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# Banks and Labor as Stakeholders: Impact on Economic Performance

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**Banks and Labor as Stakeholders: Impact on Economic Performance**

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**Abstract**

**This Working Paper should not be reported as representing the views of the IMF.**
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While theory suggests that stakeholders' relative powers affect a firm's overall performance, traditionally the impacts of different stakeholders' rights have been analyzed independently. Using U.S. data over 1972-1993, we find that financial liberalization positively, but greater workers' rights ambiguously impact overall state growth. At the industry level, financial liberalization does not promote industries that are more dependent on external financing, but employment protection does promote more knowledge-intensive industries. This suggests that financial liberalization reallocates resources more efficiently across sectors, while employment protection encourages more sector-specific, human capital investments. Overall, our results provide support for a stakeholders' view of corporate governance.

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## I. INTRODUCTION

Many, although mostly in theory, have debated the merits of a shareholders' versus stakeholders' view of corporate governance. Is corporate governance sufficiently framed in terms of only shareholder's value maximization? Or should good corporate governance be defined in a broad sense on the basis of the contributions of stakeholders, especially workers and creditors?[1] The first view, especially prevalent in the U.S. and other Anglo-Saxon countries, is that shareholders' value maximization alone is a sufficient definition of corporate governance. In this view, maximizing shareholders' value is also socially optimal, provided that there are no frictions in contracting with other stakeholders in a firm, likely when markets for finance and labor are well-developed and transparent. Under this view, the regulatory system only needs to assure that shareholders have the means to maximize share value. The second view is that all stakeholders, and their rights, need to be considered together for a firm to maximize its performance. This view is prevalent in many countries, especially continental Europe as well as Japan, with otherwise well-developed factor markets. Under this view, a regulatory framework aimed at increasing stakeholders' rights is desirable because it maximizes overall stakeholders' welfare, and firms will do better than with share value maximization alone. A negative-sum version of this shareholders' view also exists, however. It describes the outcome of a political economy process that protects certain interest groups, leads to inefficiencies and rents, with overall welfare consequently not necessarily maximized.

In this paper, we do not expect to fully resolve this (controversial) debate on which view is "right" or whether governments should adjust the regulatory environment to promote a stakeholders' view. Rather, we want to contribute to the debate by addressing a specific issue, namely whether certain regulatory interventions aimed at enhancing stakeholders' rights can be justified on efficiency grounds. Shareholder value maximization does not mean a manager of a firm should not consider other stakeholders' inputs. On the contrary, she needs to make sure that other stakeholders contribute as much as possible to the firm's performance. As such, a firm will care not just about its employees' current provision of labor, but more generally about their welfare so that they perform well in the long run. Similarly, the firm will need to consider and treats its creditors, suppliers and customers from a long-run value maximization point of view. It is also generally agreed that not all contracting problems can be resolved through private agreements. In the context of stakeholders' contribution to firm performance, this means that a good judicial framework can help firms derive the most value from their stakeholders. Akin to laws and courts providing shareholders with some forms of protection, laws standardizing employee contracts and courts adjudicating ex-post negotiations may enhance firm performance. Laws and courts, for example, may save transactions costs in private contracting. They may also serve as external commitment devices. Workers or suppliers, for example, may only agree to make firm-specific investments if their relationships can not be terminated unilaterally by the

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[1] We narrowly focus on input providers as stakeholders. In other words, we abstract here from valid public policy objectives such as protecting consumers from fraud and the environment from pollution.

firm. And a greater commitment may also enhance workers' and suppliers' monitoring of the management, helping overcome agency issues between shareholders and management, and thereby increasing overall output or efficiency.

Some regulatory interventions in labor, financial, and other factor markets can thus be justifiable from an efficiency point of view or even if a pure profit-maximization view. We investigate the validity of these efficiency arguments empirically by studying the effects of (relative) changes in legal protection for classes of stakeholders in the U.S. Doing this analysis for the U.S. has several advantages. First, we can take advantage of some natural experiments. There have been relatively large changes in the last four decades in the U.S. with banks being deregulated gradually, while workers have become more protected over time.[2] Those changes have occurred on a state by state basis, but at different points in time. Shareholder protection laws, although more similar across states, have changed as well over time, varying by state. These legal changes may affect firm performance as they affect the protection and bargaining powers of banks and workers—with local bankers getting less protected and workers more protected over time. At the same time, since these changes occur at the state level, we do not need to concern ourselves about reverse causality, which could be a case when performance drives changes in stakeholders' rights at the individual firm level (e.g., better performing firms provide greater protection to their employees).

Second, we can investigate the effects of (changes in) shareholders', creditors' and workers' rights in one consistent empirical framework. So far, the empirical literature on corporate governance has primarily focused on shareholder protection and to some degree on creditor protection, but almost always investigated either aspect independently. By using changes in multiple stakeholders' rights, we can reduce potential omitted variable biases. We can also explore the interactions among (changes in) stakeholders' rights, since one can expect that only in certain combinations do laws defining stakeholders' rights and positions affect firm performance.

Third, and importantly, the U.S. state case is useful since relatively high and uniform levels of information, contracting, and enforcement environments prevail across all states. We can identify true impact from state-specific changes in stakeholders' formal rights without concerns about other institutional aspects such as lack of enforcement. In other words, we can be reasonably confident that effects identified by state are relevant not only across other states but as well for other countries with institutional environments that are otherwise U.S.-like.

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[2] Note that while US employment protection has increased, it is still much less strong compared with Europe (Botero and others, 2004). The fact that we nevertheless find effects from such small changes, strengthen our arguments. Moreover, anecdotal evidence suggests that de facto job security at US firms, such as at large manufacturing firms (e.g., Ford or GM), has declined. Again, it strengthens our argument that will still find effects of changes in employment protection, while at the same time job tenure has declined.

To investigate the effects of changes in financial controls, shareholders' rights and employment protection at the state level for the period 1972 to 1993, we use as measures the growth of state-level GDP or state-industry level GDP. An aggregate value added measure has advantages compared to firm-level profitability or valuation measures for a number of reasons. For one, we are interested in the overall contribution of all stakeholders, making total value added the most logical. Moreover, since we measure value added at the state or state-industry level rather than at the firm level, we take into account some general equilibrium effects of reforms, for example, when reforms end up redistributing, without changing overall value added. We also avoid the problem of investigating only the performance of existing firms, which may actually be affected differentially by reforms compared to what how overall value added is affected.[3]

To identify the channels by which judicial changes may affect firm performance, while avoiding potential simultaneity biases, we use a modified Rajan-Zingales (1998) methodology, where we consider the natural external financing dependency and knowledge-intensity of the various industries using benchmark data, also from the US but from a later period. We find consistent evidence that regulatory reform and judicial changes altering the powers of stakeholders affect output growth. We find a large positive effect of bank branch deregulation and ambiguous effects of changes in employment protection on state level output growth. For state-industry level output growth, we find a large positive effect of bank branch deregulation and a negligible overall effect of employment protection. Equity rights protection does not seem to affect state or state-industry level output growth. These results are broadly consistent with the existing literature, except that they imply some omitted variable biases in previous studies.

In terms of channels, financial liberalization does not have effects varying with firms' industry-specific external financing dependency. Financial liberalization rather improves the efficiency of overall resource allocation. This is somewhat different from Rajan and Zingales (1998), likely due to the fact that they focus on the overall level of financial development making an increase in the volume of external financing to industries in need of financing their main channel. Since banks had tighter control over their borrowers prior to deregulation, it also suggests that too strong rights for some stakeholders and too close relationships can hurt output growth. Judicial changes enhancing employment protection promote relatively more the growth of more skilled-labor, knowledge and intangible-asst intensive industries, but do little on overall output growth. Employee rights' enhancement thus has efficiency effects, on the contrary to the typically emphasized negative effects on overall employment. This way we shed some new light on the literature on industry-specific growth related to real factors (e.g., Buera and Kaboski, 2006).

We interpret these channel findings as evidence that enhancing some stakeholders' rights, especially employment protection, can be justified on efficiency grounds, at least for certain

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[3] Typically used firm-level measures, such as return on assets or Tobin's Q, could show deterioration due to reforms even when aggregate value added increases. Existing firms may, for example, expand their asset size after bank branch deregulation as their cost of capital declines and their marginal returns to capital may therefore drop, while at the same time, together with entry of new firms, overall industry or state-level value added increases.

types of industries. While overall impact of general employment protection is insignificant, its impact is significantly positive in knowledge-intensive industries consistent with a stakeholder's view of the firm. Moreover, we find positive coefficients on the cross-terms between bank branch deregulation for external financial dependent industries and employment protection for skilled-labor industries. This suggest some complementarity in the roles of stakeholders in enhancing firm performance. The finding is consistent with the mechanisms suggested by the incomplete contract-based theory of firm (e.g., Hart, 1995): firm performance and growth are influenced by the relative bargaining powers of multiple stakeholders. We interpret this as a supporting evidence of a broader stakeholders' view of corporate governance.

The rest of the paper is organized as follows. In Section 2, we review related literature. In Section 3, the database used and the methodology used are described. Section 4 includes the main results and various robustness tests. The last Section concludes.

## II. RELATED LITERATURE

The financial liberalization literature for the U.S. has focused on how changes in bank power and market structure affect economic performance. Jayaratne and Strahan (1996) describe the history of bank branch deregulation in the U.S. Before the first wave of deregulation, unit banking was the rule. This meant that banks could not open any branch and could operate from headquarters' location only. Starting in the early 1970s (except for some states), banks were allowed to operate multiple branches within each state (intrastate banking), first through mergers and acquisitions of other banks, and then by establishing new branches (de novo branching). This deregulation took place at different times in each state, with large variations. Finally in 1994, the federal government permitted banks to operate branches in different states (interstate banking).

With more competitive pressures, banks lost some of their bargaining power over local borrowers. This change could lower overall output growth if banks previously used their de-facto stronger, monopoly-type rights (since they had less concerns about repayments and more profits) to channel resources to more firms in need of external financing, thereby enhancing overall output (see for example Hellmann and others, 1996). The change could increase overall economic activity, however, if banks' old monopoly power meant capital was being allocated inefficiently or if entrepreneurship had been discouraged by denying access or charging too high interest rates to new firms.[4] The change could also be good for other stakeholders if banks previously had charged too high interest rates and extracted rents, even when they did allocate resources efficiently. Empirical analyses mostly supports the view that financial liberalization enhanced output (growth). Jayaratne and Strahan (1996) show that states that liberalized

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[4] Besides the beneficial effects of reducing inefficiencies or weeding our corrupt lending practices often associated with protected banking system, bank competition may reduce excessive risk taking (Boyd and De Nicolo, 2005) and promote (implicit) investment coordination among firms (Ueda, 2006).

experienced faster growth. They argue that efficiency channels most likely caused the increase in growth as they find no evidence for increases in bank lending.[5] Acharya, Imbs and Sturgess (2006) also find efficiency effects as the industry-composition converges to an "efficient frontier" after bank branch deregulation. Also, Abiad, Oomes and Ueda (2008), in a cross-country study, find improvements in within-industry efficiency in capital allocation after (more broadly-defined) financial liberalization reforms.

The employment protection literature has proceeded along similar lines and also focused on the effects of labor reforms on economic activities, including employment creation and (un)-employment rates. Autor, Donohue and Schwab (2006) describe the history of employment protection of workers in the U.S., improving upon previous studies. They document how, using initial precedent-setting case law, states adopted de-facto wrongful discharge protection for employees.[6] Historically, employers could freely fire workers, but from the early 1970s on, states gradually restricted such practice by establishing common law exceptions for wrongful discharges. Autor, Donohue and Schwab (2006) classify these employment protection laws into three categories: public policy, good faith, and implied contract. Under the public policy exemption, employers cannot fire employee just because they follow public policy, such as performing jury duty, filing worker's compensation, reporting employer's wrongdoing, and so forth. Under the good faith exemption, employers cannot fire workers for "bad cause," primarily applied to "bad timing" cases, such as firing just before the salary due date or the threshold pension date. The implied contract exemption is somewhat vaguer: without clearly stating in the employment contract that a company can fire a worker at will, workers should be kept employed according to their length of service, history of promotion, general company policy, industry practice, and so forth.

These forms of employment protection may retard or contribute to growth, with multiple potential channels possibly going either way. As is typically argued, with greater employment protection, employers become less willing to hire workers, thus decreasing employment and lowering output.[7] Stronger laws also means there will be higher direct costs of observing the

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[5] In a subsequent study, Stiroh and Strahan (2003) show that one efficiency channel may be the result of a competitive shake-out: efficient banks drove out inefficient ones. Black and Strahan (2001) show that the female share in managerial position increased after deregulation. This suggests that bank employers and employees might have enjoyed rents, which dissipated after the deregulation.

[6] Since these are precedent or case based actions, they may not necessarily take effect in a uniform manner across the whole state immediately. While the dating consequently can not be done unambiguously, many papers have used the same dates we use. Note that there are some reversals where earlier recognized doctrines were overturned by the courts.

[7] See for example, the macro-labor textbook by Pissarides (2000). A recent theoretical paper by Blanchard and Tirole (2008), however, supports some role for employment protection. By taking into account the dead-weight losses associated with unemployment, which are (partially) incurred by the government, some employment protection can be optimal since it makes firms internalize such costs.

laws, again potentially lowering output. Stronger worker protection may furthermore lead to rent-seeking on the part of workers and can even destroy firm value, for example, when workers oppose the placement of substitute new machines—Parente and Prescott (2000) provide an example for India.

However, some forms of empowerment of employees may improve total value added and even help shareholders' value maximization. Employees' rights will affect their incentives to directly and indirectly contribute to the firm. While rights can be secured contractually, in the presence of inefficiencies in enforcing privately-negotiated contracts, it can be beneficial to secure some rights by law.  For example, good faith laws prevent firms from firing workers just before their pay day. Without such a law, fearing it could happen, workers may demand premiums, leading to failure in labor markets, hurting especially those newly created firms that can not pre-commit credibly to such a right.  A law can thus avoid inefficiencies.  An important other channel could be when there are firm- or sector-specific human capital investment needs. Protecting workers from firing without good reason can promote workers to acquire more specialized skills and thereby enhance firm performance (see Hart, 1995, for microeconomic theory and Murphy 1988, Takizawa 2001, and Mukoyama and Sahin 2006, for macro-level arguments along these lines).[8] Also, stakeholders may contribute not only directly to a firm's output—whether through providing labor, supplies or financing, but can also do so indirectly. Management monitoring may be associated not just with equity financing, for example, but also with bank financing, which in turn means that banks' rights can affect shareholders' value. Similarly, labor that is more protected may help overcome agency problems between investors and management since workers' incentives become more aligned with long-run firm performance. Of course, judicial means are not the only tool to protect workers. Unions, for example, could also provide some enforcement, especially if the required skills are industry-, but not firm-specific. At the same time, unions can engage in rent-seeking behavior and be value subtracting.

Empirical research has most often found negative effects from employment protection. Early work found large negative effects (Dertouzos and Karoly, 1992, 1993) of employment protection on number of people employed.  More recent work, however, finds that adoption of the type of labor exemptions discussed above have no effect on employment (Miles, 2000) or a negative, albeit small effect on employment accompanied by little effect on wages (Autor, Donohue III, and Schwab, 2006). In subsequent work, Autor, Kerr, and Kugler (2007) find that the wrongful discharge protection affects firm-level productivity negatively by reducing employment flows and firm entry rates.

The empirical literatures on financial liberalization and employment protection, however, as well as the literature on corporate governance, have so far considered the role of each stakeholder

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[8] See also Garmaise (2008), who argues that financially constrained small firms have greater difficulty in hiring new employees, thus providing de facto employment protection to existing employees and thereby inducing more firm specific investment.

separately, without considering other stakeholders. An extensive literature has investigated the role of minority shareholders' and creditors' rights, using either aggregate data (La Porta, Lopez-de-Silanes, Shleifer, and Vishny, 1997 and 1998; and Djankov, McLiesh, and Shleifer, 2007) or data on firm behavior and characteristics (e.g., De Nicolo, Laeven, and Ueda, 2006 on corporate governance, and Acharya, Amihud, and Litov 2008 on creditor rights), and relating these data to country institutional features. But this corporate governance literature has largely considered minority shareholders' and creditors' rights separately and not controlled for employment protection. In the labor literature, the effects of employment protection on wage and unemployment have been studied without controlling for shareholder protection or creditors' rights. Botero et al. (2004) show in a cross-country study that heavier regulation of labor is associated with lower labor force participation and higher unemployment. But this analysis, as other studies mentioned above, do not control for the rights of other stakeholders.

Many theoretical models, though, recognize the importance of analyzing the roles and effects of the various stakeholders' claims jointly. These theoretical analyses (e.g., Allen 2005, Allen, Carletti and Marquez, 2007; see also Tirole, 2006) argue that in a second best world with information asymmetries, agency issues, incomplete contracting and other problems, a proper configuration of all stakeholders' rights can lead to firm value maximization. Rather than being based on explanations where stakeholders affect firm performance unilaterally (e.g., banks providing financing and/or monitoring management), the incomplete contract-based theory suggests that firm performance varies with the rights and relative bargaining powers of multiple stakeholders. In this view, interactions and possible tradeoffs among various stakeholders' roles can help maximize a firm's overall value. For example, creditors and employees jointly may monitor management, thereby prevent entrenchment and private benefits, and thus increase overall firm value. Under this view, all stakeholders' actions and rights together need to be considered together.

The general argument of this view is that the balance of power of various stakeholders affects the severity of agency issues in firm management. Altering the various stakeholders' powers can then matter as it can serve to balance several stakeholders' varying and, at times, conflicting interests. Stakeholders such as equity holders and creditors, for example, will typically have a congruence of interests, but in case of (near) financial distress their interests can sharply diverge (Jensen and Meckling, 1976). Enhancing creditors rights even in situation of no financial distress to include issues normally reserved for shareholders, can then improve overall firm performance. Another specific example is that in the presence of private information, shareholders can benefit from workers reporting wrongdoing of managers to the public or shareholders. However, without having some job protection, workers will be less willing to be informers. More generally, when only incomplete contracts can be written, altering the allocation of bargaining powers of stakeholders may increase overall firm value. Of course, it may also lead to value reduction.

Only a few papers have investigated empirically how variations in several stakeholders' powers may affect the economic performance across countries or firms. A paper using country level analysis is Fonseca and Utereo (2007). They investigate the effects of labor regulation and

barriers to entrepreneurship in the presence of credit market frictions. They show that stricter employment protection laws and more barriers to entry negatively affect firms that are more dependent on external financing. Taking a country perspective as well, but more a political economy point of view of stakeholders, Pagano and Volpin (2005) explain the observed negative correlation between shareholder protection and employment protection across OECD countries as the outcome of a combination of incumbent workers and inside owners/managers erecting barriers against minority shareholders.

A few papers have analyzed the joint effects of creditor and labor rights using firm-specific data. Atanassov and Kim (forthcoming) investigate cross-country differences in firm-level restructuring and find that the type of reaction to financial distress, asset sales or layoffs, depends on both the degree of investor protection and employment protection. Stronger labor union laws can prevent layoffs and assets sales, but only in countries with good investor protection, whereas in weak investor protection countries, strong union laws are associated with less management turnover and more assets sales, suggesting collusion between management and workers. Studies on employment share ownership (ESOP) are relevant as well since their adoption can mean a change in the relative balance of shareholders and employees. Kim and Quimet (2007), for example, find that ESOPs add to firm value when the plan is small, but not when the plan is larger than 5% of outstanding shares. Larger plans are associated with substantial increases in worker compensation, suggesting insiders gain too many control rights. In these studies, however, overall economic impact is not the focus.

Besides bank and employee rights, there can also be an impact of changes in shareholder protection on firm performance, running through both the availability of external financing and through governance channels. Empirically, this has been well documented on a cross-country basis, but has been hard to detect effectively for a within U.S. context because of little regional variation in equity rights (most securities laws are federal). Moreover, large firms typically list on stock exchanges, thus subjecting themselves to the rules of the respective exchange, making firms' headquarter addresses less relevant. Also, large firms often establish their headquarters in states with laws most conducive to their businesses, further making local laws less relevant for state- or state-industry level value added.

Nevertheless, there is some variation, especially in state anti-takeover protections, that can be expected to affect mostly non-listed firms' behavior. Indeed, Bebchuk and Cohen (2003) find that states that offer stronger anti-takeover protections are substantially more successful both in retaining in-state firms and in attracting out-of-state incorporations. Compared to no anti-takeover statutes, adopting all standard anti-takeover statutes increases the percentage of local firms incorporated in state from 23 to 49 percent. This does not answer, however, the question whether firms' owners and managers choose states with weak laws at the expense of minority shareholders and other stakeholders. Other papers though find a decrease in market values for firms in jurisdictions that enact anti-takeover statutes (Karpoff and Malatesta, 1989, 1995; Szewczyk and Tsetsekos, 1992). And Wald and Long (2007) find that, correcting for the endogenously determined choice of where to incorporate, state anti-takeover laws are positively

associated with debt as a fraction of market value, possibly due to lower market values for these firms. But, again, these papers do not study the overall economic impact of (changes) in equity rights.

## III. DATA, EMPIRICAL METHODOLOGY AND REGRESSIONS RESULTS

### A. Data

We have data on financial deregulation, shareholders' protection, employment protection, and state and state-industry level outputs. The financial deregulation is proxied by branch deregulation, equity rights by anti-takeover statutes, and the employment protection by so-called exceptions for wrongful discharges. Specifically, we use the data from Jayaratne and Strahan (1996), differentiating the steps of allowing for bank merger and acquisitions from allowing the establishment of de-novo branches (see their paper for a full description of branch deregulation). The anti-takeover index comes from Bebchuk and Cohen (2003) and is available for each year for every U.S. state for the years 1986-2001 (see their paper for a full description of the data). The index captures the degree to which takeover statutes are in place facilitating the ability to adopt anti-takeover protections. The data for the changes in employment protection are from Autor, Donohue III and Schwab (2006), where they document whether and in which year the judicial system of each state effectively adopts through case law one of the three categories (described above): public policy, good faith, and implied contract. We restrict our sample to start in 1972 when bank deregulation data starts, to 1993, before inter-state branch deregulation starts. Altogether we have 1056 state-year balanced panel observations covering both financial liberalization and employment protection and 376 state-year balanced panel observations covering three reforms.

Figures 1a-1c provide a sense for the evolution of the financial deregulation, shareholder protection, and changes in employment protection. Figures 1a depicts the number of states that have allowed M&A or de-novo branches. Figures 1b depicts the (weighted) number of states that have adopted anti-takeover provisions, weighting states by the severity of the provisions adopted (there is thus not an exact correspondence with Figures 1a and 1c). Figures 1c depicts the number of states that have adopted three forms of employment protections. The Figures show the accelerated financial liberalization, the increase in anti-takeover laws, and the move to greater employment protection in the 1980s across the U.S. Changes did not occur at the same time, though, in each state. Figures 2a-2b depict the number of years between the financial deregulation, and the changes in employment protection at the individual state level (equity rights are not depicted as the overlap of years for which we have the data is smaller). It makes clear that the policy changes have occurred in some states at quite different points in time as the number of years in between the financial deregulation and employment protection reforms can vary from minus 20 to plus 20.

Table 1a provides some further indication of the (lack of) overlaps in stakeholders' protection by showing the raw correlations between the various indexes. It shows that there is a strong

correlation among the financial deregulation indexes, with a correlation of 0.78. Similarly, there is some correlation among the three employment protection indexes, with the highest between contract and public policy, 0.53. Still, the other two correlations among the employment protection indexes are quite low, 0.29 and 0.14. Most correlations between the financial liberalization and employment protection indexes are low as well, between 0.16 and 0.32, reflecting the substantial variation when reforms were adopted at the state level. The correlations between the anti-takeover rights index and all indexes, including the financial deregulation indexes, are very low, always less than 0.15.

Our dependent variables are output data and come from the U.S. Bureau of Economic Analysis (BEA). The data cover the value-added produced in a state and each state-industry combination and can be considered the state and state-industry level counter part to the country's GDP. The industry breakdown is at the 2-digit SITC level with 63 industries at most per state, based on U.S. SIC (rev. 2). We include all industries except financial services, but also analyze separately manufacturing. We use the growth in value added output of a state and or industry, where all growth rates are adjusted for national prices (CPI) changes, as dependent variables. We do this to be comparable to Jayaratne and Strahan (1996) and since state-specific price indexes are available only from 1978, which would make our sample more restricted and miss some important reforms. Data are available for all 50 US states and the District of Colombia, but following a convention in the literature, Delaware and South Dakota are dropped from the sample, as they allowed much more open financial systems early on in attempts to serve as financial centers in the U.S. Altogether we have some 1,000 state level observations and some 50,000 state-industry level observations.

In addition to these variables, we use firm level data to create industry-specific benchmark external financing and knowledge dependency measures, and use industry level data to create industry-specific skill-intensity measures. The industry-level tendency of external finance is defined in the Rajan and Zingales (1998) way as the ratio of investment minus internal cash-flows from operations to capital investments. An industry's "knowledge" dependency is defined as the use of skilled labor in the respective industries, calculated as the average fraction of labor in the specific industry that was college educated for the years 1940 and 2005, thus covering the output growth period we study, using data on schooling from Buera and Kaboski (2006). We check the robustness of our knowledge-intensity measures by creating two other measures, the intangible-asset-to-fixed-asset ratio and the sales-to-fixed-asset ratio. These two measures and external finance dependency are constructed by taking the period mean of the median values of each firm in a specific industry for each of the years 1991-2006, using the Worldscope firm level database.[9] We use the 1991-2006 period since by then the firm level dependency on external financing and knowledge can be expected to be in a natural state, since major financial markets and labor reforms had been completed by then. As an additional control, we also use union

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[9] While the values of external finance dependency are not exactly the same as Rajan and Zingales (1998)—they use a different period and Compustat data, the rank of industries by external financing is virtually the same.

membership variable, calculated as the 1983-1991 average of the industry specific union membership ratios provided by Hirsh and MacPherson (2003). [10]

The correlations among these industry level characteristics are generally as expected (Table 1b). The external financing and sales-to-fixed-asset ratios have a negative correlation of 0.52, implying more external financial dependent firms tend to have lower sales to fixed assets, i.e., use more fixed assets to produce their output. Similarly, the correlation between the external financing dependence and intangible-to-fixed-asset ratio is a negative 0.44, meaning that those firms that use more intangibles assets tend to have lower external financing needs. Still, these correlations are far from perfect, making the variables cover distinctive industry characteristics. As expected, the two knowledge dependence ratios, sales-to-fixed-asset ratio and intangible-to-fixed-asset ratio, are highly correlated, 0.71, suggesting that these two variables capture similar industry characteristics. The use of skilled labor variable has a correlation of 0.37 with the sales-to-fixed-asset ratio and 0.53 with the intangible ratio, but an insignificant correlation with the external financing dependence variable, making it a good variable for testing the importance of knowledge intensity.

## B. State-Level Regressions

We start with state-level regressions, as they are comparable to Jayaratne and Strahan (1996) and Autor, Donohue III and Schwab (2006). We will focus, however, only on basic characteristics of state-level regressions, since they largely confirm existing findings, and quickly go to the state-industry level regressions by which we get more insights in the channels. The state-level regression uses a state and year fixed effects to control for the nation-wide business cycles and state-specific factors, including initial levels of GDP that predict state-specific growth trend:

$$g_{s,t} = \alpha_s + \alpha_t + \beta FinLib_{s,t-1} + \gamma EquRight_{s,t-1} + \delta WorkRight_{s,t-1} + \varepsilon_{s,t}. \qquad (1)$$

Financial liberalization is defined in one of two ways: *FinLib = M&A*, which is a dummy equal to 0 when bank branch through M&A is restricted, and 1 if deregulated; or *FinLib = De novo* which is a dummy equal to 0 when bank branch is restricted 0, and 1 if deregulated. For robustness, we investigate the effects of both measures, but since M&A bank deregulation always precedes de novo deregulation, we find the most impact from M&A bank deregulation and only report those results. The equity rights index, *EquRight* is the anti-takeover index of Bebchuk and Cohen (2003), which runs from 0 to 6.

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[10] The industry classifications by Hirsh and MacPherson (2003) and Buera and Kaboski (2006) are somewhat different from and often more detailed data than those of U.S. SIC (rev. 2). When there is an exact overlap with the SIC industry classification, we take the data as is. Otherwise we aggregate, using as weights the income share in the more detailed industry classifications for the period 1994-2000. Note also that we obtain the same results using the knowledge dependency defined for either 1940 or 2005 instead of using the average of both years.

In terms of employment protection, we use four indexes, depending on which of the three employment (wrongful discharge) protection is adopted or if any of the three is adopted. If a protection is recognized by the specified state court, the following binary variables have a value of 1 and otherwise 0: *WorkRight = public policy*; *good faith*; *implied contract*; or *earliest*, with the latter if any of the previous three is introduced.

Table 1c provides the mean, standard deviations and some other descriptive statistics of the main variables we use. It shows that the average growth is some 2.4 percentage points, with large variations. There is also much variation in reforms, as the high standard deviations of the reform indexes show. Finally, industry characteristics vary considerably as well, making them useful to identify the channels by which regulatory and judicial reforms may affect output growth.

The first column of Table 2a shows the regression results with only the financial liberalization variable. The statistically significant positive effect of financial liberalization on state-wide growth is consistent with the hypothesis that curtailing local monopolistic power of banks leads to more efficient financial intermediation. Using the M&A deregulation dummy, the effect of bank branch deregulation is about an 1.6 percent increase in state level growth rates, somewhat larger than Jayaratne and Strahan (1996). This larger effect may be because we use state fixed effects. If we run the regression without state fixed effect, the effect is about 1.06 percent (regression results omitted), which is almost identical to that found by Jayaratne and Strahan (1996). The effect is always lower for de novo branch deregulation (not reported), again in line with Jayaratne and Strahan (1996), and reflects the fact that the de novo branch deregulation always came after the M&A deregulation.

Columns 2, 4, and 6 show the effects of the three types of wrongful discharge protection measures. Interestingly, the results show a mixed picture, with the public policy based employment protection showing a positive effect, while the other two types are associated with negative effects. However, they are not significant and using the earliest of the three wrongful discharge protection as an employment protection index, column 8, does not lead to significant results either. The results are in line with Miles (2000) who finds little effect on unemployment rates, but somewhat different from Autor, Donohue III and Schwab (2006) that find uniform negative effects on unemployment. One reason for this difference may be an omitted variable bias. While we control for contemporaneous, correlated changes in financial sector regulation, previous labor studies do not. And obviously, GDP and unemployment can differ, as when unemployment increases due to greater employment protection, but a rise in firm-specific human capital investment offsets the negative effects of higher unemployment on GDP. To investigate these possibilities channel more clearly, we have to turn to our state-industry level regressions.

When we include both bank branch deregulation and the wrongful discharge protection, the effects of financial liberalization become somewhat stronger, i.e., generally larger coefficients (columns 3, 5, 7 and 9 in Table 2). Given the correlation between the two institutional changes, controlling for the degree of employment protection apparently produces less biased estimates for the effect of financial liberalization. The effects of employment protection do not change much, with the public policy based employment protection still showing a positive effect, while

the other two types are associated with negative effects, although again they are not statistically significant.

When we include the anti-takeover protection variable (not reported), we find that although the coefficients on the index are generally negative as expected, they are never statistically significant. The fact that the anti-takeover protection variable has no effect on state output growth maybe because the number of observations drops sharply, from about 1000 to 330, since the anti-takeover protection variable is only available from 1986 on. It could also be that these anti-takeover statutes do not capture the equity rights very well. Or it could be that for the more general class of firms studied, that is, those largely not listed on stock exchanges, these rights are less relevant for general economic output. For these reasons, we do not explore the importance of equity rights any further.[11] Including the equity rights does not change, however, the regression results for the other two measures.

Since the financial sector itself was very much affected by the deregulation, with much consolidation but also expansion following, our results may be possibly biased. Nevertheless, the regression results hold identically when we use non-financial sector state GDP growth as our dependent variable (Table 2b).[12] The effect of financial liberalization actually becomes stronger, while the effect of employment protection stays insignificant.

## C. State-Industry Level Benchmark Regressions

The state-level results may contain spurious effects. These can stem from compositional change of industries towards those with naturally high growth trends, such as the IT sector, at the same time of financial liberalization, or from changes in equity and employment protection. Also, it does not allow us to easily control for other time-varying, state-specific changes. And, most importantly, the state level regressions have no power in detecting the channels through which financial deregulation and equity and employment protection affect output growth, and consequently do not inform on the aspects of the stakeholders' view of interest to us. By studying state-industry specific effects, we can eliminate spurious effects and control for other omitted factors. And by introducing the cross-terms, we can identify better the channels through which financial and labor reforms affect growth. Table 3 shows the results for the state-industry level regressions, where we include only the non-financial sectors.

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[11] We also find no significant effects from anti-takeover protection variable when it is added to the benchmark state-industry level regression (introduced in the next section).

[12] Note that state level GDP itself is not broken down by industries. Rather, using our state-industry output data, we subtract financial sector output from state level GDP to derive non-financial sector GDP (growth).

For the state-industry level regressions, we include state-industry and year fixed effects to control for state-industry specific trends and country-wide business cycles. To investigate the specific channels by which stakeholders' powers affects performance, we use our two benchmark characteristics of each industry, natural external financing dependence and knowledge dependence, and interact these characteristics with the financial deregulation and employment protection indexes. The full specification is thus as follows:

$$g_{j,s,t} = \alpha_{s,j} + \alpha_t + \beta_1 FinLib_{s,t-1} + \beta_2 FinLib_{s,t-1} * ExtFinDep_j$$
$$+ \gamma_1 WorkRight_{s,t-1} + \gamma_2 WorkRight_{s,t-1} * KnowledgeDep_j + \varepsilon_{j,s,t}. \tag{2}$$

where *ExtFinDep* denotes the industry's dependency on external finance and *KnowledgeDep* the industry's "knowledge" dependency, defined as the average fraction of labor that was college educated. Note that, since we use state-industry fixed effects, we have very general controls and do not need to include the time-invariant component of the cross-terms (*ExtFinDep* and *KnowledgeDep)* separately in the regression.

Similar to the state level results, the effects of bank branch M&A deregulation are positive and statistically significant (Table 3, columns 1). The size of the effects of the financial liberalization is about 1.1 to 1.2 percent, somewhat lower than the effects for state-level output growth. This is partly because the state-level estimates contain some spurious effects and partly because the allocative efficiency among industries are positive, on top of the within-industry efficiency gain. We find again that deregulation through M&A to be most important in changing firms' behavior, with the de novo deregulation not showing any significant effects (not reported). The effects are of very similar order when controlling for changes in employment protection (columns 3, 4, 6, 7, 9, 10 and 12, 13).

The coefficients of the employment protection index are uniformly negative and statistically significant. The quantitative impact is -2.5 to -1.6 percent on growth rates, with the largest impact for the good faith protection. The differences with the state level regressions is again two-fold: state-industry regression has fewer spurious correlations but excludes the allocative effects across industries. The effects can be compared to Autor, Donohue III and Schwab (2006), who show state-level employment rate to fall by about -0.8 to -1.6 percent without any effect on wages. While we study output growth and not employment rates, both their and own findings suggest that the effects of employment protection are of considerable economic importance.

Most importantly, our state-industry level regression results show, through the coefficients on the cross-terms between state level reform and the industry characteristics of external financing and knowledge dependence, the channels by which stakeholders' powers affect growth and the dynamics among industries. Financial liberalization appears to spur growth regardless of industry's external financing needs since most of interaction coefficients between financial liberalization and external financing dependence are not statistically significant (columns 3, 6, 9

and 12). This may contrast with the general expectation that more external financial dependent industries should grow faster with financial liberalization. Our contrary finding may be due to a combination of factors. Financial deregulation can, on the one hand, promote the growth of external financial dependent industries. On the other hand it may reduce inefficient allocation of resources. The latter could have been the case when, before deregulation banks had special relations with relatively large and capital-intensive companies, relationships that were severed with liberalization. The net effect of financial liberalization may be that external financial dependent firms do not necessarily grow faster, but that other firms do grow faster or that more new firms get established as resources are being reallocated toward them, leading to higher overall economic performance.

We do find evidence, however, that increased employment protection adds to growth in value added through industry-specific channels (columns 3, 6, 9 and 12). Although more employment protection have little effect on overall economic activity, as suggested by state-level regressions, it helps those industries that are more knowledge dependent. The interaction terms between workers' rights and knowledge dependency are consistently positive and statistically significant (at the 1% level), except using the good faith workers rights index.

These results support a view of the firm where rights of workers importantly influence the economic performance of firms, possibly as employees are more interested in acquiring firm and industry-specific skills, and in general show a higher productivity when their jobs are more secure. The result also helps to explain why in the state level regressions the coefficients on employment protection were not statistically significant. In those regressions, the general effect of greater employment protection leading to lower output growth was confounded with the industry-level specific effect of greater employment protection leading to more output in knowledge-intensive industries. Finally, the result is consistent with the notion of the overall U.S. transformation over the sample period to a more knowledge-based economy, with higher specialization and firm-specific human capital accumulation being accompanied by better labor standards and employment protection.

We also test for evidence of complementarity by including the product of the two interaction terms as another independent variable. We find evidence of complementarity in that the coefficients on the double interactions terms are almost always positive and highly statistically significant (columns 4, 7, 10 and 13), except when using the good faith workers rights index. This means that the combination of a state deregulating the banking sector and adopting employment protection statutes is particularly useful to boost the growth of firms with high external financing and knowledge dependencies. The coefficient on the financial liberalization variable interacted with the external financing dependence variable, however, becomes statistically significant negative, except again for the regressions including the good faith workers rights index. The negative coefficient for financial liberalization with positive cross-term effect is in line with the argument that financial liberalization can reduce inefficient relationship-based banking, particularly in industries requiring high capital inputs with little knowledge inputs. Note that including the double interactions terms does not change much the

coefficient on the financial liberalization variable, the workers right variable, or the cross-term of the workers right variable with the knowledge dependency.

## D. Robustness Checks

We conduct a number of economic and econometric robustness checks. We investigate different measures of knowledge intensity, whether there are threshold effects in human capital, the effects of union membership, the move towards interstate banking, and the possibility of reverse causality and endogenous policy changes.

### *Different Measures of Knowledge-Intensity*

We first use our two alternative measures for knowledge dependency to check the channels by which increased employment protection increases value added growth in knowledge-intensive industries. The first one is firms' natural use of intangible assets relative to fixed assets, calculated at the industry level. The second is the sales-to-fixed-asset ratio, the reciprocal of a conventional capital intensity measure. Tables 4 and 5 present the regression results using the same specifications as in Table 3, that is, using interactions between financial liberalization and external financing dependence and the workers' right index and these two alternative knowledge-intensity measures (columns 1, 2, 4, 5, 7, 8, 10 and 11), as well as using the double interactions (columns 3, 6, 9 and 12).

We see that the negative direct effects of the various employment protection variables are confirmed, at generally high significance levels. Also, the results for the interactions between employment protection and knowledge intensity are generally confirmed since all interaction terms are of the same sign and remain highly statistically significant. This confirms that, while employment protection in general may be detrimental to output growth, for knowledge-intense industries more protection leads to higher growth in value added, potentially as employees invest more in their firm and human skills.

The financial liberalization dummy remains statistically significant and of equal magnitude in all regressions, but the interaction terms for financial liberalization and external financing dependence are again never statistically significant positive and turn statistically significant negative again when including the double interactions (except for the interaction term when using the good faith workers rights index). At the same time, adding the financial variables does not change the size or significance of the coefficients of the knowledge-intensity variables. The significant double interactions show again complementarity in that financial liberalization and increased workers' rights besides increase output growth independently, one through improving the overall allocation of resources and the other through enhancing the incentives and productivity of workers in knowledge-intensive industries, jointly increase output even more so.

As additional robustness tests, we use two industry-median ratios also derived from individual firm data (sourced again from Worldscope and using data from 1991 to 2006). The first is the

ratio of research and development (R&D) expenditures to sales, which captures, to some degree, industries' knowledge-intensity (it does so imperfectly as in some industries R&D is capital-rather than knowledge-intensive, whereas in other industries much knowledge generation is not recorded under R&D, but under general expenses). The second is the ratio of staff costs to total sales. This indicator can expected to be higher for both knowledge-intensive as well as low skilled labor, low capital intensive industries, and may thus be a poor proxy as well. Nevertheless, and while not as consistent and at much lower levels of significance, to be expected since these two variables are less close proxies to our concept of knowledge-intensity, these regression results (not reported) broadly confirm our earlier results.[13]

### *Threshold Effects on Human Capital*

Firm-specific human capital may be relevant only for those industries in which higher skills are actually used and needed. For industries that require mainly low skill labor inputs, firm-specific investment may be unnecessary. If so, the effect of human capital may matter only for those industries that rely on high skill labor inputs. To investigate whether there is such a threshold effect, four dummies are created, with each dummy indicating whether the industry belongs to a specific quintile of industries ranked by the ratio of college-educated to all workers or exceeds it. In other words, the 1st education dummy takes on the value one for those industries whose ratio of college graduates are among the highest 20%; the 2nd education dummy takes on the value one for those industries whose ratio of college graduates are among the highest 40%, etc. We then include one of these dummies in four separate regressions. We do this using the same base specification as in Table 3. Regression results (not reported) indicate that the positive effect of employment protection only arises for the higher, 1st or 2nd quintile education industries. As such, and consistent with our theoretical prediction, the incentives for and returns from increased investment in human capital only arise in those industries with high skills needs.

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[13] Specifically, the regression results for R&D variable are broadly similar, but at lower levels of significance. Financial liberalization is always significantly positive, the interaction of financial liberalization with external financing dependence is negative and sometimes significant, employment protection is also negative and sometimes significant, and the interaction of employment protection with the R&D variable is positive and sometimes significant. The double interaction is always significant positive. The regression results for the ratio of staff costs to sales are similar, but also at low levels of significance. Financial liberalization is always significantly positive, the interaction of financial liberalization with external financing dependence is negative and always significant, employment protection is mostly not significant—only once is it statistically significant (negative), and the interaction of employment protection with the staff cost variable is never significant. The double interaction is significantly positive in two out of four cases.

*Union membership*

Union memberships may dampen the effect of employment protection since it is also a means to protect employees. At the same time, union membership may be associated with rent seeking, leading to lower value added growth.  Union are strong in some industries, but not in others and the variation can thus be used as an additional control.  As mentioned in the data section, Hirsh and MacPherson (2003) provide unionization rates at the industry level in a consistent manner for the years 1983 to 1991. We averages the data over those years to create an industry union ratio. Adding then to the same regressions as in Table 3 the union membership rate as an additional control does not yield any qualitatively different results for the employment protection variables, while the coefficients on union membership itself are insignificant (report omitted). This confirms that there is an effect of employment protection on investment in human-capital.

*Minimum wage*

Changes in minimum wage may alter the effects of changes in employment protection.  A high minimum wage may reduce employment, especially in low-skill industries and (Partridge and Partridge, 1999) and thereby reduce value added growth.  More generally, a minimum wage could be seen as another form of employment protection. Not controlling for it could then lead to us to misinterpret the results for our employment protection variables.  Minimum wages vary across US states and over time. The federal minimum wage can, however, be a state's effective minimum wage if the federal wage is higher or if the state does not have a minimum wage.  The federal minimum wage varies also over time. After obtaining from the U.S. Department of Labor[14] each state's minimum wage for all years, we therefore replace the state minimum wage by the federal minimum wage in those cases when the federal minimum wage is higher or when there is no state minimum wage. We then add this minimum wage for each state and each year, deflated by the national CPI, as an additional control variable in our benchmark regressions (Table 3). We find no significant effects from this minimum wage variable on value added growth.  And, most importantly, we find that all our other coefficients are virtually the same (results omitted).  Consequently, our main result are not biased by the presence of minimum wages.

*Interstate banking*

Interstate banking is officially permitted across all states only after 1994, which is why we limited the sample to end in 1993. However, some states are reported to have allowed interstate banking, especially at the borders, already a few years earlier. On the other hand, the real impact of allowing interstate banking was probably only felt a few years after 1994.  As two further robustness tests, we therefore also run the benchmark regressions using data only up to 1990 and

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[14] http://www.dol.gov/esa/whd/state/stateMinWageHis.htm

data up to 1997.  Using either final cutoff for the analysis does not lead to any qualitative different effects of financial and employment protection reforms on value added growth (reports omitted).

### *Reverse Causality and Endogenous Policy Changes*

Our results may be due to reverse causality when prospects of growth in industries with more external financing dependence or higher knowledge intensity drive changes in financial liberalization or employment protection.  For example, firms may exercise more political pressure towards financial liberalization in states where they have more to gain.  Or lobbying for more employment protection may be larger in states where knowledge-based industries have more opportunities to prosper. If this were the case, our regression results would have an upward bias and the wrong interpretation may follow. One simple, but very rough check for this is to conduct the state-industry level regressions excluding some states.  We already excluded the states Delaware and South Dakota as they had more liberal financial systems exactly because they had greater growth opportunities in finance.  We next also exclude the states Massachusetts and California that arguably had the most knowledge-intensity industry growth over the sample period and may therefore have adopted greater employment protection.  The regression results without these last two states are, however, virtually the same (not reported).[15]

To control more generally for possible upward bias due to reverse causality as well for the various types of economic and policy spillovers that may create endogeneity, we next employ the dynamic panel estimation technique of Blundell and Bond (1998).[16]  In particular, we use their AR(1) and AR(2) first difference models to estimate equations similar to those in Table 3, but with using lagged dependent variables as instruments.  In our specification, we consider the policy variables as endogenous but predetermined.  Tables 6a and 6b report the results for the AR(1) and AR(2) models respectively.  The tables show that all major regression results still hold and that effects are actually somewhat larger in general. The Arrelano-Bond m2 test shows that there is no second-order autocorrelation in the residuals, meaning that the GMM estimates are consistent, while the m1 test shows that there is first-order autocorrelation, implying that the lag dependent variables are good instruments. As such, the models are well-estimated.  However,

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[15] Another potential source of bias may be spillovers.  We have largely focused on within-state time-series variations, including by using standard errors clustered at the state-level . Doing so, however, we risk ignoring cross-state variations that can arise from growth and policy spillovers.  Growth spillovers may arise if other (say, neighboring) states adopt policies which leads to higher growth in the state itself, even though it did not yet adopt any policy changes.  Policy spillover may arise if due to political pressures or learning effects, states mimic changes in neighboring or other states.  Both may lead to downward bias in our regression results, if people predicted the future policy changes and started to change behavior in anticipation.

[16] This procedure (two-step estimation) also computes GMM-type standard errors, which take into account cross-state correlations.

the Hansen-Sargan test rejects the null that the overidentifying restrictions are valid (i.e., the "goodness of fit" is very low).  On balance, GMM estimation may thus not be necessary, but more importantly, when using GMM the main results do not change.  This confirms that reverse causality or forms of endogeneity do not affect our main conclusions.

## IV. CONCLUSIONS

We study the role of multiple stakeholders' powers in firms and the channels through which various stakeholders may affect corporate performance. Our approach differs from the existing empirical literature in which the impact of certain stakeholders—financial institutions, investors, and workers—on corporate sector performance has largely been analyzed separately. Yet theory clearly indicates that it is the combination of (changes in) relative powers of different stakeholders that affects a firm's overall performance.

Specifically, using U.S. state level and state-industry level output, we investigate how overall economic performance is affected by the combination of bank branch deregulation and changes in employment protection over the period 1972 to 1993. We find that financial liberalization positively and greater powers of workers ambiguously impact overall state level economic growth.  In terms of channels, while the effects of financial liberalization do not differ across industries that vary in their natural external financing dependency, employment protection appears to promote those industries that are more knowledge based.  This suggests that financial liberalization operates mostly through the channel of (re-)allocating resources better—rather than providing more external financing, while greater employment protection allows for more sector- and firm-specific human capital investment.

We think our evidence mainly speaks to the efficiency arguments of how regulatory and judicial systems can encourage all stakeholders to contribute to a firm's value added growth according to their best comparative advantage.  Put differently, we would not have obtained our results if perfect factor markets already existed and shareholder maximization coincided with society-wide welfare maximization.  If such perfect factor markets prevailed, introducing employment protection would have likely resulted in lower output as it provides labor with additional bargaining power or leads to suboptimal use of labor. The state-level regression results, however, show statistically insignificant growth effects of employment protection (when controlling financial liberalization).  They do therefore not support a hypothesis of fully efficient factor markets prior to the introduction of employment protection.

The state-industry level regression results neither support the perfect factor market assumption since they show that knowledge-dependent industries grow faster with more employment protection.  This supports a theory that workers have more incentives to accumulate firm-specific skills with greater employment protection but again does not support the efficient factor market hypothesis.  Furthermore, this effect is larger for industries that are more dependent on external finance. This suggests that not only the absolute level of protection, but also the relative bargaining power of workers vis-à-vis creditors matters. These effects can best be explained

using theories of firms based on incomplete contracts, which argue that there exist a optimal combination of bargaining powers to share residual outputs which maximizes output.[17]

Even though we have identified the relevance of stakeholders' protections using data from the U.S., we do consider our results to also speak to the debate on a broader view of corporate governance. This view is more relevant in developed countries other than the US, like continental Europe and Japan, where banks and labor play a large role in firm monitoring and governance. And this view may be especially important for emerging markets, given their more limited capital market development and the typical dominance of banks in financial intermediation. Although poor stakeholders' protection has long been recognized as a possible source of limited economic and financial development (for a review of the general literature, see Acemoglu, Johnson and Robinson, 2005, and of the law and finance literature specifically, see Levine 2005) as well as of macro-economic vulnerabilities and possible contributing to financial crises (see Johnson and others, 2000, Mitton, 2002, Joh, 2003 for shareholder protection), it is difficult to explain the good performance of some economies (e.g., China, India) on the basis of shareholders' oversight alone as shareholders appear to have limited (effective) legal powers. The good performance may still arise when other stakeholders in such economies are (more) effective in enhancing firm performance. Whether this is the correct interpretation and how, if at all, this can be generalized to other countries remains unclear. As such, it is another example of the observation that the role of stakeholders in firm performance is still poorly understood and that more research on this topic can be useful.

This future research could be done on a cross-country basis and analyze the relationships between creditor rights, shareholders' minority rights, employment protection, and again, overall economic or industry performance. Analysis could as well be done at the firm level, which may also allow more detailed identification of the channels by which the various rights affect performance. Both approaches would be helped if better knowledge-intensity measures can be found. Lastly, it would be possible to analyze, using various methodologies, not just the impact of creditor rights, shareholders' minority rights, employment protection on overall economic performance, but also to analyze the relationships of these rights with other outcome measures, such as volatility, employment, level of wages and the like.

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[17] Allen, Carletti and Marquez (2008), for example, argue that if firms adopt more employment protection, price competition is promoted in the long-run as more firms survive. This in turn leads to efficiency gain through increased product market competition, which is output enhancing. While their model also argues for a more stakeholders' view of corporate governance, it has no specific predictions whether industries respond differently to the introduction of employment protection.

**Figure 1a: The Adoption of Financial Deregulation**
**(number of states deregulated)**
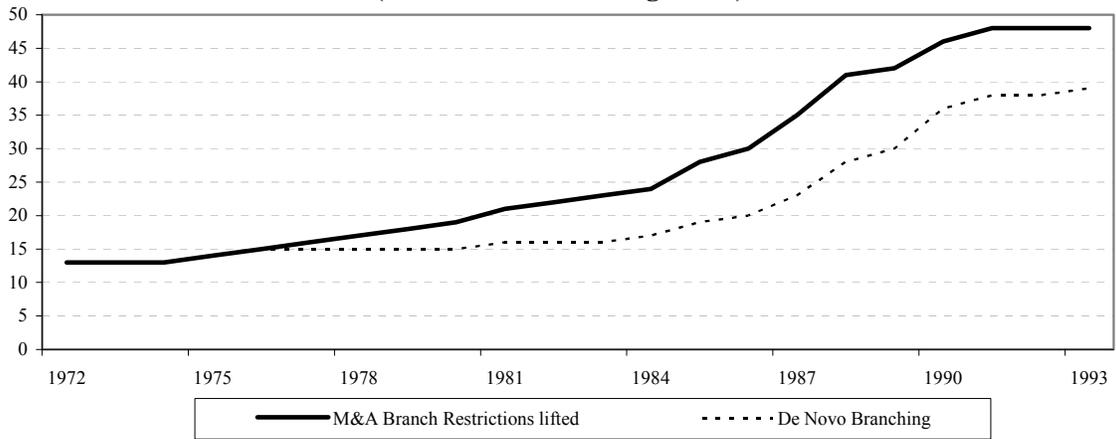


**Figure 1b: The Adoption of Anti-Takeover Statutes**
**(number of states, weighted by strengths of statutes)**
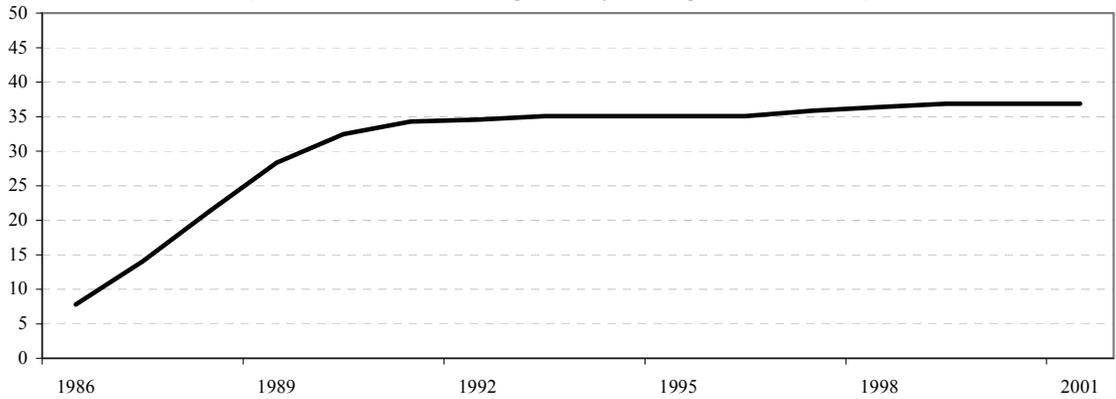


**Figure 1c: The Adoption of Employment Protection**
**(number of states with employment protection)**



1
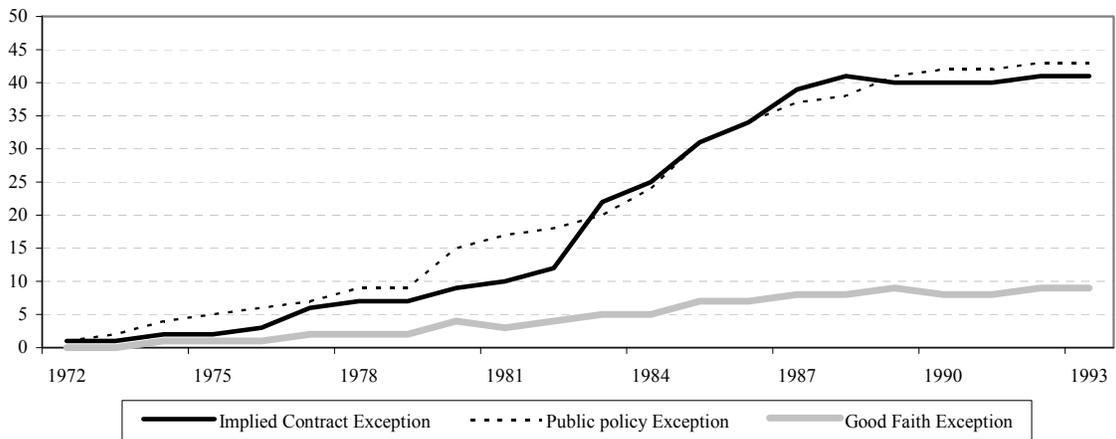
**Figure 2a: The Pattern of Financial Deregulation and Adoption of Employment Protection**
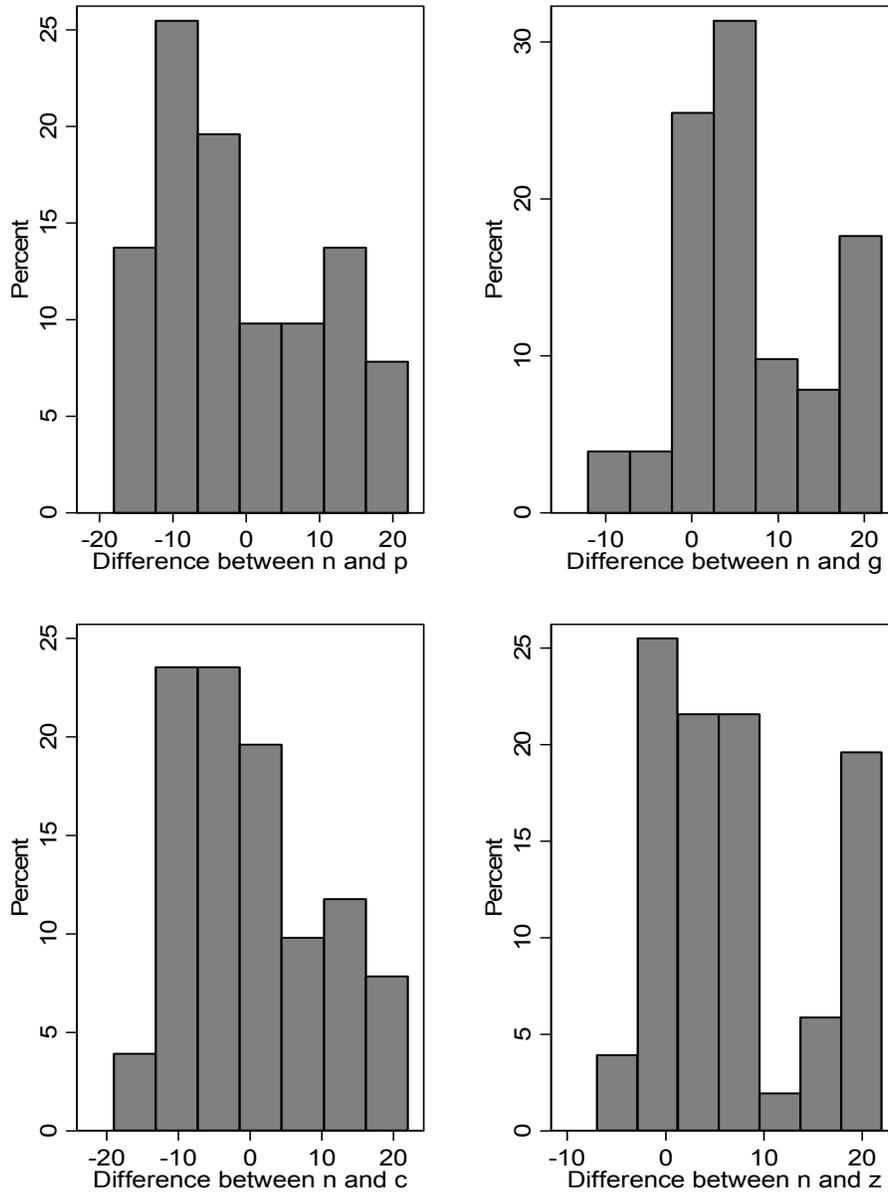


Notes:

n is dummy indicating the year branch restrictions were lifted via de novo branching

p is public policy index

g is good faith index

c is implied contract index

z is combination of p, g and c

**Figure 2b: The Pattern of Financial Deregulation and Adoption of Employment Protection**
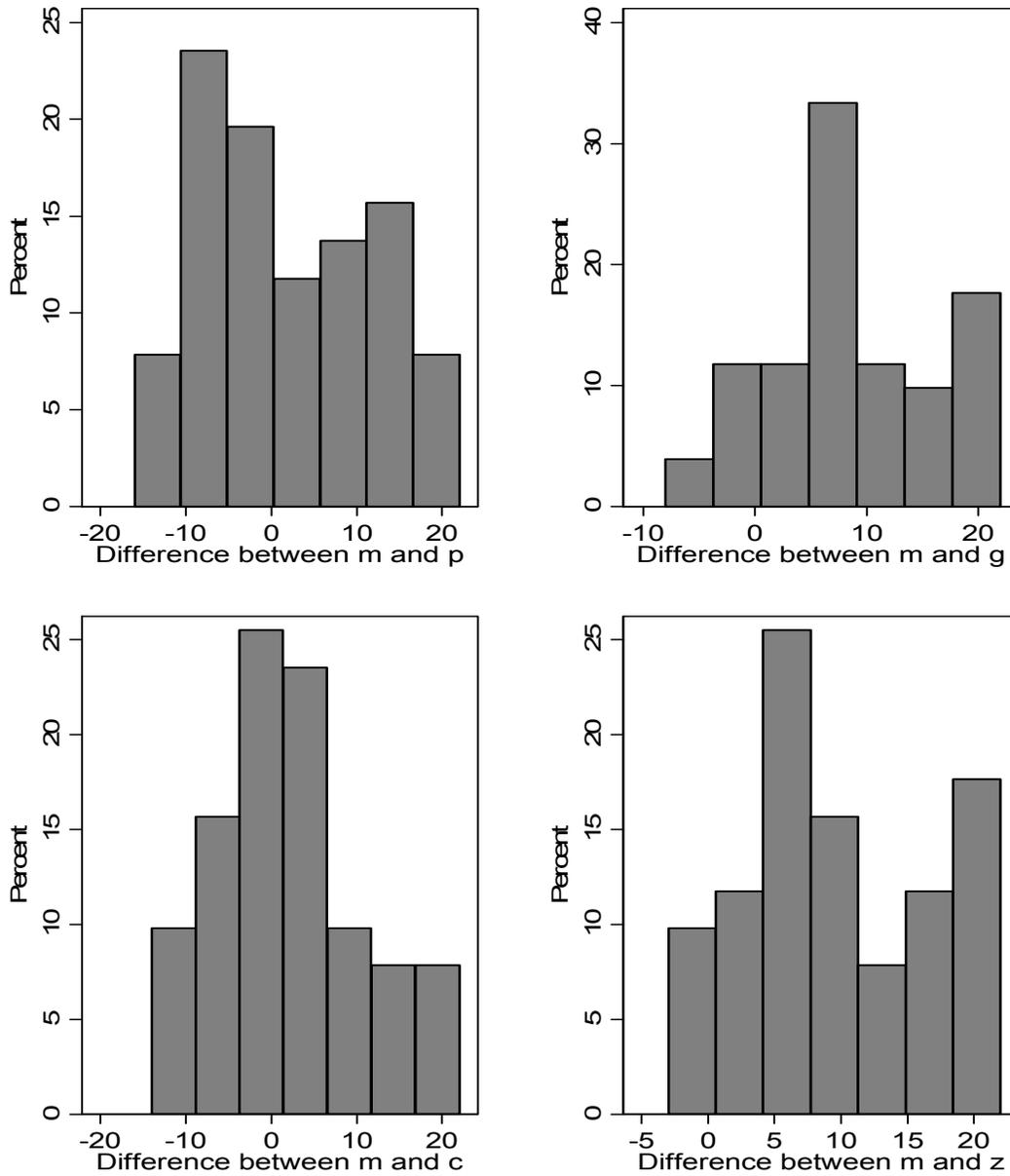


Notes:
m is dummy indicating the year M&A branch restrictions were lifted
p is public policy index
g is good faith index
c is implied contract index
z is combination of p, g and c

**Table 1a. Correlations among State-Level Institutional Changes**

| | Financial Liberalization | | Employment Protection | | | | Anti-Takeover |
|---|---|---|---|---|---|---|---|
| | M&A | de novo | Public Policy | Good Faith | Contract | Earliest | |
| M&A | 1 | | | | | | |
| | *1078* | | | | | | |
| de novo | 0.7828* | 1 | | | | | |
| | *1078* | *1078* | | | | | |
| Public Policy | 0.2510* | 0.1573* | 1 | | | | |
| | *1056* | *1056* | *1056* | | | | |
| Good Faith | 0.1642* | 0.1590* | 0.2916* | 1 | | | |
| | *1056* | *1056* | *1056* | *1056* | | | |
| Contract | 0.3243* | 0.2298* | 0.5304* | 0.1411* | 1 | | |
| | *1056* | *1056* | *1056* | *1056* | *1056* | | |
| Earliest | 0.2764* | 0.1721* | 0.8160* | 0.2907* | 0.7599* | 1 | |
| | *1056* | *1056* | *1056* | *1056* | *1056* | *1056* | |
| Anti-Takeover | 0.1307* | 0.1144* | 0.025 | -0.0665 | -0.1414* | -0.1081* | 1.0000 |
| | *384* | *384* | *376* | *376* | *376* | *376* | *392* |

Note: Italics numbers show the observation numbers. Asterisk (*) denotes significance level at 5 %.

## Table 1b. Correlations among Industry-Level Characteristics

| Variable | External Financial Dependence | Sales to Fixed Assets | Intangible Assets to Fixed Assets | Ave. Fraction of College Grad in 1940 and 2005 |
|---|---|---|---|---|
| Ext. Fin. Dep. | 1.0000 | | | |
| | *59* | | | |
| Sales/ Fixed Assets | -0.5236* | 1.0000 | | |
| | *59* | *59* | | |
| Intangible/ Fixed Assets | -0.4360* | 0.7079* | 1.0000 | |
| | *59* | *59* | *59* | |
| Average Schooling | -0.1039 | 0.3718* | 0.5279* | 1.0000 |
| | *49* | *49* | *49* | *49* |

Note: Italics numbers show the observation numbers. Asterisk (*) denotes significance level at 5 %.

## Table 1c. Averages and Standard Deviations of Main Variables

| Variable | *Value Added Growth(St ate level)* | *Value Added Growth* | *M&A* | *De novo* | *Anti-Takeover* | *Public Policy* | *Implied contract* | *Good faith* | *Earliest* | *RZIndex* | *Sales/Fixe d assets* | *Intangible Assets/ Fixed Assets* | *Schooling Average* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Mean | 2.45 | 2.37 | 0.51 | 0.39 | 1.97 | 0.45 | 0.42 | 0.10 | 0.56 | -0.49 | 6.00 | 0.62 | 0.29 |
| Std. Dev. | 4.31 | 19.17 | 0.32 | 0.22 | 0.79 | 0.38 | 0.39 | 0.10 | 0.41 | 1.99 | 5.66 | 0.60 | 0.12 |

**Table 2a. State Level Regressions—Gross State Product**

The dependent variable is the real growth rate of the gross state product, deflated by national CPI index, over the period 1972 to 1993. FinLib is M&A based bank branch deregulation in each state. It is a binary variable, taking the value of one if deregulated. WorkRight is the exception for wrongful discharges based on either public policy, good faith, the implied contract, or the earliest of them in each state. It is a binary variable, taking the value of one if established. State level fixed effects as well as year dummies are included, but not reported. The t-statistics based on robust standard errors are reported: * denotes significant at 10%; ** at 5%; and *** at 1%.

| | (1) | Public Policy | | Good Faith | | Contract | | Earliest | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| | | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) |
| FinLib | 1.621 [2.701]*** | | 1.785 [2.887]*** | | 1.690 [2.809]*** | | 1.575 [2.934]*** | | 1.708 [2.836]*** |
| WorkRight | | 0.816 [1.243] | 0.950 [1.459] | -0.691 [-0.984] | -0.643 [-0.916] | -1.637 [-0.889] | -1.347 [-0.767] | -0.174 [-0.267] | -0.011 [-0.017] |
| N | 1029 | 1008 | 1008 | 1008 | 1008 | 1008 | 1008 | 1008 | 1008 |
| N Groups | 48 | 48 | 48 | 48 | 48 | 48 | 48 | 48 | 48 |
| R-squared | 0.375 | 0.370 | 0.380 | 0.369 | 0.379 | 0.372 | 0.380 | 0.368 | 0.377 |

**Table 2b. State Level Regressions—Non-Financial Sector Gross State Product**

The dependent variable is the real growth rate of the non-financial sector gross state product, deflated by national CPI index, over the period 1972 to 1993. FinLib is M&A based bank branch deregulation in each state. It is a binary variable, taking the value of one if deregulated. WorkRight is the exception for wrongful discharges based on either public policy, good faith, the implied contract, or the earliest of them in each state. It is a binary variable, taking the value of one if established. State level fixed effects as well as year dummies are included, but not reported. The t-statistics based on robust standard errors are reported: * denotes significant at 10%; ** at 5%, and *** at 1%.

| | | Public Policy | | Good Faith | | Contract | | Earliest | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) |
| FinLib | 2.089 [3.333]*** | | 2.137 [3.358]*** | | 2.078 [3.220]*** | | 2.045 [3.060]*** | | 2.096 [3.214]*** |
| WorkRight | | 0.344 [0.419] | 0.504 [0.637] | -0.715 [-0.957] | -0.656 [-0.874] | -0.902 [-0.626] | -0.525 [-0.373] | -0.214 [-0.324] | -0.014 [-0.021] |
| N | 1029 | 1008 | 1008 | 1008 | 1008 | 1008 | 1008 | 1008 | 1008 |
| N Groups | 48 | 48 | 48 | 48 | 48 | 48 | 48 | 48 | 48 |
| R-squared | 0.256 | 0.254 | 0.264 | 0.255 | 0.265 | 0.255 | 0.264 | 0.254 | 0.264 |

## Table 3. State-Industry Level Regressions—Benchmark (Schooling)

The dependent variable is the real growth rate of the gross state-industry product, deflated by national CPI index, over the period 1972 to 1993. FinLib is M&A based bank branch deregulation in each state. It is a binary variable, taking the value of one if deregulated. ExtFinDep is the industry level tendency of external finance defined in Rajan-Zingales (1998), calculated as the mean of median of each year from 1991 to 2006 using the Worldscope database. WorkRight is the exception for wrongful discharges based on either public policy, good faith, the implied contract, or the earliest of them in each state. It is a binary variable, taking the value of one if established. Schooling is the average fraction of college graduates in 1940 and 2005 and measures the industry level reliance on knowledge rather than physical capital in production. State-industry level fixed effects as well as year dummies are included, but not reported. The t-statistics based on robust standard errors are reported. * denotes significant at 10%; ** at 5%; and *** at 1%.

| | Baseline | | Public Policy | | | Good Faith | | | Contract | | | Earliest | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) | (13) |
| FinLib | 1.118 [2.763]*** | | 1.222 [3.016]*** | 1.152 [2.858]*** | | 1.104 [2.843]*** | 1.1 [2.836]*** | | 1.192 [2.935]*** | 1.121 [2.765]*** | | 1.228 [3.056]*** | 1.161 [2.875]*** |
| FinLib*ExtFinDep | -0.058 [-0.797] | | -0.062 [-0.846] | -0.276 [-2.698]*** | | -0.089 [-1.224] | -0.098 [-1.326] | | -0.068 [-0.923] | -0.274 [-2.819]*** | | -0.064 [-0.879] | -0.278 [-2.422]** |
| WorkRight | | -1.904 [-2.983]*** | -1.788 [-2.832]*** | -1.928 [-3.052]*** | -2.529 [-2.818]*** | -2.312 [-2.482]** | -2.377 [-2.598]*** | -1.661 [-2.461]** | -1.602 [-2.401]** | -1.739 [-2.613]** | -1.72 [-2.654]** | -1.58 [-2.421]** | -1.698 [-2.602]** |
| WorkRight*Schooling | | 7.393 [5.767]*** | 7.332 [5.762]*** | 8.047 [6.457]*** | 5.324 [1.651] | 5.31 [1.665] | 5.647 [1.766]* | 5.283 [3.724]*** | 5.212 [3.637]*** | 5.943 [4.160]*** | 6.719 [4.859]*** | 6.665 [4.818]*** | 7.255 [5.337]*** |
| FinLib*ExtFinDep *WorkRight *Schooling | | | | 0.634 [3.594]*** | | | 0.202 [1.287] | | | 0.629 [4.199]*** | | | 0.555 [3.128]*** |
| N | 51201 | 43385 | 43385 | 43385 | 43385 | 43385 | 43385 | 43385 | 43385 | 43385 | 43385 | 43385 | 43385 |
| N Groups | 2487 | 2107 | 2107 | 2107 | 2107 | 2107 | 2107 | 2107 | 2107 | 2107 | 2107 | 2107 | 2107 |
| R-squared | 0.0924 | 0.0956 | 0.0960 | 0.0961 | 0.0954 | 0.0957 | 0.0957 | 0.0954 | 0.0958 | 0.0959 | 0.0955 | 0.0960 | 0.0960 |

# Table 4. State-Industry Level Regressions—Intangible/Fixed Assets

The dependent variable is the real growth rate of the gross state-industry product, deflated by national CPI index, over the period 1972 to 1993. FinLib is M&A based bank branch deregulation in each state. It is a binary variable, taking the value of one if deregulated. ExtFinDep is the industry level tendency of external finance defined in Rajan-Zingales (1998), calculated as the mean of median of each year from 1991 to 2006 using the Worldscope database. WorkRight is the exception for wrongful discharges based on either public policy, good faith, the implied contract, or the earliest of them in each state. It is a binary variable, taking the value of one if established. Intangible-to-fixed-asset ratio is used to measure the industry level reliance on knowledge rather than physical capital in production. State-industry level fixed effects as well as year dummies are included, but not reported. The t-statistics based on robust standard errors are reported: * denotes significant at 10%; ** at 5%; and *** at 1%.

| | Public Policy | | | Good Faith | | | Contract | | | Earliest | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) |
| FinLib | | 1.216 [2.976]*** | 1.158 [2.849]*** | | 1.045 [2.662]** | 1.038 [2.646]** | | 1.175 [2.854]*** | 1.122 [2.741]*** | | 1.219 [2.995]*** | 1.168 [2.871]*** |
| FinLib*ExtFinDep | | 0.032 [0.439] | -0.188 [-1.781]* | | -0.05 [-0.702] | -0.068 [-0.904] | | 0.021 [0.276] | -0.172 [-1.822]* | | 0.038 [0.550] | -0.164 [-1.468] |
| WorkRight | -0.727 [-1.551] | -0.645 [-1.405] | -0.699 [-1.518] | -2.109 [-2.372]** | -1.901 [-2.164]** | -1.97 [-2.260]** | -0.966 [-1.747]* | -0.936 [-1.711]* | -0.981 [-1.782]* | -0.838 [-1.719]* | -0.732 [-1.508] | -0.772 [-1.575] |
| WorkRight*Intangible/Fixed Assets | 1.711 [5.882]*** | 1.73 [6.082]*** | 1.946 [6.777]*** | 1.63 [3.041]*** | 1.61 [3.090]*** | 1.847 [3.480]*** | 1.338 [4.836]*** | 1.35 [4.822]*** | 1.553 [5.369]*** | 1.752 [6.148]*** | 1.774 [6.305]*** | 1.93 [6.618]*** |
| FinLib*ExtFinDep*WorkRight*Intangible/Fixed Assets | | | 0.196 [3.619]*** | | | 0.123 [4.598]*** | | | 0.177 [4.323]*** | | | 0.156 [3.101]*** |
| N | 50276 | 50276 | 50276 | 50276 | 50276 | 50276 | 50276 | 50276 | 50276 | 50276 | 50276 | 50276 |
| N Groups | 2440 | 2440 | 2440 | 2440 | 2440 | 2440 | 2440 | 2440 | 2440 | 2440 | 2440 | 2440 |
| R-squared | 0.0945 | 0.0948 | 0.0949 | 0.0943 | 0.0946 | 0.0946 | 0.0943 | 0.0946 | 0.0947 | 0.0945 | 0.0949 | 0.0949 |

# Table 5. State-Industry Level Regressions—Sales/Fixed Assets

The dependent variable is the real growth rate of the gross state-industry product, deflated by national CPI index, over the period 1972 to 1993. FinLib is M&A based bank branch deregulation in each state. It is a binary variable, taking the value of one if deregulated. ExtFinDep is the industry level tendency of external finance defined in Rajan-Zingales (1998), calculated as the mean of median of each year from 1991 to 2006 using the Worldscope database. WorkRight is the exception for wrongful discharges based on either public policy, good faith, the implied contract, or the earliest of them in each state. It is a binary variable, taking the value of one if established. Sales-to-fixed-asset ratio, the reciprocal of capital intensity, measures the industry level reliance on knowledge rather than physical capital in production. State-industry level fixed effects as well as year dummies are included, but not reported. The t-statistics based on robust standard errors are reported. * denotes significant at 10%; ** at 5%; and *** at 1%.

| | Public Policy | | | Good Faith | | | Contract | | | Earliest | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) |
| FinLib | | 1.234 [3.016]*** | 1.153 [2.830]*** | | 1.046 [2.659]** | 1.034 [2.633]** | | 1.192 [2.897]*** | 1.118 [2.734]*** | | 1.238 [3.042]*** | 1.153 [2.839]*** |
| FinLib *ExtFinDep | | 0.064 [0.822] | -0.218 [-2.160]** | | -0.044 [-0.635] | -0.075 [-0.984] | | 0.051 [0.666] | -0.197 [-2.075]** | | 0.073 [1.002] | -0.231 [-2.085]** |
| WorkRight | -0.722 [-1.577] | -0.659 [-1.481] | -0.898 [-1.987]* | -2.292 [-2.585]** | -2.079 [-2.361]** | -2.375 [-2.638]** | -0.98 [-1.890]* | -0.968 [-1.890]* | -1.191 [-2.278]** | -0.841 [-1.858]* | -0.756 [-1.679]* | -0.962 [-2.071]** |
| WorkRight *Sales/Fixed Assets | 0.175 [5.947]*** | 0.181 [6.078]*** | 0.239 [7.259]*** | 0.202 [3.303]*** | 0.199 [3.351]*** | 0.271 [3.809]*** | 0.14 [5.350]*** | 0.145 [5.424]*** | 0.201 [6.515]*** | 0.181 [6.974]*** | 0.187 [7.094]*** | 0.237 [7.921]*** |
| FinLib*ExtFinDep *WorkRight *Sales/Fixed Assets | | | 0.02 [5.494]*** | | | 0.016 [4.547]*** | | | 0.019 [5.989]*** | | | 0.019 [5.225]*** |
| N | 50276 | 50276 | 50276 | 50276 | 50276 | 50276 | 50276 | 50276 | 50276 | 50276 | 50276 | 50276 |
| N Groups | 2440 | 2440 | 2440 | 2440 | 2440 | 2440 | 2440 | 2440 | 2440 | 2440 | 2440 | 2440 |
| R-squared | 0.0944 | 0.0948 | 0.0950 | 0.0943 | 0.0946 | 0.0947 | 0.0943 | 0.0946 | 0.0948 | 0.0945 | 0.0949 | 0.0951 |

# Table 6a. State-Industry Level Regressions—Panel GMM for AR(1) Specification

The dependent variable is the real growth rate of the gross state-industry product, deflated by national CPI index, over the period 1972 to 1993. FinLib is M&A based bank branch deregulation in each state. It is a binary variable, taking the value of one if deregulated. ExtFinDep is the industry level tendency of external finance defined in Rajan-Zingales (1998), calculated as the mean of median of each year from 1991 to 2006 using the Worldscope database. WorkRight is the exception for wrongful discharges based on either public policy, good faith, the implied contract, or the earliest of them in each state. It is a binary variable, taking the value of one if established. Schooling is the average fraction of college graduates in 1940 and 2005 and measures the industry level reliance on knowledge rather than physical capital in production. State-industry level fixed effects as well as year dummies are included, but not reported. Estimation is based on Blundell and Bond (1998). The t-statistics based on two-step GMM standard errors are reported. * denotes significant at 10%; *** at 5%; and *** at 1%.

| | Public Policy | | | | Good Faith | | | | Contract | | Earliest | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) |
| L.Real GDP growth | 0.007 [1.220] | 0.007 [1.263] | 0.006 [1.044] | 0.005 [0.848] | 0.003 [0.619] | 0.002 [0.385] | 0.005 [0.781] | 0.004 [0.790] | 0.003 [0.600] | 0.008 [1.354] | 0.007 [1.265] | 0.007 [1.371] |
| FinLib | | 2.079 [7.180]*** | 1.995 [6.932]*** | | 1.714 [6.072]*** | 1.893 [6.834]*** | | 1.661 [5.804]*** | 1.725 [6.067]*** | | 1.835 [6.291]*** | 1.911 [6.645]*** |
| FinLib *ExtFinDep | | 0.052 [0.684] | -0.011 [-0.095] | | 0.004 [0.053] | -0.076 [-1.012] | | 0.026 [0.350] | -0.055 [-0.628] | | 0.042 [0.559] | 0.045 [0.451] |
| WorkRight | -2.896 [-4.820]*** | -4.004 [-6.918]*** | -3.873 [-6.820]*** | -6.842 [-7.139]*** | -5.035 [-5.874]*** | -5.611 [-6.733]*** | -2.777 [-4.420]*** | -3.581 [-5.827]*** | -3.45 [-5.727]*** | -2.684 [-4.781]*** | -3.869 [-6.995]*** | -3.693 [-6.861]*** |
| WorkRight *Schooling | 14.661 [8.464]*** | 15.636 [9.381]*** | 14.706 [8.878]*** | 15.055 [5.724]*** | 15.219 [6.320]*** | 17.506 [7.443]*** | 14.229 [7.799]*** | 14.697 [8.409]*** | 14.206 [8.195]*** | 14.202 [8.674]*** | 15.018 [9.524]*** | 14.392 [9.251]*** |
| FinLib*ExtFinDep *WorkRight *Schooling | | | 0.418 [1.828]* | | | 0.451 [2.503]** | | | 0.338 [1.904]* | | | 0.044 [0.231] |
| N | 41249 | 41249 | 41249 | 41249 | 41249 | 41249 | 41249 | 41249 | 41249 | 41249 | 41249 | 41249 |
| N Groups | 2097 | 2097 | 2097 | 2097 | 2097 | 2097 | 2097 | 2097 | 2097 | 2097 | 2097 | 2097 |
| Model Degree of Freedom | 21 | 23 | 24 | 21 | 23 | 24 | 21 | 23 | 24 | 21 | 23 | 24 |
| Hansen-Sargan p-value | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| m1 p-value | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| m2 p-value | 0.378 | 0.389 | 0.404 | 0.391 | 0.439 | 0.460 | 0.412 | 0.422 | 0.436 | 0.368 | 0.388 | 0.378 |

# Table 6b. State-Industry Level Regressions—Panel GMM for AR(2) Specification

The dependent variable is the real growth rate of the gross state-industry product, deflated by national CPI index, over the period 1972 to 1993. FinLib is M&A based bank branch deregulation in each state. It is a binary variable, taking the value of one if deregulated. ExtFinDep is the industry level tendency of external finance defined in Rajan-Zingales (1998), calculated as the mean of median of each year from 1991 to 2006 using the Worldscope database. WorkRight is the exception for wrongful discharges based on either public policy, good faith, the implied contract, or the earliest of them in each state. It is a binary variable, taking the value of one if established. Schooling is the average fraction of college graduates in 1940 and 2005 and measures the industry level reliance on knowledge rather than physical capital in production. State-industry level fixed effects as well as year dummies are included, but not reported. Estimation is based on Blundell and Bond (1998). The t-statistics based on two-step GMM standard errors are reported. * denotes significant at 10%; ** at 5%; and *** at 1%.

| | Public Policy | | | | Good Faith | | | Contract | | Earliest | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) |
| L.Real GDP growth | -0.001 [-0.088] | -0.002 [-0.276] | -0.001 [-0.251] | -0.003 [-0.455] | -0.006 [-1.019] | -0.007 [-1.236] | -0.006 [-0.927] | -0.007 [-1.266] | -0.009 [-1.544] | -0.001 [-0.182] | -0.003 [-0.439] | -0.002 [-0.288] |
| L2.Real GDP growth | -0.006 [-1.064] | -0.004 [-0.777] | -0.003 [-0.557] | -0.012 [-2.204]** | -0.008 [-1.536] | -0.008 [-1.606] | -0.008 [-1.436] | -0.007 [-1.474] | -0.006 [-1.248] | -0.006 [-1.136] | -0.006 [-1.113] | -0.004 [-0.744] |
| FinLib | | 2.776 [8.817]*** | 2.781 [8.894]*** | | 2.571 [8.679]*** | 2.741 [9.044]*** | | 2.349 [7.621]*** | 2.427 [7.898]*** | | 2.65 [8.410]*** | 2.757 [8.815]*** |
| FinLib*ExtFinDep | | 0.062 [0.794] | 0.003 [0.026] | | 0.025 [0.319] | -0.056 [-0.719] | | 0.038 [0.499] | -0.037 [-0.405] | | 0.041 [0.534] | 0.039 [0.386] |
| WorkRight | -2.177 [-3.579]*** | -3.337 [-5.663]*** | -3.045 [-5.277]*** | -3.078 [-3.224]*** | -4.044 [-4.431]*** | -4.457 [-4.914]*** | -2.101 [-3.194]*** | -2.843 [-4.469]*** | -2.625 [-4.196]*** | -2.088 [-3.578]*** | -3.048 [-5.392]*** | -2.812 [-5.111]*** |
| WorkRight*Schooling | 14.576 [8.267]*** | 15.255 [8.949]*** | 14.179 [8.369]*** | 13.23 [4.823]*** | 12.863 [4.948]*** | 14.535 [5.585]*** | 14.596 [7.872]*** | 14.41 [8.107]*** | 13.824 [7.842]*** | 14.444 [8.658]*** | 14.731 [9.080]*** | 13.93 [8.694]*** |
| FinLib*ExtFinDep *WorkRight *Schooling | | | 0.265 [1.105] | | | 0.375 [1.991]** | | | 0.335 [1.821]* | | | 0.018 [0.092] |
| N | 39134 | 39134 | 39134 | 39134 | 39134 | 39134 | 39134 | 39134 | 39134 | 39134 | 39134 | 39134 |
| N Groups | 2092 | 2092 | 2092 | 2092 | 2092 | 2092 | 2092 | 2092 | 2092 | 2092 | 2092 | 2092 |
| Model Degree of Freedom | 21 | 23 | 21 | 21 | 23 | 24 | 21 | 23 | 24 | 21 | 23 | 24 |
| Hansen-Sargan p-value | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| m1 p-value | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| m2 p-value | 0.247 | 0.315 | 0.343 | 0.143 | 0.268 | 0.278 | 0.252 | 0.286 | 0.335 | 0.242 | 0.279 | 0.315 |

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