Comments

William F. Maloney: Gustavo Gonzaga's paper on the impact of reforms on labor turnover addresses a topic that is receiving increasing attention in the literature. Turnover in Latin America is high—Gonzaga cites a recent World Bank report that went so far as to term the Brazilian labor market hyperactive. Such high turnover, if somehow exogenously induced, may have adverse impacts on the accumulation of human capital. And if labor market institutions are partially responsible, it is important to determine how large an impact reform can have.

The conceptual development of the paper suggests the potentially ambiguous effect of the increased penalty of the FGTS. Gonzaga tells a good story, which I've had confirmed from other observers of the Brazilian labor market, that there are incentives for workers to get themselves fired and for employers to agree to do so. The incentive to get "fired" arises because it's the only way, short of buying a house or retiring, to get access to the FGTS account. A worker may want access to the funds, for example, to start a microenterprise or simply because the rate of return in the government program is low. As Paes de Barros, Corseuil, and Gonzaga note, some 62 percent of those who declare that they quit get FGTS, which legally should not be the case.[1] This suggests that they quit in such a way as to get fired. Increasing the penalty clearly increases the firing cost, and it should reduce the firms' desire to engage in such a negotiated firing. But it should also increase the desire of workers to get fired and hence to take actions that will ensure it. The net effect on turnover and labor market rigidity is theoretically ambiguous. The contribution of this paper is thus identifying empirically whether there is an impact and, if so, which effect dominates.

My first query concerns the reliability of the proxy for turnover. Gonzaga uses the same measure as Paes de Barros, Corseuil, and Gonzaga, which is based on asking people who are presently unemployed about the

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1. Paes de Barros, Corseuil, and Gonzaga (1999).

tenure of their last job. The analysis implicitly assumes that duration of employment is independent of being observed quitting or getting fired, but this may merit a closer look. Might these unemployed be intrinsically more prone to quit or be fired than the average worker? Will their response to a change in legislation be representative? We would like to know more about the motivations of this group, how they are special, and what they go on to do later. For instance, suppose that those workers who are predisposed to open a microenterprise, but are credit constrained, are more likely to get themselves fired. Their response to an increase in the premium to getting fired may be higher than for average workers who are more risk averse and less credit constrained.

To generate an alternative measure of turnover, Mariano Bosch and I tried to determine duration based on labor market transitions. We assumed a time-homogeneous Markov process X_t of transitions among K employment states, the matrix $\mathbf{P}(t)$ is a discrete time-transition matrix where

$$\mathbf{P}(t) = e^{t\mathbf{Q}},$$

and where $\mathbf{Q}$ is a $K \times K$ matrix of instantaneous transition intensities. Duration in the sector can be measured as

$$E(u_i) = \pm q_{ii}^{\pm 1},$$

where q_{ii} is instantaneous probability of not moving from the current sector. The intuition is that the mean duration in a sector is inversely related to the probability of a worker leaving the sector.[2]

Figure 6 presents three estimates calculated as the implicit duration of the previous job using periods 1 and 2, when the worker is observed in the formal sector in period 1 and in either the formal sector, unemployment (the closest analogy to the survey questions used in the paper), or any sector at all in period 3. The estimates conditional on being unemployed show the highest turnover, and they are more or less consistent with Gonzaga's estimates. However, the mean tenure of those found in the formal sector is perhaps ten times longer than for the unemployed. The third estimate, conditional on any final sector, lies in between, but it is also higher than for the unemployed. This implies that there may be some bias in assuming this question is representative of worker turnover more generally.

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2. For more technical detail, see Bosch and Maloney (2003).

F I G U R E 6 .   Employment Duration in the Formal Sector
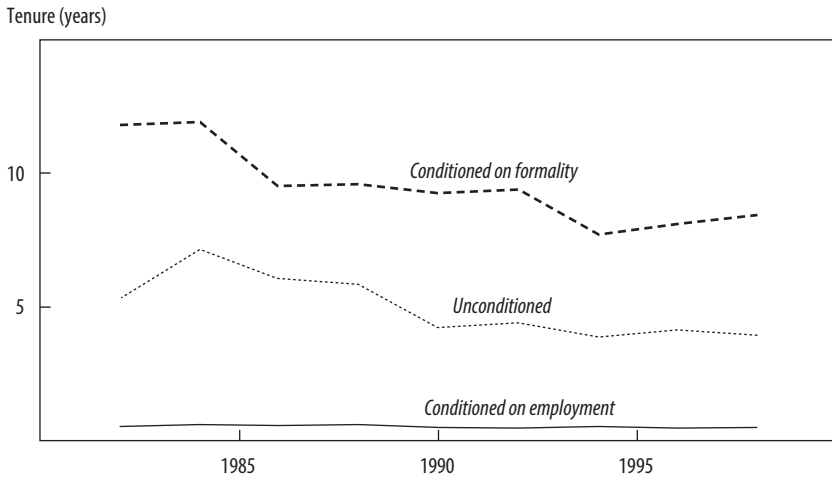
Tenure (years)

What is perhaps more problematic is that the calculated series appears to be trending downward in tenure, including the unemployment-conditioned series, which is the opposite of what Gonzaga's series suggests. This seems not to be a question of data, since we can broadly replicate his estimates using the reported duration of the unemployed. The two findings can be reconciled if workers with longer tenure are separating more frequently and entering unemployment. In that case, mean tenure would be falling, while reported tenure in the previous job of those in unemployment would rise.

The data on the evolution of transitions from unemployment into self-employment across time shown in figure 7 is consistent with such a story. The probability of transiting into self-employment is rising, especially among older workers. This could stem from either the rise in penalty, which might represent liquidity to older workers who are on the edge of quitting to open a business, or the generally higher rates of separation of older workers, who then cannot get rehired in the formal sector and thus look for jobs elsewhere. Either way, the calculated mean tenure in the formal sector would decline, and the reported tenure of those entering unemployment would rise: greater turnover (flexibility) could actually look like more rigidity.

F I G U R E 7 .   **Propensity to Transit from Unemployment to Self-Employment, by Age**
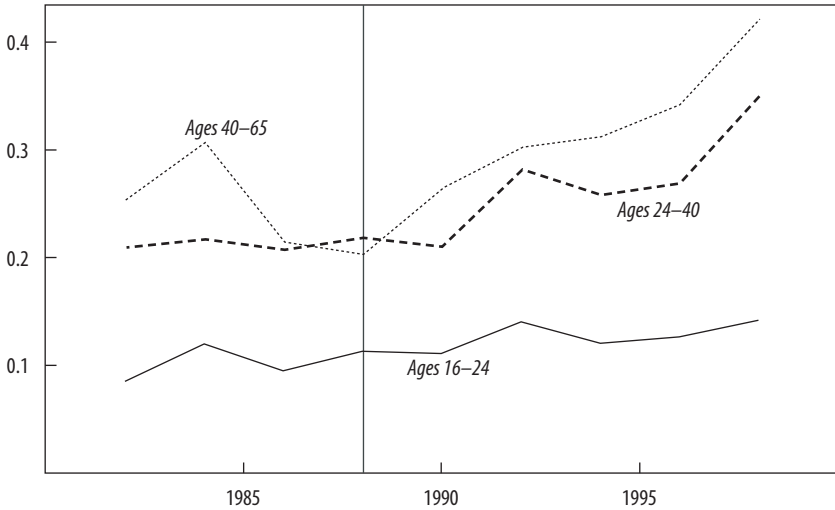
Source: Author's calculations.

One might control for such compositional effects in the difference-in-differences methodology, but a little care is in order here. First, the control groups may differ from the treatment group in important ways. Almost by definition, for example, the control group comprising those with under one-quarter's tenure will show little increase in tenure since it is top censored. This means that it will almost certainly show (and does show) less movement than the treatment group across the period under consideration and may lead to spurious differences between the differences. The informal sector may also be problematic to the degree that hiring and firing dynamics across the cycle or the general equilibrium effects of the reforms differ in microenterprises relative to the formal sector.

Second, to the extent that the reported elongation of tenure stems from a compositional effect, the analysis would need to verify that the effect is the same for both the informal group and the group with very short tenure. It seems unlikely that this is true.

Third, and in this I agree with Alejandra Mizala's comments, the difference-in-differences methodology requires a control group that is equally affected by events not directly related to the experiment under study, while not being affected by the experiment. There are two things

going on in the background that might confuse the controls somewhat. One is the jump in inflation, which is addressed in the paper. The second is the change in eligibility for unemployment insurance, which added another incentive to get fired across this period and which still concerns me. Workers, in this case, could get access to the money, but since firms now pay a fixed premium into the national fund, they have no incentive to deny a request to be fired. Before 1990, unemployment insurance applied to formal workers who had worked three of the last four years. In 1990 the eligibility requirement was drastically reduced: those who worked fifteen of the last twenty-four months were eligible. This led to an increase from 750,000 in 1988 to 4.7 million by 1995.[3] Though the size of the Brazilian economy makes such numbers less impressive in relative scale, the control group of those with under three months of tenure is not affected while the treatment group of those affected by the change in FGTS legislation is. These innovations admittedly occurred at slightly different times, but since we are testing for differences across large blocks of time, it seems difficult to argue ex ante that the observed changes are entirely uncorrelated with other events, even if they do not line up perfectly with the break in the data being analyzed. Furthermore, the obvious effect is not necessarily to shorten the reported tenure of those presently unemployed. The same compositional effects discussed above—of long-tenured workers using unemployment benefits to open their own business—could result in a lengthening of reported tenure.

As a final point, we need to consider the quote from the World Bank study, namely, that Brazilian labor markets are hyperactive. I use two measures of turnover in the manufacturing sector to compare the labor markets of the member countries of the Organization for Economic Cooperation and Development (OECD) and several Latin American countries that implement household surveys with turnover measures. First, the share of workers with tenure under two years is 38.1 percent in Latin America and 24.5 percent in the OECD; this implies that turnover is 50 percent higher in Latin America than in the OECD. Second, the average duration of employment is 7.61 percent in Latin America versus 10.5 percent in the OECD, or about 25 percent lower in the former. Turnover is, indeed, higher in Latin America.

3. Details are from Cunningham (1998).

The concern is that this higher turnover may somehow be due to policies that encourage turnover, with adverse impacts on development. For instance, there may be multiple equilibria—one characterized by high training, low turnover, and high productivity and another in which training and worker productivity are low and the technology of production is geared toward a transient work force. If one believes that the former is socially preferable and that policy can influence it, then finding out how to get out of the second equilibrium is important. Hence, the importance of Gonzaga's paper.

More prosaic factors may be at work, however. Figure 8 suggests, for example, that there is a broadly upward-sloping relation between development and tenure, based on the same sample of Latin American and OECD countries used above. Although this result turns out not to be robust, it is consistent with the paper's findings that richer states in Brazil have higher tenure and it might arise owing to any number of correlates of development. There may be a natural evolution toward more sophisticated production processes that demand stability, increased training, and perhaps efficiency wage payments, and this may lead to a higher job attachment. Alternatively, workers who are less well educated may have fewer firm-specific skills and hence lower job attachment than their counterparts with more education, again consistent with Gonzaga's finding of higher turnover among the less well educated. Generally speaking, the population is younger in Latin America than in the OECD countries. If a larger fraction of the work force is in the "shopping around" phase of short-term jobs this will pull down mean tenure. All of these factors could drive differences in turnover over and above labor market legislation.

A couple of years ago I attempted—perhaps overly heroically—to control for several of these factors with this diminutive database and found them to be important as explanatory variables in both specifications: mean tenure and share of the work force with less than two years of tenure. The specifications for the first are presented in table 8. They are somewhat muddied by the inclusion of social security payments and a crude measure of the replacement rate when unemployed, but the level-of-development measure (industrial value added, or IVA, per worker), the share of the relevant age group with secondary education, the share of the working population between the ages of sixteen and twenty, and a cyclical measure (the real interest rate) capture the relevant effects that are not directly

FIGURE 8. Tenure in Manufacturing across Development Process
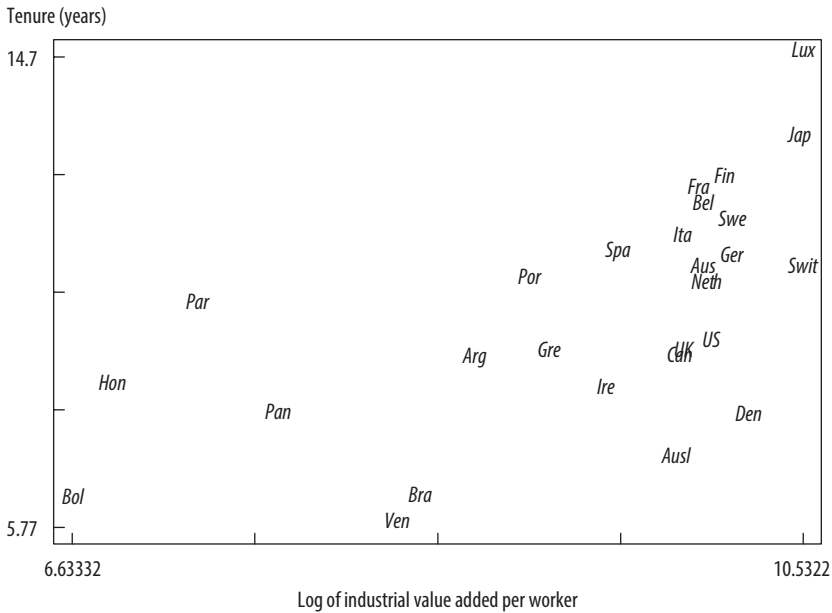
Source: OECD, *Labour Force Statistics 1976–96* (stattistique d manic-d'ouevre) (Paris, 1997).

related to policy.[4] The bottom line is that both policy and demographic variables affect turnover and that the difference in mean tenure between the OECD sample and the Latin American sample is not statistically significant when I control for these. The result holds if I strip down the specification. The Latin America dummy is very significant, showing roughly 2.9 years less tenure in manufacturing than the 10.5 mean for the rest of the sample. It becomes insignificant, however, if I simply add the age variable, or the IVA/worker variable, or the education variable. If I add both age and education variables, the Latin America dummy is totally nonsignificant, with a value of effectively zero. It seems hard to argue that Latin American markets are conditionally hyperactive.

4. For a more complete discussion, including a motivation for the specification, see Maloney (2001).

T A B L E 8 . Mean Tenure in Manufacturing

Explanatory variable	(1)	(2)	(3)
Constant	10.50	60.58	74.35
	(25.90)	(3.09)	(4.23)
Industrial value added per worker (IVA)		−11.95	−16.21
		(2.35)	(3.99)
IVA squared		0.64	0.92
		(2.07)	(3.99)
Social security worker		8.13	8.68
		(3.29)	(3.62)
Social security employee		7.00	6.23
		(1.79)	(1.79)
Unemployment benefits		−0.03	
		−(1.13)	
Real interest rate		−7.41	−7.10
		(1.92)	(1.89)
Secondary education		0.05	0.04
		(2.15)	(2.23)
Youth (aged 16 to 20)		−39.23	
		(0.48)	
Latin America dummy	−2.9	−0.70	
	(3.61)	(0.41)	
Summary statistic			
No. observations	27	25	26
R^2	0.31	0.63	0.68

a. The dependent variable is mean tenure. Standard errors are in parentheses.

In the larger specification, the compound effect of industrial value added is negative, which suggests that higher education, rather than income level per se, may be driving the relationship in figure 8.

Figure 9 plots the residuals of both the tenure and self-employment variables on these four variables as measures of labor market rigidity and distortion, respectively. Latin American countries are dispersed throughout the four quadrants of the figure. Some countries, like Argentina, are found in the northeast quadrant along with Spain, Belgium, and Finland; these countries have conditionally high tenure and self-employment levels. Panama and Paraguay also appear to have conditionally high tenure. Brazil is found to have conditionally low informal self-employment and marginally low tenure; it is located in the southwest corner, along with the United States and Canada. In other words, using the same measure that Gonzaga uses, I find that Brazil has slightly higher, but not hyperactively higher levels of turnover. The lesson I take is that unconditional levels of turnover

FIGURE 9. **Conditional Tenure and Self-Employment Share**

Adjusted share in self-employment (residuals)
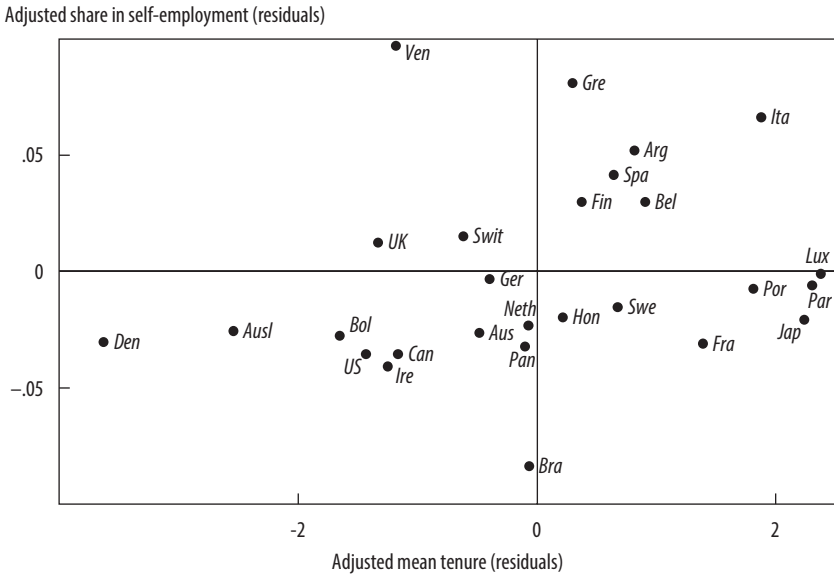
Source: Author's calculations.

and unconditional measures of the size of the informal self-employed sector may not be as revealing as they seem at first glance.

Alejandra Mizala: Gustavo Gonzaga has written a very interesting paper analyzing the perverse incentives created by the design of the job security program applied in Brazil since 1966. At that time, the government switched from a severance payment per year worked at the firm to a seniority fund (FGTS), in which firms have to deposit 8 percent of the formal employee's monthly wage into an individual account, managed by a state bank. Workers have access to their accounts only in the case of retirement or unjustified dismissal; if they voluntarily quit their jobs, they do not have access to their accounts. This policy generated significantly high job and worker turnover rates, because of workers' desire to access their fund accounts.

The paper investigates the effect on labor turnover of two legal reforms that increased job termination costs: the 1988 Constitution and the Labor Law of September 2001. Both changes increased firing costs, raising the

amount of the fine the employer must pay to workers who are fired without just cause. In 1988 this fine increased from 10 to 40 percent of the fund balance, and since 2001 firms have to pay an additional fine of 10 percent of the accumulated deposits to the government.

The author, who works with different control groups, different specifications, and multiple pre- and post intervention time periods, obtains robust results showing that the 1988 and the 2001 policy changes reduced turnover for formal workers affected by the legislation. These changes also reduced the probability of fake layoffs. The paper provides an interesting and useful discussion on the effects a badly designed job security policy has had on the Brazilian labor market.

I focus my comments mainly on two issues: the policy implications of the paper and the partial effects versus general equilibrium effects of increasing the dismissal fine.

Policy Implications

This study shows that Brazil, which pioneered the transformation of severance pay into an individual capitalization fund in Latin America, finds itself dealing with high labor turnover. This is a bad policy response, with undesirable effects such as short-run labor relations, low investment in training at the firm level, low degree of qualification of the labor force, and low productivity. These characteristics of the labor force involve low labor input flexibility. The labor force thus has a limited ability to adapt to changing economic conditions, such as technological changes or changes in demand, yet this is precisely the kind of flexibility most required at this time.

Several Latin American countries, such us Colombia, Ecuador, Panama, Peru, and Venezuela, have recently changed their unemployment protection systems, transforming systems based on severance payment for years of service into individual capitalization funds. Several problems related to severance payments justify this change. First, it reduces employment mobility: people do not change jobs because they would lose seniority and the payment associated with it if they were to be dismissed. Second, during economic shocks, employers have incentives to dismiss the newer and younger workers, who are the less protected against unemployment. Younger workers imply fewer expenses for the firm, and they have less firm-specific human capital. Third, the seniority-related severance payment scheme

encourages poor labor relations within companies. If employees want to leave, they prefer to induce their dismissal so they can gain access to their acquired benefits. Similarly, if the company wants employees to leave, it prefers to induce their resignation, such that they are not subject to the severance payment. Fourth, it increases firms' financial problems during recessions. Finally, severance payments are countercyclical. Often these amounts are not actually paid out because the firm must disburse them at precisely the moment it is facing liquidity constraints.

Countries considering a move from severance payments to individual capitalization accounts must learn from Brazil's experience to avoid undesirable increases in turnover. Learning which elements in the design of the Brazilian seniority severance payment fund encouraged high turnover and whether this high turnover is the inevitable result of such an unemployment protection policy is critical for identifying which errors must be avoided.

The solution implemented in Brazil to reduce labor turnover was to enlarge firing costs, establishing additional fines to employers for unjustified dismissals. The economic rationale behind this policy is that increasing the fine should discourage the occurrence of fake dismissals by making agreements between employers and employees harder to implement. This is not an appropriate solution, however, since it introduces an economic distortion to offset the perverse incentives resulting from a badly designed policy.

A first-best solution is to consider other measures directly related to the design and operation of the capitalization fund. According to the author, two main characteristics create perverse incentives: the below-market interest rate paid for the accounts, which have offered negative real returns to workers, except for the period after the Real Plan; and the fact that the dismissal penalty is paid directly to the worker. The author thus considers two proposals: first, to set returns on the fund account balances as an increasing function of tenure, rewarding longer employment spells; and second, to pay the firing fine to the government and not to the employee.

Other alternative measures can be considered, however. Workers might be allowed to withdraw from their accounts the difference between their total funds and the amount of money needed to finance an average period of unemployment; this might diminish workers' incentives to induce their own dismissal as a way to acquire control over their funds. In addition, dismissed workers could be allowed to withdraw monthly amounts defined

as a percentage of past wages, instead of the total balance of the account. Improving supervision and monitoring would reduce the incidence of fake dismissals. For instance, access to the fund (in monthly amounts) could be conditional on job search effort, with disqualification for refusal of relevant job offers. Finally, the fund administrator should ensure market interest rates for individual accounts, avoiding capital losses to workers.

A key issue in the successful transformation of severance payments into individual capitalization funds is to design the new system wisely, so as to avoid or at least minimize the incentives to defraud it.

Partial Equilibrium versus General Equilibrium Effects

As mentioned above, the study shows that increasing the fine from 10 to 40 percent (in 1988), and then to 50 percent (in 2001), of the amount accumulated while the worker was employed by the firm (this additional 10 percent payable to the government) reduced turnover. However, this is only a partial equilibrium analysis. Given that a distortion was introduced in the labor market, this increase in dismissal costs may have had other effects on overall labor market performance and, in particular, on labor market adjustment costs, wages, and employment.

With regard to labor market adjustment costs, an increase in dismissal costs implies an increase in adjustment costs and, therefore, a reduction in the speed at which the labor market adjusts to economic fluctuations. Most of the studies that relate the speed of employment adjustment to shocks with the level of dismissal costs find that the probability of responding to shocks is negatively correlated to higher firing costs.

The effect of the dismissal fine increase on wages is uncertain. By reducing turnover and improving worker selection, the increased fine may lead to greater investment in firm-specific human capital and higher wages. However, by raising dismissal costs, it may also reduce demand for labor and wages.

The effect on employment is also uncertain, because it reduces firing and hiring. Firms will be less willing to fire a worker in the face of an increase in the cost of dismissals. They will also be careful about hiring new workers to avoid paying high dismissal costs should they face a reduction of demand. Thus, firms will increase their labor force only if they are sure that the demand increase is permanent. This behavior implies misallocation of labor over the business cycle.

The above discussion deals more with labor market flexibility than with labor input flexibility. Labor market flexibility is related to employment and real wage flexibility, while labor input flexibility is related to human capital investment and productivity growth. Whether the Brazilian case displays some degree of trade-off between labor market flexibility and labor input flexibility is an issue that needs to be explored further. As the author clearly describes, the institutional characteristics of the job security policy applied since 1966 increased turnover, reduced job duration, and became a source of conflict between firms and workers. Consequently, firms were discouraged from taking actions to increase the productivity of the labor force and to invest in human capital so as to make it less specific and more flexible. The increases in dismissal costs in 1988 and 2001 reduced turnover, but they could have had the effect of reducing labor market flexibility.

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