden							
2000-09	-2.5	0.6	-1.2	3.2	0.9	3.3	0.9
2009	-1.7	0.7	-10.6	-1.2	-1.5	1.5	-0.6

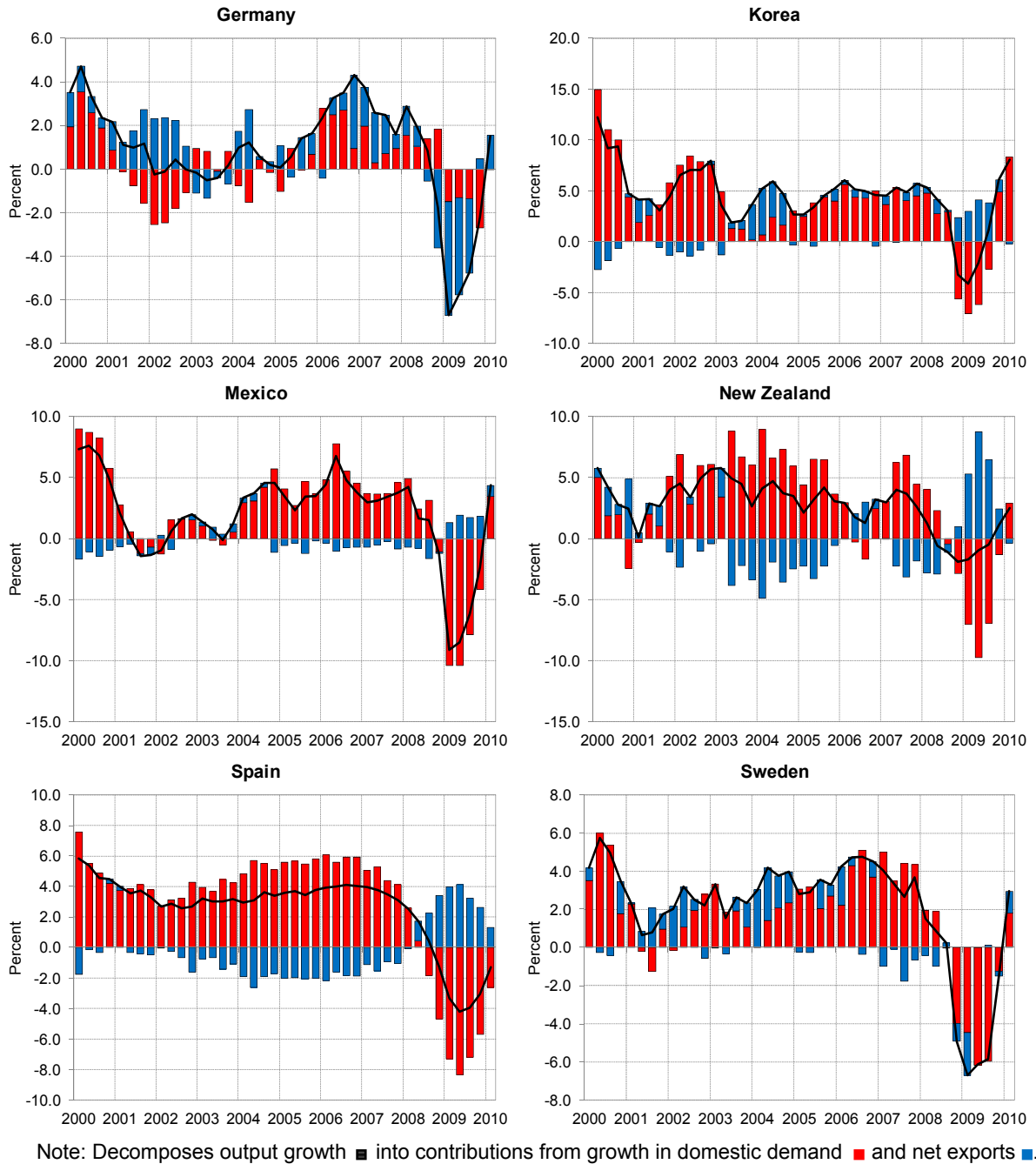
Notes: 1/ Bold values indicate significance at the 5 percent level relative to the aggregate industry averages. Source: OECD and Fund staff calculations.

⁴While Spain and Germany are obvious candidates to study, representing both ends of the distribution of labor market outcomes, Mexico is a unique case, given its high exposure to the U.S. economy. Korea, New Zealand and Sweden are representative cases, in terms of both the shocks that they experienced during the crisis and the shock absorbing mechanisms. The findings of this note may not necessarily apply to lower-income economies.

⁵International comparisons of labor market institutions are subject to a number of caveats. Survey-based evidence may be affected by ideological priors, while labor market outcomes may be only partly driven by institutions. Moreover, different indicators can give conflicting results. To address these issues, the above assessment reflects a variety of indicators from alternative sources, including: OECD Going for Growth; the World Economic Forum Global Competitiveness Report (WEF); and the Economic Freedom of the World Report of the Fraser Institute (IEF).

Figure 2. Output Growth Decompositions, 2000–10

During the crisis, external demand collapsed in Germany, while domestic demand collapsed in Spain, with the other countries in between.



Sources: WEO and Fund staff calculations.

In this context, country experiences during the crisis can be separated into permanent (persistent) and temporary shocks. Permanent shocks were represented by the bursting of property bubbles and the required adjustment of over-extended balance sheets, while temporary shocks reflected the collapse of external demand and external financing constraints. The former is most evident in employment in construction, while the latter mainly affected employment in manufacturing (see Table 1).

- **Germany, Korea, New Zealand and Sweden were hit by temporary external shocks, which, however, affected domestic demand differently.**
 - *In Germany*, the collapse in world demand for manufactured goods, in particular consumer durable and business capital goods, caused a contraction in export demand. Domestic demand was much less affected.
 - *In Korea*, capital outflows associated with the global flight to quality resulted in sharply lower asset prices and initial dislocations in money markets. Moreover, exports collapsed, which quickly spilled over to domestic demand.
 - *In New Zealand*, the collapse of world commodity prices (which exacerbated an earlier drought) led to a substantial drop in agricultural employment, while tighter bank credit as risk adverse foreign lenders unwound carry trade positions reduced private consumption and investment demand.⁶
 - *In Sweden*, concentrated exposures of domestic commercial banks to troubled emerging economies forced credit tightening, reducing private consumption and investment demand, while the collapse in world demand for manufactured goods caused a contraction in export demand and a substantial drop in manufacturing employment.
- **Mexico was hit by multiple external shocks, some of which could prove persistent, depending on the recovery of the U.S. economy.** The most severe shock was in manufacturing and was caused by the U.S. recession. The collapse of world commodity prices, in particular the price of oil, and credit tightening by distressed foreign owned commercial banks magnified the impact of the crisis. External demand dropped substantially, but private consumption and investment demand also contracted.
- **Spain was primarily hit by domestic and permanent shocks.** The bursting of a property price bubble and the credit tightening that followed caused a contraction in private consumption and investment demand.

⁶ New Zealand's share of employment in agriculture was about 7 percent before the crisis.

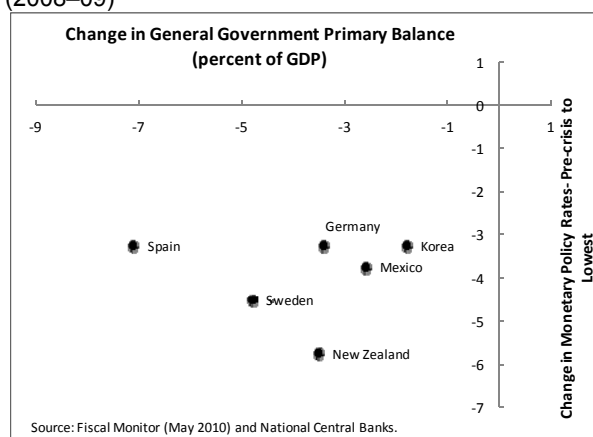
B. Policy Responses

To their credit, countries responded to the crisis with extraordinary policy measures to shield the labor market. The fear of a global recession turning into a great depression focused policy minds and often led to “out of the box” policy actions.

Macroeconomic policies were strongly supportive across the board during the crisis.

Extraordinary monetary policy support was implemented as policy rates were cut dramatically (by similar magnitudes, albeit from different starting points) and fiscal deficits increased in all countries (Figure 3). The fiscal response was largest in the European economies, partly reflecting automatic stabilizers. In Mexico, a strong starting position allowed the government to increase spending in infrastructure investment to stimulate the economy. Korea, which had the smallest fiscal expansion, was the only country in the sample to maintain a primary surplus.⁷

Figure 3. Fiscal and Monetary Policy During the Crisis (2008–09)



All six countries introduced measures to support employment, particularly active labor market policies and, with Germany in the lead, short-time work schemes (see Table 2 and Box 1 for more details.)

Table 2. Active Labor Market Policies During the Crisis

		Germany	Korea	Mexico	New Zealand	Spain	Sweden
Labor demand	Job subsidies, hiring incentives, or PWP ¹		X	X		X	X
	Reduction in non-wage labor costs	X		X	X	X	X
	Short-term work schemes	X	X	X	X		
Measures to help unemployed find work	Activation requirements		X				
	Job search assistance and matching	X	X	X	X	X	X
	Job-finding and business start-up incentives		X	X		X	
	Work experience programs		X		X		X
	Training programs	X	X	X	X	X	X
Other training measures	Training for existing workers	X		X		X	X
	Apprenticeship				X		

Source: OECD.

Note. Measures covered refer only to federal government initiatives. PWP is public work programs. The check marks suggest that discretionary actions were taken in the particular area of ALMP with no indication of the intensity of the actions.

⁷The fiscal data in Figure 3 are on a GFS2001 basis, which could give different results for some countries (such as Korea) than data on a GFS1986 basis, as policy lending is excluded in the former. The data for Korea covers only the central government.

Box 1. Active Labor Market Policies Introduced in Response to the Recent Crisis

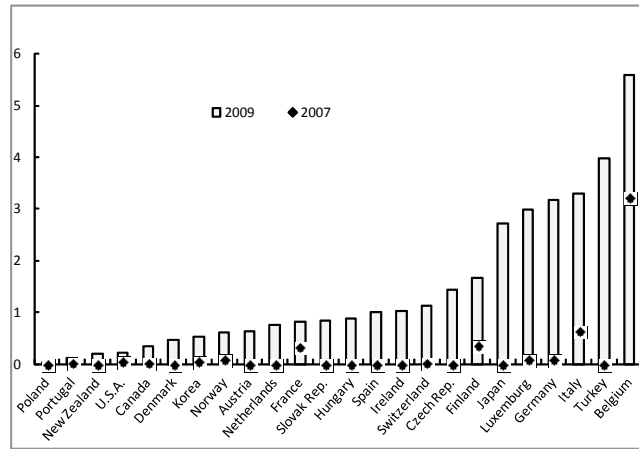
All six economies in the sample have implemented active labor market policies following the crisis that fall into two broad categories: measures to sustain labor demand; and measures to improve employment prospects. This box lists these measures by country.¹

1. **Policies to sustain labor demand include public work programs (PWP), job creation subsidies, reduction of nonwage labor costs, and funding for short-time work (STW) schemes.**
 - **Germany:** (i) reduction in 2009-10 of employer and employees unemployment insurance contribution rates; (ii) easing of the eligibility for STW schemes by simplifying procedures; (iii) extension of allowance for STW to temporary agencies' workers up to end-2010; (iv) extension of the maximum duration of STW from 6 months to 2 years; and (v) new subsidized training for STW.
 - **Korea:** (i) temporary expansion of public sector job creation schemes; (ii) youth internship program for small and medium-size enterprises with wage subsidies for hiring interns at the end of the internship; (iii) easing of the eligibility for STW schemes by reducing the proportion of workers to be reassigned and the minimum training hours to be eligible for STW subsidy; and (iv) increased employer subsidy for STW.
 - **Mexico:** (i) partial reimbursement of employer social contributions for new employees registered for social security in 2009; (ii) broadening of the temporary PWP to cover all municipalities; (iii) a 50 percent increase in the allowed maximum number of days for temporary work; and (iv) temporary introduction of STW subsidies to support working hours' reductions negotiated by social partners.
 - **New Zealand:** (i) permanent reduction in mandatory employer retirement savings contribution and reduction in employee minimum contribution—also motivated by concerns about cost-effectiveness of the savings incentives; and (ii) introduction of a temporary job scheme to support voluntary working hour reductions negotiated between social partners in some sectors.
 - **Spain:** (i) reduction in employer social contribution for the first two years for new employees; (ii) reduction of social contributions for youth and the disabled who start up businesses; (iii) funding for PWPs; and (iii) extension of subsidies for hiring part-time workers to those on STW schemes.
 - **Sweden:** (i) deferment of two months of employer 2009 social security contributions and taxes until January 2011; and (ii) permanent increase in hiring subsidy for recruitment of newly-arrived immigrants and those who have been unemployed or sick for more than a year. Shortened qualification period for hiring subsidy from one year to six months for elderly unemployed.
2. **Policies to improve employment prospects for existing workers and those out of work**
 - **Germany:** (i) additional public employment services (PES) staffing to improve job search assistance; and (ii) increased funding for training, including for the unemployed.
 - **Korea:** (i) increase in PES staffing and expanded use of private employment agencies; and (ii) increased funding for expansion of training places for the unemployed.
 - **Mexico:** increased funding for PES, including job search assistance and job matching.
 - **New Zealand:** (i) redeployment of PES staff to increase job search assistance; (ii) partnerships with employers to provide training and job placement for low-skilled youth; and (iii) jobs and youth opportunities programs (wage subsidies and training for youth at risk of long-term unemployment).
 - **Spain:** increased funding for PES for job search assistance, training, and vocational education.
 - **Sweden:** (i) increased resources for PES to expand job search assistance; (ii) increase in the number of job placement schemes for the unemployed, (iii) funding for practical skills development for the unemployed with previous experience and increased financial aid for those who start training, and (iv) temporary regular education and training initiatives (adult vocational training/adult education, vocational colleges and universities and colleges).

¹For more details, see OECD (2009).

- The use of short-time work schemes aimed at preserving human capital varied substantially (Figure 4). These schemes operated through subsidies to firms for parts of the wage bill, sometimes combined with support for on-the-job training for employees (e.g., Sweden). In Germany, where coverage of already existing schemes and the duration of benefits and subsidies were extended, participation was substantial, following firm-level agreement between management and work councils.⁸ Elsewhere, participation in such schemes was more limited.⁹

Figure 4. Annual Average Stock of Employees Participating in Short-Time Work Schedules (as percentage of all employees)



Source: OECD Employment Outlook, 2010.

Note: until 2009 Q3 for Austria and the Netherlands; August 2009 for Portugal and Spain; September 2009 for the Slovak Republic; and October 2009 for Luxembourg and New Zealand.

- Some countries focused on preserving labor force participation and avoiding an increase in long-term unemployment. Korea, for example, introduced in 2009 a program of short-term employment in the public sector for older and long-term unemployed (“Hope Work Program”). Mexico also expanded existing programs for short-term public sector employment in infrastructure programs.¹⁰
- Sweden temporarily eased eligibility for unemployment benefits, while in Spain this was combined with a permanently increased duration. New Zealand increased social assistance for the unemployed.
- Training and job matching programs were expanded in all countries.

⁸Short-time work schemes existed in Germany long before the recent crisis, but were made more generous in 2008–09, reaching 1.5 million workers at their peak. The government provided up to 67 percent of former net wages to employees who had agreed with their employers to cut working hours, partially or completely, for up to 2 years (extended from 6 months initially). Although such schemes subsidized labor hoarding, they did not eliminate costs to firms, thus providing an incentive for firms to exit if/when the shock threatened to last longer.

⁹Korea also used short-time work schemes—with the government temporarily subsidizing up to 70 percent of the wages of redundant workers retained by firms. Authorities’ data suggest that in Mexico about 250,000 workers benefited from such schemes in 2009.

¹⁰In 2009, such programs benefited up to 250,000 people in Korea and 700,000 people in Mexico, according to the authorities’ data.

C. Labor Market Outcomes

Employment trends varied considerably during the crisis (Figure 5). Employment dropped the most in Spain, while it remained almost flat in Germany and has already recovered to pre-crisis levels in Korea and Mexico. The unemployment rate rose substantially in Spain, while it declined slightly in Germany. It increased in all other countries, although considerably less than in Spain and from much lower levels.

These employment trends are partly explained by the extent to which hours worked adjusted downward (Figure 6, panel a). As demand collapsed, hours worked per person dropped in most countries, which helped avoid excessive job losses.¹¹ The drop was more pronounced in Germany, Korea and New Zealand. In Germany, the drop in hours worked reflected labor market policy schemes (as discussed above), while in New Zealand it followed primarily firm-level agreements between employers and employees, with Korea an intermediate case, depending on the sector.^{12,13} Spain was the only country in which hours worked per worker increased, despite government subsidies for short-time work programs.

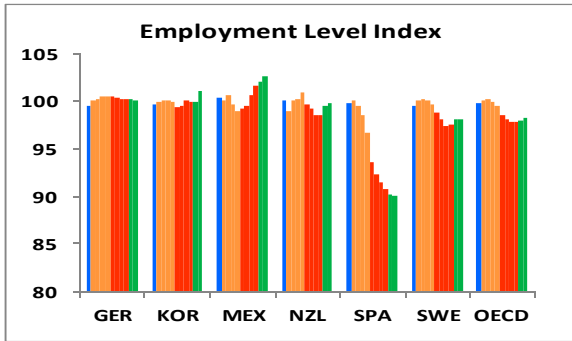
¹¹There was already a downward trend of hours worked before the crisis, because of increasing female labor force participation and, in some cases, part-time employment.

¹²Although the government in New Zealand introduced a scheme to reduce working hours, it was hardly used in practice. Flexible labor markets and a tradition of firm-level negotiations and excellent relations between social partners led to agreements relatively early in the crisis to reduce working hours, in order to avoid severe job losses during what was expected to be a temporary downturn. The government's role was primarily limited to moral suasion on the need to reduce labor costs without employment cuts—including during a job summit in early 2009, which also helped coordinate social partners.

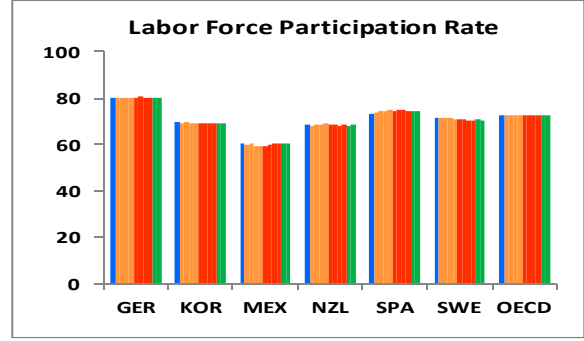
¹³According to authorities' estimates, the reduction of working hours in Germany is explained as follows: depletion of working time accounts about 30 percent; short-time work and the lowering of regular working time by one-quarter each; and the reduction of overtime work by approximately one-fifth.

Figure 5. Trends in Selected Labor Market Indicators: Quarterly Data, 2007Q4–2010Q2

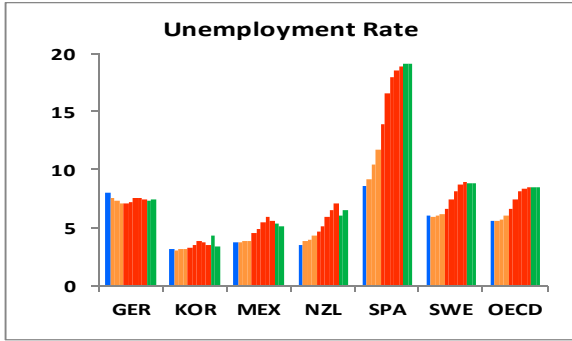
Employment trends varied considerably during the crisis.



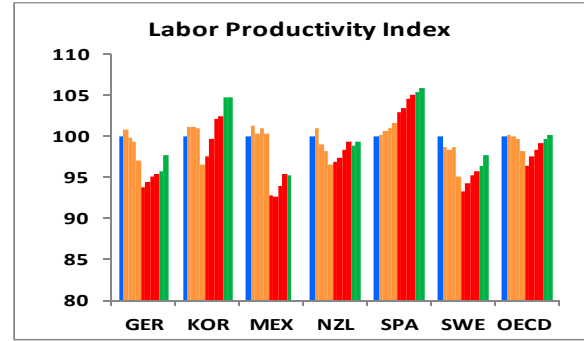
Trends in labor force participation were more similar across countries, with overall participation remaining broadly flat.



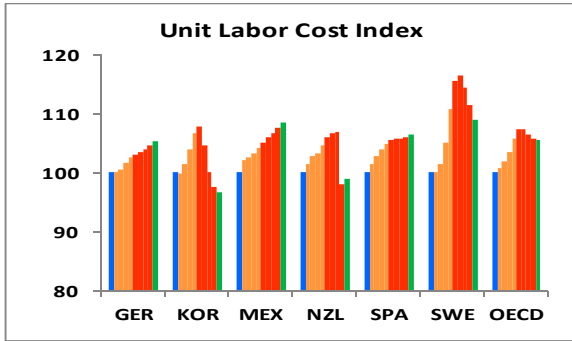
With stable labor force participation rates, unemployment trends reflected mostly changes in employment.



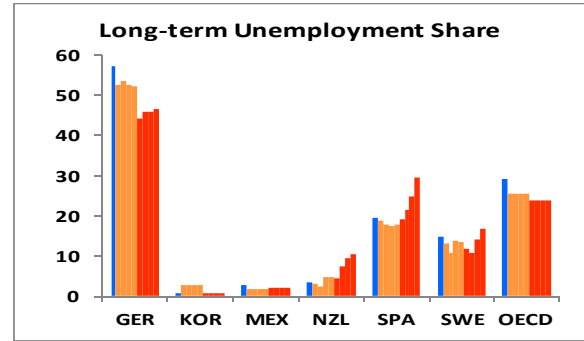
Labor hoarding and the collapse in output led to a drop in labor productivity...



...and an increase in unit labor costs.



It is still too early to determine the full response of long-term unemployment to the crisis.



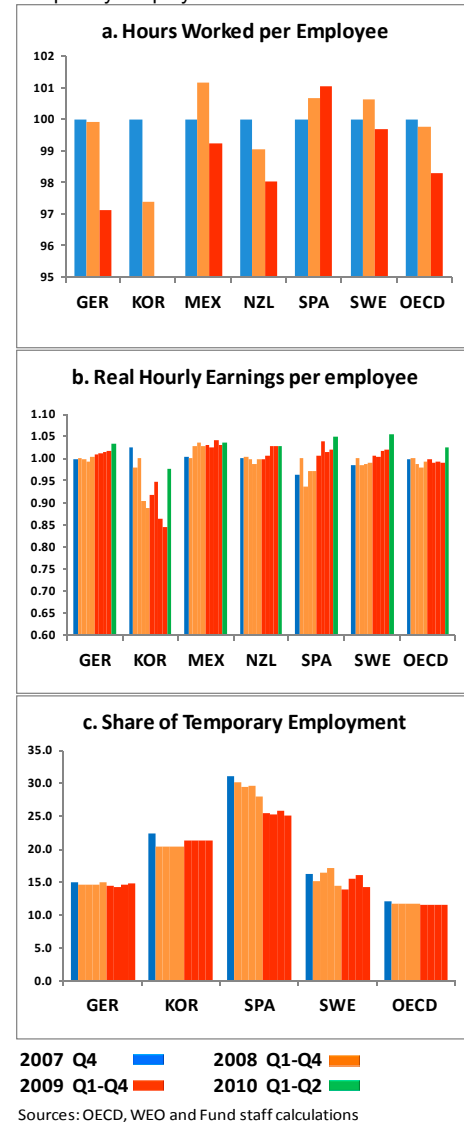
2007 Q4 ■ 2008 Q1-Q4 ■ 2009 Q1-Q4 ■ 2010 Q1-Q2 ■

Sources: OECD, WEO, and IMF staff calculations.

Restraining wages could have also played a key role (Figure 6, panel b).¹⁴ Korea showed exceptional downward wage flexibility. In contrast, wages rose in Spain despite the severity of the recession, driven by backward and asymmetric wage indexation in 2009, in response to the pre-crisis oil price shock, and rigidities resulting from an intermediate (industry-level) wage bargaining system.¹⁵ Real wages were kept broadly constant during the crisis in the other economies—but have started rising more recently. However, downward flexibility may have been obscured in some cases by compositional effects.¹⁶

In countries with a large share of temporary employment, such contracts absorbed most of the shocks (Figure 6, panel c). This was particularly the case in Spain, where the share of temporary employment was the highest and fell the most. Although such contracts may have allowed a fast adjustment in sectors hit by permanent shocks, they also led to large overall employment losses by reducing the role of other shock absorbing mechanisms. The large disparity between regular and temporary contracts turned the latter into the weak link of the labor market during the crisis. Temporary employment also fell in Korea and Sweden, although from lower levels.¹⁷

Figure 6. Hours Worked and Real Hourly Earnings per Employee and Share of Temporary Employment



¹⁴Although it does not apply in the countries under consideration, wage moderation may not always be desirable in the presence of deflationary pressures.

¹⁵Spain's asymmetric wage indexation formula explains why wages did not fall in response to lower oil prices at the peak of the crisis. However, public sector wages have recently been reduced by 5 percent, which could also affect private sector wage settlements.

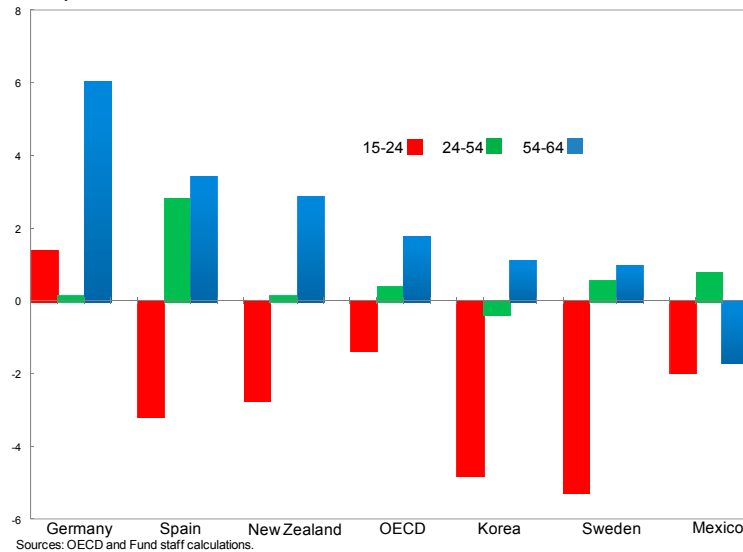
¹⁶In New Zealand, the authorities' analysis suggests that the actual wage adjustment has been larger than that implied by simple averages, because the share of employment in industries with relatively high wages has increased. In addition, to the extent that less productive employees are fired first during a downturn, changes in average wages may reflect composition changes in terms of productivity.

¹⁷Authorities' estimates suggest that about 80 percent of the jobs lost in Spain during the crisis have been for temporary contracts. Although Korea's pre-crisis share of temporary employment and its adjustment during the crisis were smaller, authorities' estimates suggest that almost all job losses were for temporary employees.

Labor force participation has been broadly flat across all countries, but the composition of the labor force has been changing (Figure 7).

- Although labor force participation is usually weakly procyclical, this has not been the case during this crisis. Labor force participation has remained broadly flat in most

Figure 7. Change in Labor Force Participation Rates in Different Age Groups, 2006–09



countries, with the exceptions of Germany and Spain, where it has slightly increased.

- Labor force participation has increased for the old and dropped for the young, broadly offsetting each other. Older people may have postponed retirement as the value of their pension funds declined, or may have rejoined the labor market to take advantage of crisis-driven government programs to reduce long-term unemployment.¹⁸ Younger people may have been discouraged from entering the labor market, or simply gone back to school—clearly, the two have opposite implications for human capital accumulation.¹⁹ Exceptions are Germany, where labor force participation increased for all age groups, and Mexico, where labor force participation declined for both the young and the old, but increased for the other groups.

Labor hoarding and the collapse in output led to a drop in labor productivity and an increase in unit labor costs. Overall labor productivity fell across the board at the onset of the crisis, although it has recovered since then in some cases. Manufacturing unit labor costs increased in most countries, and particularly in Sweden, followed by Mexico; they have more than recovered in Korea and New Zealand.

¹⁸ Labor force participation for people older than 55 was also increasing before the crisis in most OECD economies, most likely because of fast economic growth, but also improving health conditions and pension reforms.

¹⁹ In New Zealand, authorities' data suggest that studying accounted for about 72 percent of people between 15 to 24 years old who were not in the labor force.

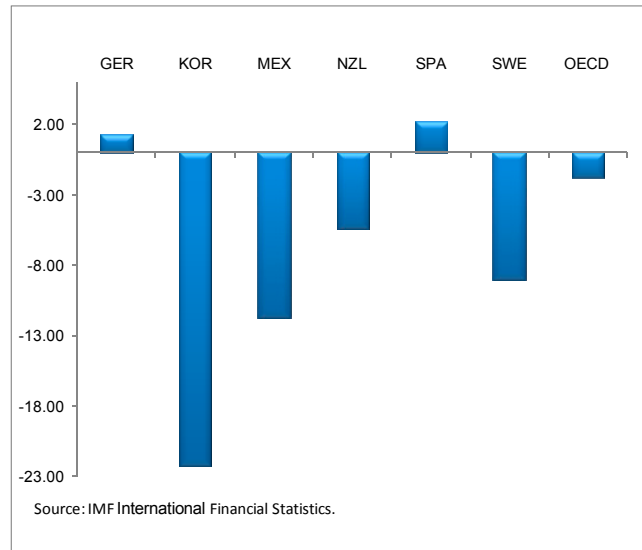
In some cases, exchange rate flexibility and migration flows may have helped absorb the shocks to the labor market

(Figure 8). The exchange rate may have helped absorb shocks in Korea, Mexico, New Zealand and Sweden, where a depreciation took place in real effective terms. In New Zealand, outflows of workers abroad early in the crisis may have reduced the impact of the downturn on unemployment.²⁰

It is still too early to determine the full response of long-term unemployment to the crisis. The

share of long-term unemployment usually falls at the beginning of a recession, as layoffs increase the share of the newly unemployed. However, it eventually increases if the economy fails to start creating new jobs soon. Indeed, Spain seems to have already entered the second phase of this cycle. A similar but less pronounced cycle may be taking place in Sweden and in New Zealand. In contrast, the share of long-term unemployment has fallen in Germany, although from a high level.

Figure 8. Change in Real Effective Exchange Rate, 2007–09



III. MODELING AND EXPLAINING DISPERSED LABOR MARKET OUTCOMES AND ASSESSING POLICY RESPONSES

The analysis helps explain the heterogeneous employment outcomes across countries for given output drops and labor market policies. To a large extent, employment outcomes reflect the choice of labor market adjustment to the negative aggregate demand shock between employment shedding and hours reduction. Institutions and the composition and expected duration of the aggregate demand shock determined this choice. The analysis broadly yields the following results, which are explained in detail further below²¹:

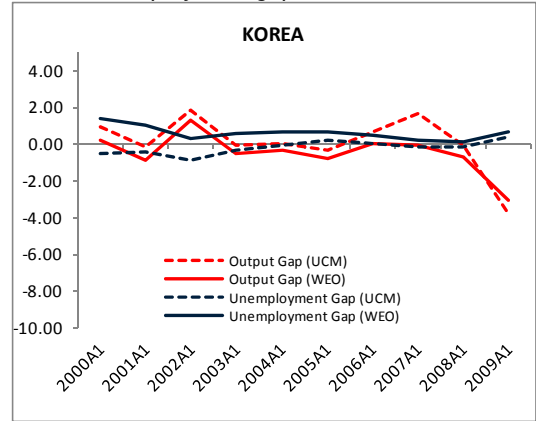
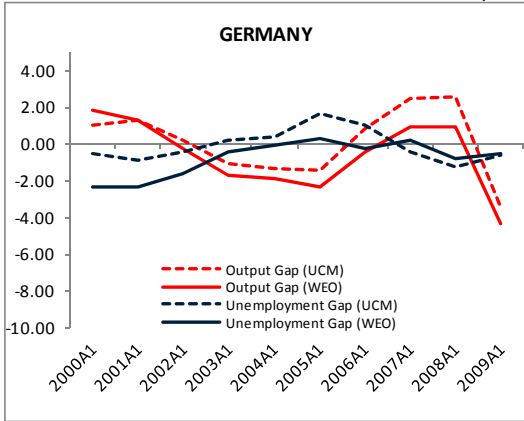
- Estimates from an unobserved components model confirm the substantial cross-country variation in labor market performance during the recent crisis (Figure 9). Consistent with WEO estimates, output gaps dropped across the board, particularly in Mexico and Spain, while unemployment gaps increased. However, the ratio of the

²⁰ Although migration to the U.S. helped stabilize Mexico's labor market in past downturns, information provided by the authorities suggests that this was not the case during this crisis.

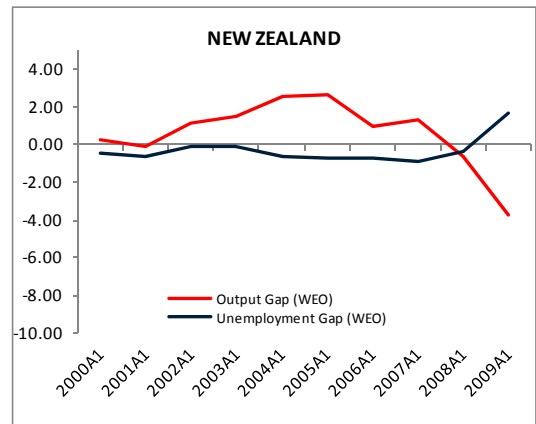
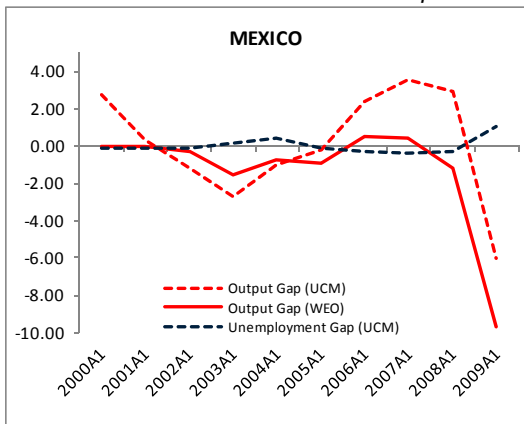
²¹ For the specifications and detailed results see IMF (2010a).

Figure 9. Output and Unemployment Gaps: WEO and Estimates from an Unobserved Components Model (In percent)

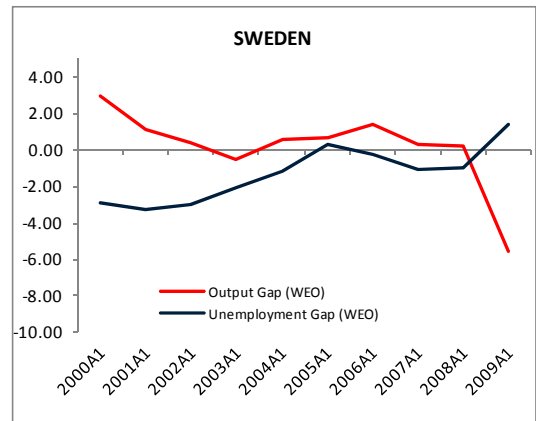
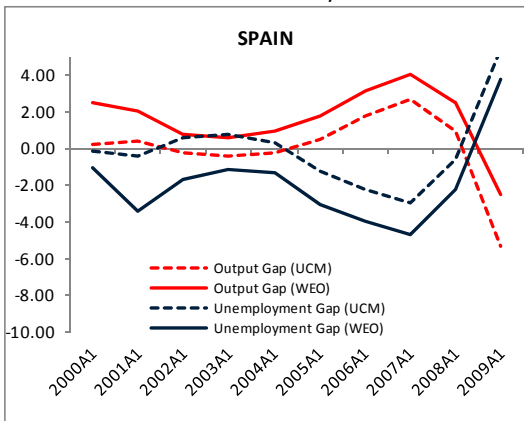
In Germany, the unemployment and output gaps have become asynchronous during the recent cycle while in Korea there has been some upward movement in the unemployment gap.



In Mexico, the movement in the unemployment gap is much less than expected given the change in the output gap, while the relationship is more consistent with Okun's law in New Zealand.



The strongest relationship between the unemployment gap and the output gap is in Spain, while the recent experience in Sweden is comparable to New Zealand's.



Sources: WEO and IMF staff calculations.

unemployment gap to the output gap varies substantially, from close to 1 in Spain, to slightly negative in Germany.

- Estimates from an econometric model suggest that unemployment has behaved broadly in line with what would have been expected based on the size of the shock, the institutions in place, and labor market policies.²²
- Empirical evidence using one-digit industry data confirms the link between employment growth and shock absorbing mechanisms that were activated during the crisis, such as adjustment in labor costs, active labor market policies, and changes in the exchange rate.

The role of sectoral shocks is key for understanding how labor market policies affected labor market outcomes. Taking Spain and Germany as examples, econometric results using country level data and model decompositions cannot fully explain Spain's large unemployment increase and Germany's unemployment drop, despite the introduction of relatively similar labor market policies and the presence of labor market rigidities (less so in Germany) in both countries. However, analysis of industry level data suggests that this difference in labor market outcomes is to a large extent explained by sectoral and permanent shocks in Spain—particularly the large drop in employment in construction, where the share of temporary employment is relatively high—and labor hoarding in response to external but temporary shocks in Germany.

Discussions with the authorities suggest that in countries where the crisis primarily took the form of permanent shocks, only active labor market policies that focused on helping the unemployed find new jobs were effective. This was especially the case when the lost jobs were in sectors that had experienced pre-crisis bubbles and, therefore, were not expected to return. In contrast, in countries where the impact of the crisis was primarily from external shocks that were perceived to be temporary, schemes to retain employment and avoid large sectoral adjustments, including by reducing working hours, proved to be the most effective. In some countries, such a reduction in working hours was facilitated by state intervention, while in others—with relatively flexible labor markets—it followed agreements between employers and employees.

Analysis also suggests that the effectiveness of labor market policies depended on the institutions in place. The estimates from the unobserved components model suggest that countercyclical labor market institutions or policies seem to have offset the transmission of supply shocks to the labor market in most countries, except in Spain. In Spain, domestic labor demand shocks have tended to amplify cyclical fluctuations, suggesting procyclical labor market institutions—for example, the prevalence of temporary employment contracts and wage rigidities—despite the strengthening of active labor market policies during the crisis.

²²These results are consistent with the findings in IMF (2010c).

These results suggest that country-specific shocks during the crisis interacted with existing labor market institutions and policy responses to determine the split between job losses and compression of hours (see Box 2 for a discussion by country.)

- Countries where the crisis primarily took the form of permanent shocks—particularly Spain—had worse employment outcomes. This was especially the case when the lost jobs were in sectors that had experienced pre-crisis bubbles and were not expected to bounce back. In such economies, labor market rigidities became binding. Employment fell regardless of labor market policies, particularly for temporary and/or informal employment, which represented the only flexible parts of the labor market. More recently, active labor market policies in such countries have tried to focus on promoting the sectoral reallocation of labor, which could prove more effective.
- Employment outcomes were better in countries where the crisis primarily took the form of temporary external shocks. This was the case in flexible labor markets that allowed the operation of multiple shock absorbing mechanisms—New Zealand—but also in more rigid labor markets that introduced well-designed policies to support employment—particularly Germany. In such cases, schemes to retain employment and avoid large sectoral adjustments were effective. Labor hoarding and a reduction in working hours was facilitated by state intervention, particularly in the presence of labor market rigidities. However, expectations that the shocks would not be persistent also facilitated cooperation among social partners to avoid unnecessary job cuts and restrain wages, which in some cases offset existing rigidities.

Looking forward, concerns over the loss of human capital following a severe crisis may be well-founded and could justify policy intervention. As recoveries do not necessarily create jobs for the long-term unemployed, policy intervention can be effective and help avoid an increase in long-term unemployment (see Dao and Loungani, 2010.) Well-targeted labor market policies, such as short-time work and hiring subsidies, can serve such a purpose. However, the above discussion suggests that such policies should be designed to address country-specific shocks, helping retain jobs following temporary shocks, but supporting sectoral employment movements following permanent shocks.

Some countries also seem to be shifting their focus from crisis-response to more fundamental reforms, which could support the labor market in the medium term and promote a more efficient adjustment to future shocks. Indeed, most labor market policies introduced during the crisis were temporary, and have or are about to expire to avoid creating distortions. Spain has adopted labor market reforms that are expected to reduce the dualism in its labor market and remove some of its wage-setting rigidities. And Mexico is currently discussing a proposal for labor market reforms that, if implemented, could bring more flexibility by increasing the number of available contracts and improving the link of wages and promotions to productivity.

Box 2. Shaping Labor Markets Outcomes: Institutions, Country-Specific Shocks and Policy Responses

The labor market outcomes in each country during the recent crisis were determined by the interaction of the country-specific shocks with labor market institutions and policies. The key factor in this interaction was the perceived duration of the country-specific shocks.

- In *Spain*, the shock was domestic, sectoral, and persistent, while the labor market was segmented and rigid; hence, the market adjusted primarily through reductions in temporary employment. Strict employment protection for regular employees, backward and asymmetric wage indexation, and an industry-level wage bargaining system that was not conducive to shock absorption did not allow for other adjustment channels. Labor market policies in response to the crisis proved to be ineffective. Thus, the high share of temporary contracts, particularly in construction, proved to be the labor market's weak link. The drop in employment was substantially more pronounced than the OECD average, particularly in construction and manufacturing.
- In *Germany*, the severe external shock associated with the collapse in world demand for manufactured goods was perceived to be temporary. Policies were well-targeted and focused on avoiding job losses and unnecessary labor market volatility. A key strategy was to retain jobs through subsidizing a reduction in working hours, which seems to have shielded the labor market from the shock, particularly given the centralized wage bargaining system and relatively inflexible working arrangements before the crisis. Indeed, Germany is the only country in the sample where construction employment rose during the crisis, reversing the equally atypical decline in the pre-crisis period. It is also the only OECD economy where unemployment declined during the crisis.
- In *New Zealand*, the shock was external and perceived as temporary, but affected domestic demand substantially. A flexible labor market and a decentralized wage determination system allowed the activation of multiple shock absorbing mechanisms: wage restraint, declines in hours worked, some increase in unemployment, although from a low level, and exchange rate flexibility. Given a tradition of excellent cooperation between employers and employees, active labor market policies focused on improving the flow of information and matching the unemployed with potential job openings, while the reduction in working hours took place primarily through direct negotiations between social partners and firm-level agreements, without extensive use of government subsidies.
- In *Korea*, where the shock was external and temporary, labor markets are segmented but not very rigid, and wage determination is relatively decentralized, the market adjusted primarily through declines in real wages, hours worked and temporary employment cuts. The reduction in working hours took place through both government programs and direct negotiations between employers and employees, depending on the sector. A program to reduce long-term unemployment through short-term government job opportunities also proved effective during the downturn. Employment initially fell in most sectors, with the exception of nonmanufacturing industry and public sector employment, but has fully recovered more recently. In addition to macroeconomic policies and financial sector support measures, exchange rate flexibility may also have supported the economy at the onset of the crisis.
- *Sweden* was affected primarily by external shocks, through both the financial and real sectors. Concentrated exposures of domestic commercial banks to troubled emerging economies forced credit tightening, reducing private consumption and investment demand, while the collapse in world demand for manufactured goods caused a contraction in export demand and a substantial drop in manufacturing employment. Increased labor market flexibility following reforms in the last decade and labor market policies in response to the crisis muted the impact of these shocks. Labor hoarding by firms also played a role, as they expected the shocks to be temporary. Exchange rate flexibility may have also helped absorb the external shocks.
- *Mexico* was hit by multiple external shocks, most of which reflected strong real and financial linkages with the U.S. and were substantial compared with most key emerging market peers. The collapse of world commodity prices and credit tightening by distressed foreign owned commercial banks magnified the impact of the crisis. Mexico's labor market adjusted through a number of channels, but existing rigidities pushed part of the adjustment onto the informal sector—although, according to the authorities' analysis, not as much as in previous downturns. Active labor market policies were strengthened, but not to the same extent as in some of the more advanced economies. A weakening of the currency may have also acted as a shock absorber.

IV. KEY CONCLUSIONS AND POLICY IMPLICATIONS

Analysis of employment experiences in Germany, Korea, Mexico, New Zealand, Spain and Sweden during the recent crisis suggests a number of policy implications. Although drawing general lessons from country case studies is not always straightforward, particularly as the impact of the crisis on labor markets is ongoing in some cases, future studies could analyze these implications further.

- **Policies to support employment are justified during severe downturns but have to be tailored to the expected duration of the shock and the institutions in place.** During the recent crisis, schemes such as short-time work programs were effective following temporary shocks, but not following permanent shocks, as the latter required instead policies to facilitate sectoral labor movements. They were also less effective in the presence of severe wage rigidities, or in dual labor markets.
- **Policies are also justified to avoid an increase in long-term unemployment and a drop in labor force participation during severe downturns.** Such policies can avoid skill erosion and bring back into the labor force previously discouraged groups. Indeed, they may have helped increase labor force participation by older groups during the recent crisis. Training programs and incentives to go back to school could also avoid the loss of human capital arising from increased youth unemployment.
- **Reforms to reduce employment protection gaps in dual labor markets could lead to smoother labor market adjustments, both by avoiding strict protection for regular contracts and abuse of temporary employees.** Before the crisis, some economies encouraged temporary employment contracts that were not subject to the strict protection that applied to regular contracts. Although this led to fast employment growth, temporary contracts became the weak link of labor markets during the recent crisis, leading to large overall employment losses and reducing the role of other shock absorbing mechanisms.
- **Wage-setting mechanisms work best when allowing adjustment via centralized coordination for economy-wide shocks and firm-level bargains for specific ones.** Wage rigidities in the form of backward and asymmetric wage indexation and industry (intermediate) level wage bargaining became binding during the crisis, leading to worst employment outcomes.
- **Crisis-driven labor market policies should give way to broader structural reforms in the medium term.** In addition to macroeconomic policies to support aggregate demand, there is still scope for labor market policies early in the recovery. However, maintaining them over the medium term could lead to distortions. Instead, structural reforms that will make labor markets work better and improve the business environment could support sustainable output and employment growth.

References

- Dao, M., and P. Loungani, 2010, “The Human Cost of Recessions and Crises: Assessing It, Reducing It,” Background Paper for the IMF/ILO conference in Oslo, September 13, 2010.
- International Monetary Fund, 2010a, “Cross-Cutting Themes in Employment Experiences during the Crisis” (Washington).
- , 2010b, “The IMF-FSB Early Warning Exercise: Design and Methodological Toolkit” (Washington).
- , 2010c, “Unemployment Dynamics during Recessions and Recoveries: Okun's Law and Beyond,” in *World Economic Outlook*, April 2010, Chapter 3 (Washington).
- Organization for Economic Cooperation and Development (OECD), 2009, “Addressing the Labor Market Challenges of the Economic Downturn: A Summary of Country Responses to the OECD-EC Questionnaire,” background to the 2009 Edition of the *OECD Employment Outlook*.
- Vitek, F., 2010, “Output and Unemployment Dynamics during the Great Recession: A Panel Unobserved Components Analysis,” IMF Working Paper No. 10/185 (Washington: International Monetary Fund).