For better or for worse? Job and earnings mobility in nine middle-low-income countries: A comment

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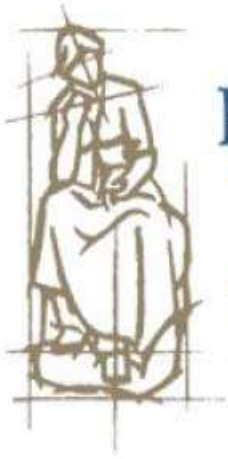

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For Better or for Worse? Job and Earnings Mobility in Nine Middle- and Low-Income Countries

Recent evidence suggests that most market economies show significant dynamism. Many firms are created and destroyed every year, and surviving firms undergo a continuous process of transformation.[1] As a result, a substantial number of jobs are created and destroyed, and an even larger number of workers change status in the labor market, moving across jobs, from employment to unemployment and back to employment, and also entering and exiting the labor market.[2] Large, if not even larger, rates of mobility are also observed in developing countries.[3]

As noted by Haltiwanger and others, one of the most controversial debates on institutional design and economic policy has been sparked around the trade-offs associated with labor mobility.[4] On the one hand, mobility may promote efficiency and growth if economic forces induce the reallocation of resources toward the most productive uses. On the other hand, high mobility may imply that workers are uncertain and have concerns about income security.

This paper summarizes the findings of a study by the same authors titled "Mobility between Formal and Informal Jobs: Evidence from Transition and Latin American Countries."

1. Caves (1998); Bartelsman and Doms (2000); for surveys, see Bartelsman, Haltiwanger, and Scarpetta (2004).

2. See, for example, Davis and Haltiwanger (1999).

3. See IADB (2003); Rutkowski and Scarpetta (2005); Bartelsman, Haltiwanger, and Scarpetta (2004).

4. Haltiwanger and others (2004).

Such trade-offs between economic efficiency and job stability become particularly important in the context of middle- and low-income countries where limited safety nets do not insulate workers against economic risk. In the last fifteen years, many of these countries have seen rapid economic transformation led by structural reforms and trade integration. For example, in Latin America, trade as a percentage of GDP increased from 27 percent in 1995 to 44 percent in 2004, while in the same period in the transition economies (here defined as former socialist countries), it increased from 45 to 70 percent.[5] While such reforms have brought productivity gains, they have also increased labor reallocation.[6] Analyzing the welfare costs of such reforms is beyond the scope of this study. More modestly, we assess the nature of labor mobility in a sample of countries that underwent important—albeit different—structural reforms over the past decade that had significant impact on the magnitude and characteristics of labor mobility. This is an important first step to understanding the welfare effects of such reforms.

This article summarizes the findings of an ongoing study examining worker flows and, when possible, the associated earnings changes associated with such flows across different statuses in the labor market and across different types of jobs. The study focuses on three countries in Latin America and six transition economies of eastern Europe and the former Soviet Union. Although the selection of countries is driven by the existence of longitudinal data, essential for a study of worker mobility, this selection of countries has the bonus of spanning low- and middle-income economies, as well as transition and developing countries.

We address a number of questions. Central to the question of the nature of labor mobility is assessing to what extent workers transit quickly across jobs or become stuck in long periods of unemployment. Another central issue is to what extent mobility implies welfare gains or losses relative to those workers who did not change their status in the labor market. A third question, much discussed in the development literature, is to what extent workers in low- and middle-income countries experience barriers to entry into good (that is, "formal") jobs and thus become trapped in low-productivity and low-paying jobs. So far, few studies have directly examined mobility in low- and middle-income economies. Even fewer studies have examined mobility between different types of jobs.[7] In this study we define different types of jobs on the basis of whether

5. World Bank (2006).

6. For discussion of reforms and productivity gains, see Fernandes (2002); Pavcnik (2002); Eslava and others (2005). For discussion of reforms and labor reallocation, see Haltiwanger and others (2004); Eslava and others (2005).

7. See, for example, Maloney (1999); Gong, van Soest, and Villagomez (2004); IADB (2003).

they are salaried or not and whether workers have access to social security benefits, which we use as a proxy for whether such jobs are in compliance with the country's laws. To the extent possible we define common, harmonized categories to allow for cross-country comparisons.

The picture that emerges from our analysis is quite complex. There is a high degree of mobility in the labor market of all countries examined. Many workers move across jobs directly, while many others move in and out of the labor market and between jobs and unemployment. For most countries we do not find evidence of workers being trapped in unemployment for a long period, partly because of limited income-support schemes for the unemployed, which force workers to find a job quickly. We find large flows in and out of the labor market, however. Moreover, we find that mobility has important earnings consequences: positive for workers who move from informal salaried jobs to self-employment and negative for workers who move from formal to informal salaried jobs. However, individual heterogeneity and selection processes have a large role in shaping the earnings consequences of mobility.

Data

We focus our empirical analysis on six countries from eastern Europe and the former Soviet Union (Albania, Georgia, Hungary, Poland, Russia, and Ukraine) and on three Latin American countries (Argentina, Mexico, and Venezuela).[8] Although measurement problems and attrition bias are always potential issues in all studies based on longitudinal data, they do not seem to be more problematic in our selected group of countries than they are in the developed countries. We analyze transitions across one-year periods, because this periodicity is commonly available, with the exception of Georgia, where the longest time period between interviews is nine months. When more than two records of individual data are available for a country, an individual can, in theory, contribute multiple transitions, but we only consider the first transition per person in the analysis.

In our analysis, we consider six different statuses in the labor market: out of labor force, unemployed, formal wage employees, informal wage employees, self-employed, and farmers. Individuals not belonging to any of these categories (for example, employers or cooperative members) are excluded, because the number of observations for these two categories of owners of firms

8. See Duryea, Marquéz, Pagés, and Scarpetta (2006) for a full description of the data used in this study.

is not sufficient to perform a sensible dynamic analysis. Individuals are classified as out of the labor force when they did not work during the reference week and did not look for a job during the reference period. Unemployed are those who did not work in the reference week but had searched for a job. Formal wage employees are those who receive a salary as well as social security benefits (in Argentina, Mexico, Venezuela, Albania). In some cases, when information about social security is not available, formality is defined on the base of whether there is a written (or registered) contract (in Georgia, Ukraine), whether the firm is registered (in Hungary, Russia), or whether the contract is open ended (in Poland). Salaried workers who do not fall into these categories are considered informal. Self-employed are those who report to themselves (that is, business owners without employees). Following conventional definitions used by the ILO, we exclude self-employed persons engaged in professional activities, such as lawyers or doctors, from this category and hence from the sample. The self-employed are split into workers in agricultural activities (farmers) and workers in nonagricultural activities.

The nine countries examined are heterogeneous and have experienced different economic trends (see table 1). Albania and Georgia had the lowest per capita income of the group, with incomes of US$4,320 and US$1,766 (2000 U.S. dollars, purchasing power parity), respectively, but they experienced strong GDP growth during the two-year period studied as well as during the previous three years. Russia and Ukraine had higher GDP per capita levels in the period covered by the data. However, they also had quite different growth performances: Russia had very low growth, while Ukraine in the early part of the century had a high rate of growth. Hungary and Poland are higher-income countries, but they also experienced very different patterns of growth. During the period of study, Hungary underwent a major restructuring process, while Poland had higher growth at the beginning of the century.

The three Latin American countries experienced considerable volatility during the period of study. From 1995 to 2002, Venezuela underwent an exceedingly volatile period, experiencing major swings in growth from 10 percent per annum growth between 1995 and 1998, to the sudden decline of about 10 percent in 1999, to the subsequent recovery in 2001 by 8 percent, and the fall in 2002 of another 12 percent. At the same time, although it had the highest per capita income among the countries, the period covered by the analysis (1995–2001) was not stellar economically for Argentina. The severe economic crisis officially began in 2001, which was preceded since 1998 by slow growth and mounting debt. Average annual growth was less than 1 percent during the period of study, although it had been 7.9 percent in the previous three years.

Table 1. Economic Indicators

Country	*Period of study*	*GDP per capita PPP*[a]	*GDP growth: annual percent change*	*GDP growth: annual percent change, prior 3 years*	*Trade/GDP: average annual change (1995–2004)*
Albania	2002–2004	4,320	5.1	8.3	–1.02
Argentina	1995–2001	12,091	0.9	7.9	9.85
Georgia	1998–99	1,766	3.0	8.1	10.18
Hungary	1993–97	10,450	1.9	–6.2	4.5
Mexico	1990–2001	8,613	3.2	2.3	0.84
Poland	2000–02	10,501	2.5	5.2	6.56
Russia	1994–2003	6,896	0.9	–9.4	3.30
Ukraine	2003–04	5,544	10.7	6.8	5.38
Venezuela	1995–2002	5,860	0.3	1.3	0.82

Source: World Bank (2006).
PPP = Purchasing power parity.
a. Constant 2000 international dollars.

Mexico also had its share of volatility during its period of study from 1990 to 2001. The peso crisis occurred in 1995, with GDP declining by 6 percent. However, this was followed by strong growth of 5 percent annually, such that the period as a whole had an average growth rate of 3.2 percent.

Openness in trade increased substantially in most countries during the period of study. This was particularly true in eastern European countries, which with the exception of Albania underwent rapid growth in trade as a percentage of GDP. Trade openness also increased in Latin America, albeit to a lower extent. The fastest growth was in Argentina, although from a low base of 16 percent of GDP in 1995.

Our data indicate that approximately one-third of the individuals are not participating in the labor force, ranging from 29 percent in Albania to 41 percent in Mexico. Unemployment—as a share of the working-age population—varies significantly across the countries (about 3 percent of the working-aged in Mexico but about 12 percent in Georgia and Poland). Formal-sector workers constitute a large share of the population in Hungary but a much smaller percentage in Venezuela and Albania (21 percent and 14 percent, respectively). In comparison with their formal-sector counterparts, informal wage earners compose a much smaller share of the population in all countries—approximately half the size of the share of formal employees in Argentina and Mexico and even a smaller share in Georgia, Hungary, Poland, and Ukraine. The informal-wage sector comes closest in size to the formal sector in Albania and Venezuela. Self-employed workers in nonagricultural jobs represent 10 percent or less of the population in all countries. However, in the countries for which informa-

tion on self-employment in agricultural sectors is available (in Venezuela, Albania, Georgia, and Poland), the share of this group is between 15 and 30 percent of the sample, except for Poland, which is at 10 percent.

Quite notably, in eastern European countries the transition to a market economy and the opening to the rest of the world have been accompanied by an increase in informal salaried employment. Among the Latin American countries, the same trend is observed in Argentina. Contrary to these observed increases, informal salaried employment as a proportion of the population declined in Mexico and Venezuela.

Labor Mobility

We describe labor mobility by calculating conditional probabilities of finding a worker in status j, in period $t + k$, conditional on being in status i at time t, or

$$p_{ij} = p(S_{t+k} = j/S_t = i)$$

for all labor statuses in the nine countries. This yields 6 by 6 transition matrices for each country (or 5 by 5 if the category self-employed in agricultural activities is not available).

When calculating transition probabilities, we obtain a number of interesting results (see table 2):

—*Unemployment is more persistent in the transition economies*. The differences in unemployment persistency are quite large. In Poland 67 percent of the unemployed workers had a spell of joblessness longer than one year. That figure is 50 percent in Georgia, around 39 percent in Hungary, but only 12 percent in Mexico. Lower unemployment insurance payments and lower duration of benefits in Latin America are likely to explain such differences.

—*Across countries, workers tend to stay in formal salaried jobs for longer periods of time than they do in informal salaried jobs*. In all countries workers are much more likely to remain in a formal job than in an informal one, with the highest differences being observed in Georgia and Hungary. This gap is still present in Mexico, although it is much smaller, where formal and informal salary jobs seem to be more similar. Self-employment shows an intermediate degree of persistence in all countries except in Russia. Self-employment activities in agriculture are more stable than are those in other economic sectors.

—*Contrary to what is sometimes assumed, informal salaried workers are more likely to end up unemployed than are formal salaried workers*. The like-

lihood that an employed worker will transit to unemployment is more than twice as high for an informal wage employee than for the formal counterpart. Such differences are more pronounced in Hungary, Poland, and Russia but less so in Mexico, where, as indicated above, there seem to be few differences between formal and informal salaried jobs. Instead, there are no common patterns among the nine countries relative to the exit from unemployment to salaried jobs. In Albania and Argentina unemployed workers are more than twice as likely to find an informal salaried job relative to a salaried one; in Ukraine and Hungary the tendency is the reverse. In the rest of the countries studied, transition probabilities from unemployment to the two types of salaried work are of similar magnitude.

—*Within employment, mobility between salaried jobs is much higher than mobility between salaried jobs and self-employment*. Thus it is quite remarkable that with the exception of Albania the probability of moving from an informal salaried job to a formal one is higher than the probabilities of moving to unemployment, self-employment, or out of the labor market. Of course, this only reflects transitions between one year and the year after. Workers may have spent some intermediate time in unemployment or other states, but we are unable to observe this. It is quite interesting, however, that moving to self-employment from informal salaried jobs is less prevalent than is moving to formal sector jobs. Strong preference for formal jobs, relative to self-employment; cumbersome procedures and regulations to starting new firms; or lack of access to capital may explain why many workers who are displaced or quit informal jobs end up in formal salaried employment.

Similarly, *workers who exit formal salaried jobs are in all cases much more likely to move to an informal salaried job than to self-employment*, suggesting again that preferences for salaried jobs, hurdles to firm creation such as administrative and legal procedures to register a business, or limited access to capital may limit entry into self-employment. But it is also noticeable that in countries with well-established safety nets (such as Poland and Hungary) workers are more likely to move to unemployment rather than to an informal salaried job.

What about mobility out of self-employment? The results here are quite diverse. In three out of the nine countries (Albania, Argentina, Ukraine), workers who exit self-employment are more likely to end up in an informal salaried job than in any other status. In Hungary and Russia they are more likely to move to a formal salaried job, while in Poland they are more likely to go to unemployment than to any other destination. In Mexico and Venezuela they are more likely to exit the labor force, followed soon after by moving to informal salaried jobs. In Georgia, workers who exit self-employment in nonagricul-

Table 2. Transition Matrices[a]

	Labor Market Status[b]						
	1	*2*	*3*	*4*	*5*	*6*	*N*
Albania							
1 Out of labor force	0.75	0.05	0.02	0.04	0.02	0.11	2,899
	(0.008)	(0.004)	(0.003)	(0.004)	(0.003)	(0.006)	
2 Unemployed	0.34	0.29	0.06	0.16	0.08	0.07	493
	(0.022)	(0.021)	(0.011)	(0.018)	(0.012)	(0.012)	
3 Wage formal	0.05	0.02	0.83	0.06	0.02	0.02	1,126
	(0.006)	(0.004)	(0.011)	(0.008)	(0.005)	(0.004)	
4 Wage informal	0.09	0.05	0.14	0.48	0.17	0.06	729
	(0.011)	(0.008)	(0.013)	(0.020)	(0.014)	(0.009)	
5 Nonagricultural self-employed[c]	0.08	0.02	0.04	0.12	0.69	0.05	513
	(0.012)	(0.005)	(0.009)	(0.016)	(0.021)	(0.010)	
6 Agricultural self-employed[c]	0.15	0.01	0.01	0.04	0.02	0.78	2,614
	(0.007)	(0.002)	(0.002)	(0.004)	(0.003)	(0.008)	
Share in each labor market status[d]	0.35	0.04	0.14	0.09	0.08	0.30	8,373
Argentina							
1 Out of labor force	0.78	0.08	0.03	0.07	0.04	n.a.	5,823
	(0.005)	(0.004)	(0.002)	(0.003)	(0.002)		
2 Unemployed	0.26	0.31	0.11	0.22	0.11	n.a.	1,579
	(0.010)	(0.011)	(0.007)	(0.011)	(0.008)		
3 Wage formal	0.03	0.05	0.84	0.07	0.02	n.a.	4,231
	(0.002)	(0.003)	(0.006)	(0.004)	(0.002)		
4 Wage informal	0.14	0.12	0.14	0.48	0.12	n.a.	2,123
	(0.008)	(0.007)	(0.008)	(0.011)	(0.007)		
5 Nonagricultural self-employed[c]	0.13	0.10	0.05	0.20	0.54	n.a.	1,553
	(0.009)	(0.007)	(0.005)	(0.010)	(0.012)		
6 Agricultural self-employed[c]	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Share in each labor market status	0.36	0.10	0.28	0.15	0.10		15,309

Georgia							
1 Out of labor force	0.78	0.07	0.02	0.02	0.01	0.10	3,197
	(0.008)	(0.005)	(0.003)	(0.003)	(0.002)	(0.006)	
2 Unemployed	0.24	0.50	0.07	0.06	0.04	0.08	1,404
	(0.011)	(0.013)	(0.007)	(0.006)	(0.005)	(0.009)	
3 Wage formal	0.03	0.02	0.89	0.03	0.01	0.03	2,650
	(0.003)	(0.002)	(0.006)	(0.003)	(0.002)	(0.004)	
4 Wage informal	0.05	0.04	0.26	0.46	0.06	0.13	457
	(0.010)	(0.009)	(0.020)	(0.024)	(0.012)	(0.018)	
5 Nonagricultural self-employed[c]	0.06	0.03	0.07	0.12	0.52	0.21	394
	(0.013)	(0.009)	(0.013)	(0.018)	(0.029)	(0.022)	
6 Agricultural self-employed[c]	0.07	0.02	0.03	0.02	0.03	0.83	2,607
	(0.006)	(0.003)	(0.004)	(0.003)	(0.004)	(0.009)	
Share in each labor market status[d]	0.29	0.10	0.26	0.05	0.04	0.26	10,709
Hungary							
1 Out of labor force	0.84	0.06	0.06	0.03	0.01	n.a.	3,344
	(0.668)	(0.438)	(0.422)	(0.330)	(0.165)		
2 Unemployed	0.23	0.39	0.23	0.11	0.04	n.a.	826
	(1.559)	(1.842)	(1.719)	(1.151)	(0.723)		
3 Wage formal	0.06	0.04	0.86	0.03	0.01	n.a.	5,184
	(0.334)	(0.275)	(0.469)	(0.254)	(0.129)		
4 Wage informal	0.18	0.14	0.23	0.40	0.05	n.a.	569
	(1.786)	(1.623)	(1.859)	(2.193)	(1.041)		
5 Nonagricultural self-employed[c]	0.11	0.05	0.13	0.08	0.63	n.a.	298
	(2.007)	(1.557)	(2.262)	(1.619)	(3.051)		
6 Agricultural self-employed[c]	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Share in each labor market status	0.34	0.08	0.49	0.06	0.03		10,220
Mexico							
1 Out of labor force	0.81	0.02	0.06	0.07	0.04	n.a.	143,535
	(0.001)	(0.000)	(0.001)	(0.001)	(0.001)		

Table 2 (continued). Transition Matrices[a]

	Labor Market Status[b]						
	1	*2*	*3*	*4*	*5*	*6*	*N*
2 Unemployed	0.30	0.12	0.26	0.24	0.08	n.a.	9,098
	(0.005)	(0.003)	(0.005)	(0.004)	(0.003)		
3 Wage formal	0.07	0.02	0.75	0.13	0.03	n.a.	95,103
	(0.001)	(0.000)	(0.001)	(0.001)	(0.001)		
4 Wage informal	0.14	0.03	0.27	0.47	0.09	n.a.	57,325
	(0.001)	(0.001)	(0.002)	(0.002)	(0.001)		
5 Nonagricultural self-employed[c]	0.19	0.02	0.08	0.15	0.57	n.a.	33,115
	(0.002)	(0.001)	(0.002)	(0.002)	(0.002)		
6 Agricultural self-employed[c]	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Share in each labor market status	0.41	0.03	0.29	0.17	0.10		338,176
Poland							
1 Out of labor force	0.90	0.06	0.01	0.02	0.00	0.01	27,889
	(0.191)	(0.140)	(0.073)	(0.079)	(0.035)	(0.062)	
2 Unemployed	0.14	0.67	0.06	0.10	0.01	0.02	9,725
	(0.376)	(0.492)	(0.265)	(0.317)	(0.112)	(0.124)	
3 Wage formal	0.03	0.04	0.90	0.02	0.00	0.00	29,546
	(0.107)	(0.126)	(0.196)	(0.091)	(0.032)	(0.034)	
4 Wage informal	0.08	0.16	0.25	0.49	0.01	0.02	2,997
	(0.542)	(0.699)	(0.897)	(1.014)	(0.174)	(0.221)	
5 Nonagricultural self-employed[c]	0.04	0.06	0.03	0.01	0.86	0.01	2,109
	(0.419)	(0.552)	(0.474)	(0.251)	(0.848)	(0.149)	
6 Agricultural self-employed[c]	0.03	0.01	0.01	0.01	0.00	0.94	7,059
	(0.186)	(0.100)	(0.101)	(0.124)	(0.057)	(0.256)	
Share in each labor market status[d]	0.35	0.12	0.36	0.05	0.03	0.09	79,324
Russia							
1 Out of labor force	0.76	0.06	0.07	0.10	0.01	n.a.	2,777

	0.008	0.004	0.005	0.006	0.002		
2 Unemployed	0.19	0.34	0.21	0.23	0.03	n.a.	756
	0.014	0.017	0.016	0.015	0.007		
3 Wage formal	0.02	0.03	0.82	0.10	0.02	n.a.	2,412
	0.003	0.004	0.008	0.007	0.003		
4 Wage informal	0.13	0.09	0.31	0.43	0.04	n.a.	1,672
	0.008	0.007	0.012	0.013	0.005		
5 Nonagricultural self-employed[c]	0.06	0.08	0.46	0.21	0.18	n.a.	310
	0.014	0.016	0.030	0.026	0.023		
6 Agricultural self-employed[c]	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Share in each labor market status	0.32	0.09	0.38	0.19	0.03		7,927
Ukraine							
1 Out of labor force	0.76	0.10	0.09	0.04	0.01	n.a.	2,030
	(0.010)	(0.008)	(0.007)	(0.005)	(0.003)		
2 Unemployed	0.25	0.33	0.26	0.13	0.03	n.a.	658
	(0.019)	(0.019)	(0.018)	(0.014)	(0.009)		
3 Wage formal	0.06	0.04	0.86	0.03	0.01	n.a.	2,725
	(0.005)	(0.004)	(0.008)	(0.004)	(0.002)		
4 Wage informal	0.08	0.08	0.32	0.47	0.05	n.a.	184
	(0.020)	(0.020)	(0.041)	(0.044)	(0.017)		
5 Nonagricultural self-employed[c]	0.12	0.11	0.12	0.15	0.50	n.a.	71
	(0.042)	(0.038)	(0.041)	(0.047)	(0.062)		
6 Agricultural self-employed[c]	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Share in each labor market status	0.34	0.10	0.49	0.06	0.02		5,668
Venezuela	1	2	3	4	5	6	N
1 Out of labor force	0.79	0.04	0.03	0.06	0.08	0.01	38,055
	(0.002)	(0.001)	(0.001)	(0.002)	(0.001)	(0.002)	
2 Unemployed	0.22	0.25	0.17	0.19	0.15	0.02	4,706
	(0.008)	(0.009)	(0.006)	(0.007)	(0.002)	(0.007)	

Table 2 (continued). Transition Matrices[a]

	Labor Market Status[b]						
	1	*2*	*3*	*4*	*5*	*6*	*N*
3 Wage formal	0.06	0.05	0.75	0.09	0.05	0.00	18,009
	(0.002)	(0.002)	(0.004)	(0.003)	(0.000)	(0.002)	
4 Wage informal	0.13	0.08	0.22	0.39	0.13	0.04	12,699
	(0.004)	(0.003)	(0.005)	(0.006)	(0.003)	(0.004)	
5 Nonagricultural self-employed[c]	0.17	0.05	0.06	0.11	0.58	0.04	14,243
	(0.008)	(0.005)	(0.004)	(0.011)	(0.015)	(0.006)	
6 Agricultural self-employed[c]	0.09	0.03	0.02	0.17	0.05	0.63	1,801
	(0.004)	(0.002)	(0.003)	(0.003)	(0.003)	(0.005)	
Share in each labor market status[d]	0.40	0.06	0.21	0.13	0.16	0.03	89,513

Source: Duryea, Marquéz, Pagés, and Scarpetta (2006).
n.a. Not available.
N denotes number of observations in sample.
a.Observed $P(i,j)$ matrices.
b. In countries for which the category self-employed in agricultural activities is not available, only 5 by 5 matrices are available. Bootstrapped standard errors are in parentheses.
c. Includes unpaid family workers.
d. Share in column 6 is rounded.

tural activities are more likely to become self-employed in agricultural activities (that is, they become farmers). However, it is quite noticeable that in all countries with the exception of Russia *the probability of moving to a formal salaried job is much higher for workers who exit informal salaried activities than it is for workers who exit self-employment*.

In addition to transition probabilities, one can compute additional measures that make use of the trace or determinant of such matrices to assess aggregate mobility—that is, which country displays the higher rate of mobility across all labor market statuses. We found that *despite the deep restructuring process that took place in the transition economies during the past decade, aggregate labor mobility is lower in these countries, compared with that in the three Latin American countries*.[9] Mexico and Venezuela are the countries that experience higher aggregate mobility, while at the other extreme Poland and Georgia exhibit the lowest.[10] Part of the explanation for this regional difference is due to the large mobility out of unemployment and movement in and out of the labor market in Latin America (particularly in Mexico and Venezuela) compared with the transition economies. This is due to different factors. First, there is a high mobility in and out of the labor market by youth. For example, the probability of moving from unemployment to out of the labor force among youth is around 30 percent in Argentina, Mexico, and Venezuela.[11] Second, mobility in and out of jobs—even in the formal sector—is higher in Latin America compared with transition economies.[12] Third, higher macroeconomic volatility in Latin America may further explain such regional differences.

These results for aggregate mobility refer to the average worker. While aggregate mobility is higher for youth (aged 15 to 24) than it is for the prime-age population (25 to 49), the latter also experiences substantial mobility.[13] For example, the probability of switching from a formal to an informal job is on average 12 percent for youth and 7 percent for the prime-age population (table 3). But adults experience a higher probability of moving from an informal to a formal job (24 percent compared with 19 percent for youth). By level of skill, Pagés and Stampini report higher mobility between formal and informal salaried jobs for unskilled workers relative to skilled ones.[14]

9. See Duryea, Marquéz, Pagés, and Scarpetta (2006) for aggregate mobility results.

10. These results do not include data for Russia.

11. See Borgarello and others (2006).

12. There is also high mobility from informal wage employment and inactivity (defined as out of the labor market) among youth in Latin America and, albeit lower, between self-employment and inactivity. See Borgarello and others (2006) for more details on youth mobility in the labor market.

13. Borgarello and others (2006).

14. Pagés and Stampini (2006).

Table 3. Transition Probabilities between Formal and Informal Salaried Jobs by Age

	15–24-year-olds		*25–49-year-olds*	
	P(F,I)[a]	*P(I,F)*	*P(F,I)*	*P(I,F)*
Argentina	0.11	0.14	0.07	0.15
Albania	0.16	0.12	0.07	0.16
Georgia	0.05	0.09	0.03	0.29
Mexico	0.15	0.22	0.12	0.28
Ukraine	0.08	0.44	0.03	0.3
Venezuela	0.15	0.16	0.09	0.25
Average	0.12	0.19	0.07	0.24

Source: Duryea, Marquéz, Pagés, and Scarpetta (2006).

a. P(F, I) denotes transition probability from labor market status formal salaried to status informal salaried. *P(I,F)* denotes transition probability from informal to formal salaried.

Wage Changes

The results discussed above illustrate that workers undergo substantial labor mobility, but is this mobility conducive to income gains? Or rather do workers undergo important wage losses as they transit across labor market statuses?

To assess the effects of a job switch on earnings, we compare the change in earnings of workers who switch jobs with the change in earnings of those workers who did not switch jobs. To prevent such comparisons from being affected by differences in the characteristics of workers in different statuses, we also control for such differences in observable characteristics, such that these observable differences are not driving the wage changes.[15] The results listed below only address job-to-job transitions (including moving to self-employment) since we do not observe earnings for unemployed or out-of-labor-force workers. We therefore miss an important source of income instability associated with the income losses that result from periods of being unemployed or out of the labor force. In addition, results relative to earning changes cannot be obtained for all countries and employment statuses because in some countries either earnings for self-employed workers are not available or the number of workers

15. More formally, we estimate the following equation:

$$\Delta \ln(w_{mt}) = \alpha + \sum_{i=1}^{J}\sum_{j=1}^{J}\beta_{ij}\left(S_{mi(t)}\cdot S_{mj(t-1)}\right) + \sum_{i=1}^{J}\sum_{j=1}^{J}\delta_{ij}\left(S_{mi(t)}\cdot S_{mj(t-1)}\right)X_{mt} + \gamma X_{mt} + \sum_{t=2}^{T}\varphi_t D_t + \varepsilon_{it}$$

where W_m is hourly wage of individual m, $S_{mi(t)}$ represents the labor market status i of individual m in period t, $\mathbf{X}$ is a vector of individual characteristics that are assumed to affect not only the status in the labor market at any point in time but also the probability of moving across statuses in the labor market, D represents time dummies, and ε_{it} is the *iid* error term. Individual and job characteristics include age and age squared, education, occupation, and industry. From this, we predict the change in wage from moving from status i to status j. Finally, we assess the following difference-in-difference estimate: $\Delta\Delta w = \Delta w_{ij} - \Delta w_{ii}$.

observed transiting from one status to another is too small to make reliable estimates of wage changes. Nonetheless, the available data yield a number of insights:[16]

On average, Latin American workers who move from formal to informal salaried jobs suffer a decline in wages (compared with workers who remain in formal salaried jobs), while the evidence is more ambiguous in transition economies. In Argentina, Mexico, and Venezuela workers who move from formal to informal salaried jobs experience a decline in monthly wages; the reverse move results in an increase in wages. Similar results are found in Albania and Ukraine. When switching from formal to informal salaried jobs in Georgia, Poland, and Russia, workers experience an increase in monthly earnings (compared with workers who stay in formal salaried jobs), indicating better opportunities in the unregulated economy.

However, large individual heterogeneity exists among workers moving from formal to informal salaried jobs. Even in countries in which workers moving from a formal to an informal salaried job register a decline in earnings on average, a substantial share of workers experience wage increases associated with that change. For example, in Argentina 43 percent of the workers who move from the formal to the informal sector experience a wage increase. The corresponding numbers for Albania, Russia, Mexico, and Venezuela are 37, 35, 44, and 35 percent, respectively.

Workers who switch from formal to informal jobs may be negatively selected. In all countries, with the exception of Albania and Georgia, workers who remain in formal salaried jobs have, on average, higher initial wages than workers who move to informal salaried jobs. Significantly, the opposite is also the case for workers who switch from informal to formal salaried jobs: in most countries, the average starting wage of "switchers" (from the informal to formal sector) is higher than the average starting wage of "stayers." This is consistent with lower observed or unobserved abilities for workers who switch to the informal sector. This also indicates that traditional estimates of wage differentials between formal- and informal-sector workers may be overestimated: an important component of wage gaps between the formal and informal sector may be associated with negative selection.

The consequences for earnings of switching between formal salaried and self-employed jobs vary across countries. In Mexico and Venezuela moving from a formal salaried job to self-employment results, on average, in a decline in monthly earnings (relative to those workers who remain in their original sta-

16. See Duryea, Marquéz, Pagés, and Scarpetta (2006) for further description of the methodology and a full description of the results relative to wage changes.

tus), while the opposite move brings an increase. In Argentina switching from formal salaried employment to self-employment is associated with an increase in monthly earnings. However, moving from self-employment to a formal salaried job is also associated with higher monthly earnings, indicating that workers move when they see opportunities for improvement.

There are also indications of negative selection among those who move from formal salaried jobs to self-employment: Workers who make this shift have lower starting salaries on average than do workers who remain in formal salaried jobs. And when moving from self-employment to a full salaried job, those workers have, on average, higher starting wages than workers who remain in self-employment.

Workers who move from informal salaried jobs to self-employment experience an increase in earnings. In the few countries for which a sufficient number of observations are available for transitions from salaried informal jobs to self-employment, the evidence suggests that such a move leads to an increase in monthly earnings. The opposite transition tends to lead to a decline in earnings, but not in all cases. In Albania and Argentina a move from self-employment to a salaried informal job is associated with an increase in monthly earnings, suggesting again that workers move when opportunities for improvement are available.

There is evidence that those who move from salaried informal jobs to self-employment are positively selected: the starting earnings of workers who remain in salaried informal jobs are lower than the starting earnings of workers who move to self-employment. Conversely, workers who switch from self-employment to salaried informal jobs had lower starting earnings (when self-employed) than those who remain in self-employment.

Conclusions

Overall, the analysis suggests a complex picture of workers' mobility in the labor market. Mobility is quite high not only in and out of the labor market but also across different types of jobs. Contrary to what is commonly found, informal salaried workers are more likely to transit to unemployment than are formal salaried workers. This is at least partly explained by the much lower stability of informal salaried jobs, relative to formal salaried employment. Within jobs, mobility within wage employment (that is, formal to informal) is higher than that between wage employment and self-employment, suggesting that barriers to entry into self-employment or strong preferences for salaried employment

reduce flows into self-employment. For workers who leave self-employment, transitions to informal salaried jobs, unemployment, or exiting the labor force entirely tend to be more common than moving into a formal salaried job.

The data also suggest important earning consequences of transitions. In some countries, there is evidence that, on average, workers who move from formal to informal salaried employment experience earning losses. Yet in some of the transition economies, switching from formal to informal salaried jobs improves workers' earnings. Similarly, for many, switching to self-employment is a way to improve earnings, particularly for informal wage workers. Within countries, there is significant individual heterogeneity in earnings changes associated with mobility: Even when workers lose earnings from switching across certain statuses on average, many workers gain in that process. Finally, there is evidence of selection among switchers: The data suggest that those who switch from formal to informal salaried activities are negatively selected, while those who move to self-employment from informal salaried activities are positively selected.

Comment and Discussion

Carmen Reinhart: I will offer three areas of comment on the paper. The first concerns the macroeconomic environment in which the transitions discussed take place. Second, I want to focus on the methodology employed and suggest some directions where the authors might develop some interesting insights by further parsing the data. Finally, I have a few reservations concerning the quality of the data.

The paper reviews evidence on labor market mobility in nine countries. Three countries (Argentina, Mexico, and Venezuela) come from Latin America, while the remainder (Albania, Georgia, Hungary, Poland, Russia, and the Ukraine) are transition economies in Eastern Europe. The period of study ranges from as little as two years (Georgia and the Ukraine) to eleven years (Mexico). The paper uses longitudinal labor force survey data to construct a transition matrix for each country, with each cell representing the probability of having labor force status j in period $t + k$ conditional on having status i in period t. The authors consider six possible labor force outcomes (an issue I will return to later): out of the labor force, unemployed, formal salaried worker, informal salaried worker, self-employed, and farmer.

As a macroeconomist, I tend to think about the big picture when viewing issues of labor mobility. Table 1 in the paper and the subsequent discussion highlights the high level of macrovolatility in the countries studied. Many of the countries experienced large output swings during the sample period, and in others (Hungary and Russia) the period of analysis immediately followed a severe recession. I would additionally emphasize that other types of volatility, such as relative price movements between the traded and nontraded sector, can have important influences on labor market options beyond their effect on output.

Economic crises serve to highlight the effects of the kinds of macroeconomic volatility I have in mind. The sample includes episodes of currency, banking, debt, and inflation crises, so consideration of crisis dynamics is nontrivial. As

an example, currency crises imply large changes in the real exchange rate, which can have a particularly adverse effect on the nontraded sector. If, say, a currency crisis precedes the collapse of the real estate and construction industries, we would likely see a large movement of the displaced workers from the formal to the informal sector. The authors should control for such macroeconomic effects in their analysis, and they might generate some useful observations by examining in detail certain crisis subperiods.[1]

My second suggestion involves looking more closely within the labor market movements reported. I again come back to big picture economic currents, here financial liberalization and privatization, which were prominent in all of the countries in the sample. I would like to see the authors expand their matrix to make it possible to study movements *within* a given labor market sector that could shed light on the effects of these big picture policies.

Financial liberalization has had a profound impact on the structure of the economies considered. I recall traveling in Indonesia in 1995, when overnight it seemed the country went from five banks to one hundred and five banks. Financial liberalization likely played an especially important role in the former Soviet states. As a result, a significant portion of these economies shifted from agriculture or manufacturing into finance. It would constitute a major contribution to document how the associated reallocation of resources affected labor market mobility. Importantly, this would require looking within the formal salaried sector to measure movement into financial firms.

The period of study also coincided with substantial privatizing of state-owned enterprises. Such privatizations occurred in all of the transition economies, as well as in Mexico and Argentina. A common feature of these privatizations was subsequent downsizing—newly private firms laying off surplus labor. I would like to know the extent to which transitions out of the formal salaried sector can be related to firms' privatizing. In Argentina, for example, privatization has been associated with rising macro-unemployment. Does this relationship hold at the microlevel, and how many of the laid-off workers wind up taking jobs in the informal sector? Note again that these questions require looking within a given cell of the matrix, in this case to focus on the transition probabilities for formal sector workers in formerly government companies.

Finally, a few points of reservation. The first concerns the quality of the data, particularly for the informal sector. The authors could do more to convince the reader that measurement errors are not systematic and therefore driving the results. Second, I advise caution when comparing Latin American countries to

1. Kaminsky and Reinhart (1999) and Frankel and Rose (1996) contain dates of currency crises, and Caprio and others (2005) list banking crises.

those in Eastern Europe. The period of study coincides with the transition from a centrally planned economy in the former Soviet states, which must have influenced flows between the formal and informal sector. Any conclusions regarding the disparate effects of labor market institutions in these two regions should be considered in this light.

I enjoyed this paper and learned much from it. I urge the authors to take greater consideration of the macroeconomic circumstances, particularly the implications of choosing a sample of countries prone to frequent crises. I also hope they pay more attention to transitions within sectors, as examining flows within the formal sector and from certain industries and types of firms may yield many fruitful insights.

Discussion: Susan Collins began by noting the rich nature of the findings on mobility. She suggested the possibility of probing the data sets for information about cross-border migration, in addition to internal migration, as a relevant extension of the research.

Carol Graham suggested that an analogue to Carmen Reinhart's focus on the macroeconomic picture, which was triggered by the high degree of variance in unemployment rates, would be an additional focus on social welfare institutions. She noted that cross-country differences in the extent of social support might help explain this variance in rates. In some contexts, such as in Latin America, where social welfare systems are much more limited than they are in Poland (which has the highest unemployment rates of any country in the data set), most individuals cannot afford to be formally unemployed and instead are self-employed or in the informal sector.

John McHale noted that the results in the paper shed new light on what it means to be formal and informal and how that meaning varies across countries. The paper provides a better sense of how wages vary across these sectors and in unexpected ways. In Eastern Europe, for example, wages are not that different in the informal sector. These very modest differences imply something very different about the structure of the economy and what that formal-informal distinction means as compared with a case in which there are very sharp distinctions in wages.

Lant Pritchett suggested that the paper should have made distinctions between the transition matrices of men and women from the outset. He noted that the behavior of men and women in the labor force behavior was very different and thus pooling it in the same transition matrix may make little sense. In the same vein, he felt that young, prime-age, and old workers should also be separated. If eighteen-year-olds, for example, churn through six jobs, it is not particularly

worrisome. Those same trends for a prime-age worker would be extremely unsettling.

Carmen Pagés responded by saying that she appreciated the comments and acknowledging that the paper was preliminary and very much part of ongoing research. She and her coauthors still have a great deal of data to analyze, and they are trying to organize it according to a model that will enable them to account for many of the issues raised by the commentators. She also agreed with Carmen Reinhart on the importance of going beyond the microlevel and looking at macro trends.

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