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THE IMPACT OF NON-WAGE BENEFITS ON JOB QUALITY AND LABOR MARKET OUTCOMES IN THE DEVELOPING WORLD: WHAT DO WE KNOW?

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One indicator of job quality in the developing world is the extent to which workers are covered by non-wage mandated benefits. Mandated benefits are a class of labor market regulation that requires employers to provide their workers with some form of non-wage pay or benefits. These benefits are typically fully financed by the employer or the employer-worker pair, and administered at the firm level. Some examples include health insurance or healthcare, parental leave, sick leave, vacation leave, vacation bonus pay, "thirteenth month" wages, and transportation or reimbursement for work-related transportation costs.

This note summarizes the existing knowledge and research on the effects of providing higher mandated benefits on labor market outcomes. In particular, we focus on the evidence available for developing economies. We discuss the potential advantages and drawbacks of providing mandated benefits (as implied by economic theory), summarize some of the existing empirical literature on the impact of mandated benefits, and give some country-specific examples of existing programs.

While laws imposing some mandated benefit may yield needed benefits to particular groups of workers, or ease government budget concerns, their implementation must be weighed carefully. Theory predicts that a benefit to all covered workers, funded by firms at the worker-level, may lead to increasing informal employment. Specially-targeted benefits that change the costs of one type of worker relative to another may cause employment composition effects, and benefits applying differently by firm size may distort firm, and thus economic, growth. In general, the higher the cost of providing mandated benefits, and the less equally distributed that cost is, the greater will be the distortions caused by these benefits.

Unfortunately, empirical research on the effects of mandated benefits on labor market outcomes in developing countries is still very scarce and, thus, it is hard to draw general conclusions. Moreover, because of the heterogeneous nature of mandated benefit laws, and the multi-layered institutional settings in which they are implemented, there is probably no universal message about the effects of such laws. We can learn from economic theories and existing studies, such as those expounded in this note, but much more research must be done to increase our understanding of the real-world effects of mandated benefits. This note sets out to introduce some of the theory and existing literature about mandated benefits, and to draw attention to the need for more research about the impact of this type of policy.

Costs and Benefits

Governments may choose to mandate benefits as an alternative to providing a social good or service to the entire population, or because the need for a particu-

lar benefit only exists among the working population. Because mandated benefits appear to be revenue-neutral, they are often implemented in lieu of a government-funded program.[1]

Also, since mandates generally state a minimum benefit or outline of requirements, these programs can be implemented at the firm or individual level in a manner that best fits the needs of the employer and the employee. This flexibility can allow for a benefit to be administered in a more efficient manner than it could be at a federal or state level, both because the ability of firms to tailor benefits to the needs of their employees can reduce overall cost, and because non-government administration avoids inefficiencies due to the political nature of budgeting government programs.

Another potential advantage to mandated benefits over government-administered programs is that workers may more readily understand that contributions for these benefits compose part of their compensation package, as compared to a payroll tax (also part of the compensation package) to fund a government-provided benefit. This may have positive effects on labor supply.

When considering whether to impose a mandated benefit, however, it is also important to consider the drawbacks associated with these. Some of the potential costs of mandated benefits are best illustrated in the context of basic economic theory, and are discussed in the next section. Another important aspect to consider is enforcement: mandated benefits may be difficult to enforce because the mode of implementation can vary greatly from firm to firm. For example, quality of healthcare or health insurance provided by individual firms may be difficult for government inspectors or auditors to assess. Mandated benefits must be enforced to have an effect, and enforcement is not costless.

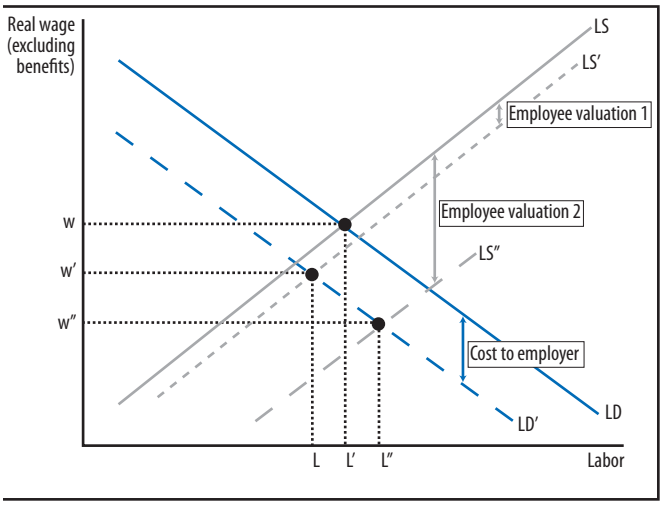
Theoretical Considerations

Standard theoretical models[2] of the effects of mandated benefits on the labor market are similar to those for payroll taxes. An important difference is that the value workers place on mandated benefits can mitigate the negative employment effects of such programs by reducing the direct wages workers require to supply their labor. A standard, static labor market model with a mandated benefit may look like the graph below. The impact of a mandated benefit program is expected to reduce direct wages paid to workers, but the effect on employment is ambiguous and depends on the degree to which workers value the benefit.

However, if mandated benefits require per-worker lump sum contributions, employment may shift away from part-time or low-wage workers because the cost to employ them is disproportionately increased. The composition of employed workers may also be affected by mandated benefits when payments are only required for a subset of workers. For example, the cost of maternity leave programs may be paid only for workers who are women of childbearing age. Then, these workers may be discriminated against in the labor market, resulting in lower employment rates, wages and/or formality status of this group of workers.

Interactions with other labor market institutions and the state of the economy are also important. For instance, the presence of a minimum wage would complicate the analysis from Graph 1: it might further reduce employment while mitigating the decline in

Figure 1: Constant hourly cost of mandated benefit, no binding minimum wage



Employee valuation 1 indicates labor supply effects with low valuation of the benefit. Employee valuation 2 represents valuation of benefits above the cost to the employer. Point (L, w) represents equilibrium employment before a benefit is mandated. Point (L′,w′) indicates a possible equilibrium under low employee valuation, and point (L″,w″) shows a possible outcome if a mandated benefit is highly valued by workers.

[1] Since no regulation or institution operates in a vacuum, this assumption may often be false.

[2] See Boeri, Helppie and Macis (2008), pages 20-24 for a more thorough discussion of the theoretical considerations related to mandated benefits.

wages for those workers who remain employed.[3] The case of a binding minimum wage is particularly salient in developing countries, where de jure minimum wages apply to a large portion of the workforce.

Further, effects of mandated benefits may be difficult to predict: mandating that firms provide health insurance to workers may greatly change the size and scope of a country's insurance industry, the percentage of health care dollars required for administrative costs, and the need for oversight. Mandated employer-financed maternity leave could bias hiring against women of child-bearing age or increase the gender pay gap.

Empirical evidence

The effects of many types of mandated benefits on labor markets have not been studied systematically in the case of developing countries. Early work on mandated benefits generally used aggregated time-series data or data in cross-section only. These papers generally found ambiguous impacts of mandated benefits on wages and employment. Some recent researchers have attributed these unclear findings to measurement error and biases arising from regression techniques, and have attempted to improve upon these by using micro-level longitudinal datasets from individual countries. Indeed, given that countries differ in institutions, culture, rule of law and business cycles, analyzing the effects of mandated benefits within countries seems a solid approach to beginning to understand their effects.

Given the paucity of studies on mandated benefits in developing countries, it can be useful to draw on studies of government programs funded by payroll taxes. Theory suggests that payroll taxes and mandated benefits will have similar effects on the labor market. The costs of programs are generally borne to some extent by both firms and workers. Sometimes the burden is borne by some firms or industries more than others, depending on the applicability of programs or their funding mechanisms.[4]

However, mandated benefits may also be more highly valued by workers than government benefits funded by payroll taxes, because the connection between contributions and benefits is more transparent. Additionally, there may be efficiency benefits to non-government programs. Both of these factors may reduce the predicted disemployment effects of mandated benefits as compared to payroll tax-funded programs in standard models. Because of the important differences between payroll tax funded benefits and mandated benefits, this note excludes discussion of research on payroll taxes from the empirical digest.[5]

Mandated Employer-Provided Health Insurance: As an alternative to nationalized provision of health care or insurance, policymakers may opt to mandate provision of health insurance through employers. A large number of studies using US data have been written in recent years, as this country attempts to improve access to healthcare. One recent paper constructed an estimate predicting that 0.2 percent of workers, and 1.4 percent of unemployed workers in the United States might become unemployed with such a mandate (Baicker and Levy, 2007). One third of uninsured workers earn wages close enough to the minimum wage that their wages cannot be fully adjusted to absorb the cost of health insurance, so they would be put at risk of unemployment by a health insurance mandate. This is an example in which workers who would be targeted by such a mandate would suffer disproportionate job losses, underscoring the importance of attention to policy targeting and impact analysis.

We did not find studies of this type of mandate for developing countries. However, because the United States' minimum wage is relatively non-binding, compared to those of many developing countries, the labor market consequences of such mandated benefits in developing economies could be yet more dramatic.

Pregnancy and Maternity Coverage: A focus of the mandated benefits literature, in both developed and developing countries, has been on pregnancy and maternity policies.

A study in the early 1990s found a large degree of wage-shifting in the United States as a result of anti-discrimination legislation that mandated health insur-

[3] The above discussion focused on a single labor market with standard labor supply and demand curves and assumed homogeneous workers. Relaxing the assumption of perfectly competitive markets in this model, also a consideration in developing country literature can result in workers capturing more rent through benefits. De la Rica and Lemieux (1994) provide a more rigorous model of such decisions.

[4] Anderson and Meyer (1997)

[5] For more detail on some payroll taxation studies, see Boeri, Helppie and Macis (2008).

ance coverage of childbearing costs. The implication of this finding is that workers bear most of the burden of these laws. Interestingly, this paper also found an increase in hours worked by women of prime childbearing age (Gruber, 1994). Another study found that Canadian policies that guaranteed time off and a right to return to the same or a similar job for new mothers increased labor force participation of women before childbirth and increased rates of return to the same employer after leave (Baker and Milligan, 2005). These findings appear to confirm the predictions of basic theory that substitution away from costly groups of workers (women of childbearing age) can be mitigated through increased productivity by these workers (for example, by increased labor force attachment in anticipation of receipt of maternity benefits) or more firm-specific human capital accumulation (made more likely by increased likelihood that a woman will return to her prior job after leave).

Developing country evidence is scarce, but does support some of the same findings. A study of the impact of women's work hours and maternity benefits in Taiwan show increased labor force participation in both hours and employment, and no wage effects (Zveglich and van der Meulen Rodgers, 2003). Of particular importance in the case of developing countries, however, is that statistically significant effects were found only after the laws began to be enforced. Likelihood and extent of enforcement should be considered when evaluating the effects of mandated benefits in developing countries, where rule of law may be weaker than in more developed countries.

The "Thirteenth Salary," vacation pay and other required bonuses: In many countries—both more and less developed—Christmas bonuses, vacation pay at greater than 100% of the wage, and other required bonuses comprise and important part of the wage structure. To date, surprisingly little research has examined the labor market impact of such compensation, especially in less developed countries. However, one study, on the impact of Ecuador's 13th, 14th, 15th and 16th salaries, plus several other mandated bonuses and payments, was conducted in 1997 by MacIsaac and Rama. Their analysis showed that the total compensation package averaged just 18% more in private sector jobs complying with labor regulations than otherwise identical jobs, indicating a high degree of wage shifting. This large degree of wage shifting is probably enabled by weak enforcement of the minimum wage, yet again underscoring the importance of considering enforcement and incentives to operate informally when developing and analyzing the impact of mandated benefits.

Unemployment Insurance: Investigation into the effects of taxes that vary at the firm level, through the example of the experience-rated unemployment insurance system in the United States, found that while market-level tax is largely borne by workers, firm-level variation in taxes appears to be borne by firms, both in terms of wages and employment (Anderson and Meyer, 1997). It is important to note, however, that employment reallocation across firms and micro-level deadweight losses may exist even if no aggregate employment effect is apparent. This is an important idea, and one that underscores the desirability of careful firm-level studies.

Conclusion and Policy Recommendations

Policymakers around the developing world are concerned with identifying policies that enhance the quality of jobs being created. In particular, they hope to design labor market regulations that simultaneously provide the socially needed non-wage benefits without introducing large distortions in the labor market. Mandated benefits can be an important potential tool in governments' battles against poverty and exploitation, and help achieve higher levels of employment and training. They have the potential to increase workers' welfare through more valuable or better-tailored compensation packages, and to reduce waste by allowing for local solutions to nationwide issues. On the other hand, mandated benefits may encourage firms and workers to operate in the informal economy, reduce wages, and may even reduce employment of the groups of workers they were designed to help.

The literature on the provision of mandated benefits is one area in the labor law and enforcement literature which has not yet been thoroughly or systematically explored. Often conflicting conclusions in this literature do not yet allow us to draw broad conclusions. However, because the nature of the benefits is also very heterogeneous across countries in terms of policy structure, implementation and enforcement, it is also very difficult to draw these broad conclusions.

As with any policy, mandated benefits may interact with the existing institutional structure of a government

Box 1: Policy Considerations

When evaluating a potential mandated benefit policy, the following questions may be worth consideration:

1. *Who are the targeted groups?*
2. *Is this policy likely to cause one group of workers to be substituted for another?*
3. *What value are workers likely to attach to the benefit?*
4. *How much will this policy cost firms?*
5. *Will it cost firms a set amount per worker, or a proportion of wages?*
6. *How might this policy incentivize firms or workers to operate in the informal economy?*
7. *How might this policy distort existing markets for the benefit being mandated?*
8. *What will enforcement of this policy cost, and how effective is it likely to be?*
9. *What institutions, laws and other markets will affect the implementation and success of this program, and how?*

Box 2: Mandated Benefits and Earnings Composition in Ecuador

(*Sucres per Hour as of September 1994*)

Component	Legal minima
1. Base wage	412
2. Tips and overtime	0
3. Voluntary bonuses (vacation, Christmas, firm anniversary, etc.)	0
4. Voluntary allowances and payments in kind (food, housing, clothing, etc.)	0
A. Basic earnings (=1 + 2 + 3 + 4)	412
5. Teen payments	196
6. Compensation bonus	294
7. Cost of living bonus	659
8. Transportation allowance	71
B. Mandated benefits (=5+6+7+8)	1,220
C. Take home pay (=A+B)	1,632
D. Social security contribution by worker	43
E. Payroll taxes	56
F. Total labor cost (=C+D+E)	1,731

Source: MacIsaac and Rama (1997), Table 2

Note: In the calculation of the legal minima, a month was supposed to include 170 hours of work and no overtime. All legal figures correspond to the most general regime.

Box 3: Mandated Benefits and Earnings Composition in Brazil

Component	Percent	Total
Basic wage	100	
Annual bonus	8.3	108.3
Vacations	11.3	119.6
Severance fund contribution (FGTS)	8	127.6
Other mandatory benefits*	10	137.6
Total pay (basic wage + mandatory benefits)		137.6
SESI, SENAI, SEBRAE (employer associations)	3.11	140.7
INSS** + Accident Insurance + Education + INCRA	24.7	165.4

Source: Amadeo, Gill, Neri (2000), p. 7.

* Includes family allowances, pregnancy leaves, transport subsidies, etc. Cannot be calculated for all workers, since they depend on gender, type of work, sector, etc.

** Workers contribute with 8%, 9% or 10% of the wage to social security depending on the wage.

and economy to produce unintended effects. Policymakers and researchers should strive to consider interactions with other institutions when predicting or analyzing the effects of any law.

Policymakers should also consider the goals of mandating a benefit. For example, a "thirteenth month" salary may be intended to increase the pay received by workers, but is generally predicted by standard economic theory to reduce other wage payments (reducing the positive impact on wages) and also to reduce employment.

Particularly relevant to developing countries is that generous mandated benefits may raise incentives for workers to seek jobs in the informal sector or for firms to operate informally, thus increasing the size of the unregulated economy. They also may also distort the composition of the economy, if they are implemented differently by firm size or industry (e.g., Anderson and Meyer, 1996).

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