Regulatory Races:

The Effects of Jurisdictional Competition on Regulatory Standards

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1. Introduction

Businesses often greet attempts to pass new regulatory legislation with dire forecasts of the large number of enterprises that will leave the jurisdiction if the rules are imposed. Such forecasts are an example of what Albert Hirschman (1970) has termed "voice." They are attempts to influence the course of political action and prevent the regulations from being adopted. If the attempts are unsuccessful, business enterprises may or may not actually "exit," but whether they will is something that policy makers need to be able to predict.

Businesses will exit in response to new regulations only if they have somewhere else to go—that is, if there is another jurisdiction that does not impose similarly undesirable rules. In a global economy where capital is highly mobile, policy makers face pressures to be mindful of what their counterparts in other jurisdictions are doing. If they believe that businesses will relocate in response to differences in the regulatory burden, in order to forestall exit they may decide not to impose stricter rules, however socially valuable. Alternatively, they may deliberately weaken their rules in order to encourage businesses to move to their jurisdictions.

The purpose of this paper is to survey the literature on regulatory arbitrage in order to develop a better understanding of when businesses' threats to exit are likely to be credible, and also when politicians are likely to adjust their rules in response. In the current era of globalization, there is considerable worry that economic activity will move across countries in response to such arbitrage opportunities. We survey the evidence that is available on these international movements, but because much of this experience is so very recent, it is difficult to get a sense of how international regulatory competition will play out over time. To obtain a longer time horizon, we also focus our attention on regulatory competition among the U.S. states. The states are a particularly good laboratory for such research because they share a common language and institutional environment and there are minimal trade barriers among them.[1] The costs of moving a business from one state to another are likely to be much less than from one country to another. All things being equal, therefore, one would expect that a regulation that does not lead businesses to migrate across state boundaries is unlikely to incite movement between countries.

We consider four specific types of regulation that are thought to be particularly likely to cause businesses to exit: rules setting conditions of labor; rules to protect the environment; rules regulating corporate governance; and rules governing financial institutions. Our aim is to understand whether efforts to tighten regulations in these areas have caused businesses to migrate to jurisdictions where standards were lower, and, if we find that they did, whether such moves have instigated a general reduction in regulatory standards (a race to the bottom). We are also interested in exploring alternative versions of the arbitrage hypothesis: whether competition among jurisdictions can promote better regulation (a race to the top); or whether it promotes regulatory heterogeneity as firms sort themselves across jurisdictions according to specific preferences. Finally, we discuss other possible processes that can lead to regulatory uniformity, processes whose outcomes might mistakenly be attributed to regulatory arbitrage.

[1] Although the U.S. Constitution prohibits internal tariffs, states can use their police powers to impose licensing, inspection, or other requirements that are effectively trade barriers. Since the late nineteenth century, however, such barriers have had to pass quite stringent constitutional tests. See McCurdy 1978.

2. An Overview of the Basic Theory

The theory of regulatory arbitrage has a long history that can be traced at least as far back as Adam Smith. However, fears that globalization will spur races to the bottom have recently given it new prominence (Cerny 1994, Drezner 2001, Murphy 2004). The theory's core prediction is that regulatory policies in open economies will tend to converge over time. The basic cause of this convergence is the mobility of capital, but the actions of political decision-makers matter as well. Unless officials take steps to prevent job losses by copying the regulatory changes initiated by other jurisdictions, there can be no race.

Suppose one state or country revises its regulations in the hopes that businesses will move there. Whether a regulatory race ensues depends on how other states or countries respond—whether they alter their own policies with the aim of preventing actual or anticipated movements of capital. Firms do not actually have to move for regulatory arbitrage to occur; just the threat of leaving can be sufficient to effect policy changes, as can the fear that new entrants to the market will choose to locate elsewhere. Moreover, even if firms migrate in response to one jurisdiction's shift in regulatory rules, other jurisdictions must react by changing their policies. The mere fact that jurisdictions follow each other's lead in adopting new regulations is not in itself sufficient to establish the existence of a race. Policies can converge across jurisdictions for reasons that have nothing to do with the threat that capital will migrate. A regulatory race thus requires 1) an initial difference in regulatory rules across jurisdictions, 2) the credible threat that firms' locational decisions will be affected by that difference, and 3) a move by jurisdictions with more burdensome rules to change their regulations in response to the threat.

This simple definition of a regulatory race raises a number of issues. The most obvious concerns the direction of the competition. Most critics of globalization raise the specter of races to the bottom that erode regulatory standards. But there can also be races to the top (see, for example, Romano 1993 and Coffee 2002). The underlying logic is that regulation can confer benefits as well as impose costs and that the relative incidence of the costs and benefits on the businesses being regulated, as well as on others in the society, determines the direction of the race. Some rules benefit everyone in a geographic area (for example, by improving the quality of the water or the air), but reduce firms' profits by forcing them to bear costs that their competitors in other localities do not incur. These kinds of regulations potentially lead firms to migrate to laxer jurisdictions and hence can stimulate a race to the bottom. However, other types of regulations can benefit the firms that are subject to them—for example, by certifying the quality of their products or their worthiness to investors. These kinds of benefits are particularly likely to arise in situations where there are informational asymmetries that prevent consumers from judging the value or potential harmfulness of a product (as is the case with pharmaceuticals, for instance) or agency problems that cause investors to worry that corporate insiders will take advantage of them or misuse their funds. If firms perceive that the benefits of such regulation outweigh the costs, they may migrate to jurisdictions with more stringent rules, encouraging a race to the top.

It is also possible that if firms have different cost structures or target different segments of the market, they may vary in their preference for regulation. For example, some consumers value the signals that regulation can confer about quality or good corporate citizenship, so firms that cater to them may be more willing to bear the costs of conforming to such rules than other enterprises. Similarly, firms that intend to raise funds on public markets may benefit from the reassurance that securities regulation can offer investors, whereas those that rely on internal sources of capital may not need this certification. Rather than convergence, such heterogeneity in preferences may lead to the persistence of different regulatory regimes in different places. To the extent that the costs and benefits of regulation determine locational decisions, firms are likely to sort themselves across jurisdictions according to their preferences in much the same way that Tiebout (1956) hypothesized citizens would sort themselves geographically according to their desire for schools and other local public goods. If governments behave strategically, then they may seek to enhance the distinctive attractiveness of their regulatory niches rather than simply imitate the policies of other governments.

A second important question is whether firms are likely to move in response to regulatory differentials—that is, whether the threats they frequently voice are credible. When the rules imposed by one jurisdiction are more burdensome than those in another, firms that face higher regulatory costs may find themselves at a competitive disadvantage. All other things being equal, they will suffer a loss in market share unless they move to the other jurisdiction to reduce their costs. But all other things are not necessarily equal. The impact of regulatory differences on firms' competitive position depends on the magnitude of the rules' costs relative to any benefits they confer and also relative to other factors that determine firms' locational decisions. For example, the attractions of convenient access to raw materials, abundant labor with appropriate skills, or lucrative markets may make firms relatively insensitive to regulatory differences. Indeed, there is a voluminous literature on the so-called California effect, whereby large jurisdictions can impose costly regulations without penalty because firms cannot afford to forego access to their markets (see especially Vogel 1995). In other instances, large firms may prefer to bear the costs of a stringent regulatory regime if it puts smaller competitors at a disadvantage (Murphy 2004). As trade disputes in the food and drugs sector illustrate, moreover, governments may deliberately deploy higher regulatory standards in order to protect local enterprises from competition.

Even if firms' threat to move is credible, political decision-makers may not respond by copying the rules of the more attractive regulatory regime. Whether they do or not depends on what motivates their decision making. The theory of regulatory arbitrage assumes that officials aim to increase local economic growth and employment and so respond to changes in regulation in other jurisdictions by weakening (strengthening) their rules in the case of races to the bottom (top). However, there are other possible drivers of decision-makers' choices (Donahue 1997, Tjong 2002). For example, it may be that powerful local interest groups are able to influence policy for their own benefit regardless of the overall effect on growth and employment (the classic studies include Stigler 1971, Jordan 1972, and Peltzman 1976). Whether such lobbying contributes to a regulatory race depends on the relative political power of the groups who stand to benefit or lose from the change in regulation and the alliances they are able to form (Paul 1994/95, Drezner 2001). Moreover, because the relative strength of different interest groups is likely to vary across jurisdictions, the result is more likely to be regulatory heterogeneity than a race.

If one assumes that decision-makers themselves are self-interested (Peltzman 1976), how they are chosen may determine their propensity to join regulatory races, as well as their susceptibility to interest group pressures (Howlett and Ramesh 2006). One might expect that courts whose judges have life-time appointments would be less responsive to the threat of local job losses than legislatures whose members are elected by the very people who might lose their jobs. They should also be less susceptible to interest group pressures. By a similar logic, one might expect officials in democracies to be more likely to join regulatory races than their counterparts in more autocratic governments because they are more immediately at risk of losing their positions. Even within democracies, however, the manner in which regulatory officials are chosen may matter. If regulators must themselves stand for reelection, they will be evaluated by voters on their performance and hence are likely to be responsive to voters' concerns. But if they are appointed by elected officials whose popularity with voters depends on a much broader range of issues, they may be more susceptible to capture by affected interest groups (Besley and Coate 2003).

Finally, it should be emphasized that regulatory uniformity *per se* cannot be taken as evidence that a race occurred. Other processes can produce regulatory uniformity. For example, different jurisdictions facing the same (or a similar) problem may independently discover the same solution. A more likely possibility is that people in one jurisdiction learn what others are doing in peer jurisdictions and use that information to guide their own decision-making. Differential levels of economic and political development can mean that some jurisdictions regularly face problems earlier than others and develop solutions that later followers imitate. In other words, regulatory uniformity can be produced by a combination of innovation followed by imitation. The resulting regulatory standard upon which states converge is not subject to the "cost minimization" logic of regulatory arbitrage. Instead, the final regulatory standard can depend on the idiosyncrasies of the state that innovates first, and so the final outcome may be path dependent.

Another path to regulatory uniformity consists of "convergence by design." In the late nineteenth century, for example, the American legal profession launched a movement to get U.S. states to adopt similar laws and thereby increase legal uniformity. Members of the newly-formed American Bar Association (ABA) argued that nationally standardized and predictable laws were valuable, especially for business, but they recognized that in a federal system this uniformity could not be achieved directly through national legislation. Rather, similar laws had to be passed in each state. In 1892, the ABA created the National Conference of Commissioners on Uniform State Laws (NCCUSL). This group determined a number of legal areas where uniform laws made sense, focusing mostly on commercial laws but also including some social laws. A Uniform Negotiable Instruments Act was finalized in 1896, and by 1914 had been adopted in forty-five states and territories (Smith 1914). Almost as successful was the Uniform Warehouse Receipts Act, passed in thirty states by 1914. The NCCUSL eventually took a comprehensive approach and instead of working on single laws, drafted the first version of the Uniform Commercial Code in 1951 (Anon. 1910, Dunham 1965, Braithwaite and Drahos 2000, 50). "Convergence by design" also happens at the international level, although less has been accomplished because of significant legal and political heterogeneity among countries (Pistor 2002). The leading organizations pushing for convergence include UNCITRAL (the U.N. Commission on International Trade Law, founded in 1966), UNIDROIT (the International Institute for the Unification of Private Law, established in 1926), and the Hague Conference of Private International Law, held in 1893 (Braithwaite and Drahos 2000: 52, 68-69).

Such coordination among jurisdictions can serve as a barrier to regulatory arbitrage. The regulatory-race model is in essence a prisoners' dilemma game that assumes jurisdictions cannot coordinate their responses. If jurisdictions can coordinate, then they can forestall races that undermine regulatory standards, just as communication among players in a prisoners' dilemma game can prevent bad outcomes (Genschel and Plumper 1997, Radaelli 2004). Whether jurisdictions in fact coordinate depends on the interests of the regulators and how similar the sectors being regulated are across jurisdictions (Dell'Arricia and Marquez 2006). Under some circumstances, cooperation may even lead to the construction of cross-jurisdictional institutions with the power to dampen regulatory competition among constituent units (Trachtman 1993).

In sum, there are many good reasons for doubting that states will automatically be driven by competitive pressures from other jurisdictions to lower or raise their regulatory standards. The extent to which regulatory races occur in actual practice is an empirical question, and in the next several sections we review the literatures relevant to specific types of regulation in order better to understand the extent to which businesses have exploited regulatory arbitrage opportunities and forced governments to adjust their policies in response. As we will show, for the regulatory arbitrage hypothesis to hold there must be evidence that firms migrate in response to geographic differences in the costs and benefits of regulation, *and* we must also be able to observe governments shaping their regulatory policies with the aim of affecting those migration flows. The simple finding of a convergence in regulatory policy is not sufficient because such a confluence can result from other causes. Similarly, the finding of a lack of convergence can not be taken as conclusive of the absence of regulatory-race type pressures because governments may attempt to affect firms' locational decisions by strategically distinguishing their rules from those of rival jurisdictions.

3. Races to the Bottom

Globalization has focused political and scholarly attention on races to the bottom. The international integration of product markets combined with the international mobility of capital has shown a spotlight on the very real regulatory differences that exist across countries. If manufacturers can choose between Malaysia, Taiwan, and Japan when deciding where to locate a computer assembly plant, for example, their decisions may be affected by differences in the burden of Malaysian, Taiwanese and Japanese regulations. Arguments about regulatory races are now regularly deployed in critical assessments of globalization. The ability of sovereign governments to set their own regulatory policy is, according to the critics, severely undermined by the possibility that cross-national differences in regulation may lead employers and investors to shift to countries with less onerous regulations. Since integration into the global economy makes such shifts easier to accomplish, globalization arguably increases the likelihood of regulatory races to the bottom. Sovereign governments are constrained to weaken their regulations or suffer from capital flight.

The same logic applies even more strongly to U.S. states. National integration of product, capital and labor markets in the nineteenth century made it easier for firms to shift between states and take advantage of differences in state-level regulation. Compared to countries, moreover, there were few linguistic, legal or cultural barriers to movement between different states. Globalization reached a high point before World War I and then collapsed during the interwar period, only increasing again in the late twentieth century. As a result, the time frame for studying regulatory arbitrage in a global context is relatively compressed. By contrast, U.S. states have functioned uninterruptedly within a nationally integrated framework for a much longer period of time, and so the causes of regulatory races, as well as their effects, have been able to work themselves out much more fully and visibly. For these reasons, U.S. states are an especially suitable "laboratory" for the study of regulatory races. In the next three sections, we review the literature on races to the bottom in the areas of labor regulation, environmental regulation, and corporate governance, focusing on the consequences of regulatory changes in the U.S. context but also covering international examples wherever possible. We find that, even where, as in the U.S., there were minimal barriers to the movement of firms across jurisdictional boundaries, regulatory races rarely materialized.

3.1. Labor Regulation

Among the varieties of regulation, those affecting conditions of labor seem particularly likely to stimulate races to the bottom. Anything that substantially affects labor costs can have a discernable effect on the profits of firms, especially in labor-intensive industries. And because labor regulations operate astride a durable site of overt conflict, that between employees and employers, they have a political salience that other regulations often do not possess. If onerous labor regulations really do raise costs, employers are quite likely to take notice and react. Thus mobile employers may leave, or threaten to leave, states or countries whose stringent labor regulations significantly increase labor costs and reduce firm profits. Governments may respond to actual or threatened disinvestment by relaxing their standards, weakening their regulations, and creating a more attractive investment climate. If each government pursues the same strategy, it sets off a competitive race to the bottom. Should such a race to the bottom occur, the result would be weaker labor regulations within the U.S. or around the globe.

Other things being equal, firms prefer to locate where labor costs are relatively low. But, as we see below, other things are rarely equal. If the difference in labor cost is small relative to the cost of moving operations, if firms are insulated from low-cost competitors, or if regulation brings benefits that offset the costs, then by itself labor regulation is unlikely to induce firms to move. In addition, there are so many different types of labor regulation that the net effect of the whole regulatory package may be very different from that of one controversial part. Labor laws can set minimum wages, restrict child labor, set hours and conditions of work, vary job security, offer protection from workplace hazards, determine the ease with which unions can organize or operate, prohibit various kinds of employment discrimination, affect collective bargaining, bestow a role on unions in corporate governance, or set various work-related social benefits (health, unemployment insurance, etc.). This complexity makes the measurement of regulation a challenge, but also opens the possibility of mixed patterns, where some labor regulatory outcomes go "up" (for example, higher minimum wages) and at the same time others go "down" (weaker safety standards).

The causal sequence that undergirds regulatory races presumes that regulations are economically consequential. But this basic assumption is challenged by a number of studies examining labor regulations. Industries that rely heavily on low-skill low-wage labor should be the most sensitive to minimum wage laws. Such laws directly set labor costs and are a form of regulation that ought, according to standard theory, to produce very simple and direct effects: If the minimum wage is set above the market wage for entry-level unskilled work, employers will hire fewer workers and employment will decline; and if adjacent jurisdictions have different minimum wage levels, then employment should flow to the jurisdiction with the lower minimum wage. Card and Krueger (1994, 1995, 2000) took advantage of a natural experiment in which the minimum wage in New Jersey was raised from $4.25 to $5.05 per hour (in 1992), while in neighboring Pennsylvania it remained at $4.25. By comparing employment in fast-food establishments near the state border, Card and Krueger were able to assess the impact of a higher minimum wage on low-wage work in local labor markets. Their general conclusion, first asserted in 1995 and then reaffirmed in 2000 after an extensive reanalysis of data and response to critics, was that: "modest changes in the minimum wage have little systematic effect on employment" (Card and Kreuger 2000: 1398). Card and Kreuger's research suggests that even a relatively significant difference in wages (19 percent higher in New Jersey than in Pennsylvania) was still not enough to overcome all the other factors that encouraged employers to continue operating in New Jersey.

Card and Kreuger's findings (1994) were strongly challenged by Neumark and Wascher (2000), who used payroll data from fast-food firms in the same geographical region during the same time period to come to the very different conclusion that the minimum wage increase in New Jersey in fact lowered employment. Neumark and Wascher point out that the telephone survey data used by Card and Kreuger produced highly variable estimates of employment change, and also showed signs of "severe measurement error" (Neumark and Wascher 2000: 1362). Card and Kreuger's (2000) rejoinder worries about the limitations of Neumark and Wascher's data, in particular the representativeness of their sample, notes that variable estimates of employment change are not a problem unless measurement errors are systematically different between the two states, and uses yet another data set (Bureau of Labor Statistics employer reports) to reaffirm that the increase in minimum wages in New Jersey had little systematic effect on fast-food employment in that state. Recently, Ropponen (2011) tried to reconcile the disparate findings by looking across the entire size distribution of fast-food restaurants, using a changes-in-changes estimation technique. He concludes that the effects on employment depended on restaurant size: Essentially, Card and Kreuger were right for small restaurants, and Newmark and Wascher were right in the case of large restaurants. Nevertheless, these are not the kind of strong effects that drive regulatory races.[2]

[2] In later work, Neumark and Wascher (2004) use pooled cross-sectional time series data from 17 OECD countries between 1975 and 2000 to see if other labor market policies mediated the effect of minimum wages on youth employment. Their basic finding is that minimum wages tend to reduce youth employment. However, that effect is smaller if there is a special "subminimum" wage for youth workers. Furthermore, other policies (rigidity of labor standards, strength of employment protections, active labor market policies) significantly interact with minimum

Another natural experiment followed when the federal minimum wage increased in 1996 and 1997, and the wage difference between Pennsylvania and New Jersey disappeared. Hoffman and Trace (2009) use this second episode and apply a difference-in-differences method to revisit the issue. They find that, as wages in Pennsylvania caught up to New Jersey as a result of changes in the federal minimum wage, employment rates in Pennsylvania declined, particularly for groups like non-teen workers with below high school educations. Although this result challenges Card and Kreuger's conclusions, it involves convergence to a higher regulatory standard rather than a race to the bottom and raises the question of why a higher minimum wages should have such different effects across states.[3]

Others have shifted the analysis of wage regulation from states down to counties and municipalities on the grounds that significant within-state labor market heterogeneity is otherwise masked. Thompson (2009) looks at county level employment from 1996 to 2000 and finds that "binding" minimum wages (that is, those set above the market-clearing wage for teens) had a significantly negative effect on teen employment. But they did not appear to alter employment for young adults, and the effect was confined to small counties. Dube, Lester, and Reich (2010) compare contiguous county-pairs on opposite sides of a state border and study how minimum wage differences affected earnings and employment of restaurant workers between 1990 and 2006. They find that county-level variations produce spurious effects at the state-level,

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wage laws, sometimes strengthening and sometimes offsetting the basic effect. Consequently, minimum wage laws have quite different effects in different countries (Neumark and Wascher 2004: 244), and so are unlikely to spark a regulatory race.

[3] Card and Krueger inspired studies of the impact of minimum wage laws on employment in non-U.S. countries. Alatas and Cameron (2008) exploit an Indonesian "natural experiment" in which minimum wage rates increased and converged in different political jurisdictions that were part of the greater Jakarta labor market. Focusing on low-wage work in four industries during the 1990s, and using data from a census of medium and large enterprises, Alatas and Cameron note that the minimum wage rates were both binding and enforced, and find that their employment effects varied by firm size: employment declined in small firms, but there was no effect on large firms (whether they were foreign-owned or not).

and that minimum wage increases had strong earnings and no employment effects. Dube, Naidu and Reich (2007) also found that when the city of San Francisco adopted an indexed minimum wage that was well above the California state level, there was no significant employment reduction among restaurant workers. Mostly, subsequent research has affirmed the findings of Card and Krueger (Schmitt 2013); there is little evidence of the strong and direct causal effects on employment necessary to drive a regulatory race.

Another example of labor regulations that arguably imposed significant costs on employers but did not spark a regulatory race comes from the wave of state-level regulatory reforms that followed New Deal labor legislation. The 1947 Taft-Hartley amendments to the 1935 Wagner Act allowed states to pass laws that prohibited union shops. Such laws meant that new employees no longer had to join and pay dues to the union that organized their workplace. In effect, states could undercut uniform federal regulation of employment relationships and enact their own, weaker regulations. These came to be known as "right-to-work" (RTW) laws, and were clearly intended to undermine the ability of unions to organize a firm's workforce. They also set up a stark regulatory difference between right-to-work and non-right-to-work states. In the 1940s and 1950s RTW laws were passed in many but not all states, and they are still more prevalent among Southern, Plains, and Rocky Mountain states than in other regions. The last states to pass such laws were Louisiana in 1976, Idaho in 1986, and Indiana and Michigan in 2012 (Ellwood and Fine 1987: 251, Abraham and Voos 2000). This durable regulatory disparity is inconsistent with the convergence that regulatory races are supposed to produce.

One reason why all states have not been compelled to pass RTW laws may be that the effects of such laws on labor costs are not significant enough relative to all the other relevant factors. Early research raised the possibility that RTW laws were largely symbolic (Moore and

Newman 1985), but Ellwood and Fine (1987) find that they do in fact affect union organizing, and estimate that overall union membership is reduced between 5 and 10 percent. Moore (1998) agrees that RTW laws reduce unionization, but claims that there is little effect on wages in either the private or public sector. Using county-level data, Holmes (1998) examines the border regions that separate RTW states from non-RTW states to estimate the local effect of the law, and finds that manufacturing employment is about one-third higher on the RTW side of the border than on the other side (for example, South Dakota versus Minnesota). Rao, Yue and Ingram (2011) also examine borders between RTW and non-RTW states to see what kind of impact regulatory differences had on the proposed and actual location of new Walmart stores. They found that Walmart favored RTW over non-RTW states when it *proposed* to open a new store, but whether it followed through and *actually opened* a new store also depended on the reaction from local political activists to the proposal: Protest in a non-RTW state could effectively stop Walmart from going any further, while protest in RTW states only reduced the probability of a store opening. However, if there was no protest, proposed stores were equally likely to be opened in both RTW and non-RTW states. Finally, Abraham and Voos (2000) use an event-study method to examine the impact of passage of a RTW law. They compare the stock-market valuations of companies with substantial operations in Louisiana and Idaho, both before and after the passage of RTW laws, and estimate that such laws increased shareholder wealth 2.9 percent in Louisiana and 2.4 percent in Idaho. Although these are not trivial effects, they were evidently not sufficient to compel non-RTW states to change their laws. Without organized interest-group pressure, these effects lacked the political traction necessary to induce legal reform.

Some major regulatory changes had little effect on employment across jurisdictions because their consequences were only minor or were otherwise largely unintended. For example, in the Progressive Era, a number of states passed legislation to regulate employment by restricting the hours of child and female workers, and setting their minimum wages (Holcombe 1917). The ostensible goal was to protect women and children and by 1939 most, but not all, states had some version of this legislation on their books (Stitt 1939). However, Moehling (1999) finds that passage of state child labor laws had little effect on child labor in the U.S. Child labor declined, to be sure, but not because of these new laws.[4] In related work, Goldin (1988) specifically addresses the effect of hours legislation on female employment. Using state-level data from 1920, she takes issue with prior research claiming that hours legislation reduced women's overall work and lessened female employment in manufacturing (Landes 1980). Goldin finds that such legislation had a minimal effect on women's overall hours and no effect on hours of work performed by women in the manufacturing sector. This legislation was passed during a long-term decline in the average length of the work week, and Goldin suggests that legislation for women was supported by male labor groups in the hope that shorter hours for women would reinforce the trend in shorter hours for men. This legislation also passed during a long-term increase in female labor-force participation, and limiting hours may have made it easier for women to reconcile domestic work with paid employment in sales. In any event, Goldin's analysis suggests that hours legislation did not have the strong, simple effects presumed by regulatory race arguments.

Anti-discrimination laws offer another example where politically salient regulation produced economic effects that did not unleash regulatory races. States regulate how easily employers can fire their workers, and laws that constrain a firm's ability to dismiss workers can inhibit efficient labor force adjustments. Many U.S. states used anti-discrimination laws to

[4] Child labor became less important for both industry and families. More generally, see Fishback (1998), 724, 752-4.

protect minorities by constraining the common law doctrine of “employment at will” under which employers could fire employees for good reasons, bad reasons, or no reason at all. Starting with New York in 1945, twenty-two states passed such “fair employment” laws before the landmark federal legislation of 1964, despite opposition from state chambers of commerce and other employer groups. Using a difference-in-difference-in-difference method, Collins (2003) finds that the effects of the laws varied depending on whether the law passed during the 1940s or in the 1950s. The first wave of laws generally raised the income of minority workers (without being offset by higher minority unemployment or reduced labor force participation), especially for black women, but the second wave did not. Collins suggests that later laws may have been less effective because what remained after the first wave were the deeper and more intractable forms of discrimination. Employer groups may have exercised their “voice” option, but they did not exit and fair employment laws did not produce a regulatory race.

Cross-national research on labor regulations provides a useful contrast to U.S.-focused research because the barriers to firm movement are higher between countries than between states. Legal, linguistic, political and cultural differences could all swamp regulatory differences that motivate such movement. Because of variation in these cross-national barriers, researchers almost always consider how integrated a nation is into the global economy when addressing arguments about regulatory races. They will, for example, measure foreign trade as a percentage of gross domestic product (GDP), factor in foreign direct investment (FDI) as a percentage of GDP, or focus on industrial sectors that are particularly involved in foreign trade (for example, textile manufactures). The idea is that when countries are more globally integrated, barriers to movement are lower and firms are more likely to respond to regulatory differences. Cross-national research also examines different parts of the regulatory race process, sometimes looking at overall growth, and sometimes at specific labor outcomes.

Some research examines the association between contemporary global economic integration and labor outcomes, and simply assumes that labor regulations function as an intervening causal factor. In a simple comparison of two countries, Mexico and China, Chan and Ross (2003) document that in export-oriented apparel production, wages have declined as exports to the U.S. increased. They imply that international races to the bottom (and lower wages) will occur unless governments embrace multilateral labor agreements, but fail to consider other explanations for their results (for example, that expanded production draws workers in from poorer parts of the country and lowers wages). By contrast, Neumayer and De Soysa (2006) analyze a sample of 139 countries and find that openness to trade lowers the use of child labor and also reduces the number of times that labor rights of association and collective bargaining get violated. They also examine the effect of inflows of FDI and find that they had no significant effects in their analysis, perhaps because it matters whether the FDI goes into manufacturing or into the natural resource sector of the economy. Mosely and Uno (2007) study 90 developing countries and find that the amount of FDI was positively associated with increased labor rights, while openness to trade weakened them. They argue that the multinational corporations that make foreign direct investments can raise labor standards by pressuring host governments to support the rule of law, by importing best practices for workers' rights, or by focusing on the quality of labor rather than just its cost (Mosely and Uno 2007: 926). With more systematic statistical controls, Mosely and Uno's is a stronger study that partly agrees with Chan and Ross and contradicts Neumayer and De Soysa, but none of these articles measure labor regulations directly.

These results suggest that it may not be economic integration per se that matters so much as how national markets are integrated into the global economy. Harrison and McMillan (2011) ask whether declines in U.S. manufacturing employment are caused by “offshoring” on the part of U.S. multinational firms. This connection appears plausible since between 1982 and 1999 domestic employment by U.S. multinationals declined while their overseas employment rose. Harrison and McMillan find that firms offshoring to low-wage countries reduced domestic employment. But when domestic and foreign employees performed different, complementary tasks, lower wages offshore were associated with higher domestic employment. Whether foreign and domestic workers are substitutes or complements depends on a firm’s strategy, internal division of labor, and choice of venue for offshoring. Relative wages between domestic and foreign employees do not dictate multinationals’ employment decisions in a mechanical fashion.

If the mode of economic integration matters, then it is possible for countries to manage it in a way as that avoids regulatory races. In a study of the first era of globalization, Huberman (2012) notes the co-development of international trade and a package of labor market regulations and social programs he calls the “labor compact” (Huberman 2012: 13-17). At the end of the nineteenth century, countries that were engaged in global trade instituted measures that raised wages and reduced labor supply, and so exposure to global competition did not automatically produce a race to the bottom. Huberman explains that countries used bilateral treaties to link market access with adoption of the labor compact so that their trading partners could not undercut them by having weaker labor standards and regulations. To be sure, the labor compact helped to soften the impact of global competition, but by engineering joint adoption, countries were able to embrace free trade without igniting a downward regulatory race.

In classic races to the bottom, more costly regulations cause lower national economic performance (which should eventually lead to weaker regulations). In fact, some cross-national research suggests that higher regulatory standards are associated with better economic performance. There are several potential reasons for this. One is that regulation can offer benefits that offset the costs it imposes. Regulation can enhance productivity by stabilizing employment relations, reducing workplace conflict, and encouraging the accumulation of firm-specific skills by workers. Rodriguez and Samy (2003) consider how labor standards affected U.S. exports during the 1950-1998 period. By some measures (unionization and work injuries), lower standards improved exports by reducing costs, but by another measure (work hours per week) lower standards had an adverse effect because they lowered efficiency and productivity. Rodriguez and Samy do not resolve their inconsistent results, but clearly higher standards do not automatically translate into poorer economic performance. Martin and Maskus (2001) reinforce the latter finding and challenge the idea that stronger labor protections (prohibition of child and forced labor, prohibition of discrimination, freedom of association, right to organize and bargain collectively) reduce the profitability of employers. According to them, if weaker labor standards result in discrimination against particular workers, the result is higher costs and lower efficiency.

A second reason concerns the importance of brand image for socially-conscious consumers. Bartley (2007) shows how anti-sweatshop social movements in the 1990s helped to produce a “private” type of regulation in which overseas apparel factories were certified by third parties if they conformed to a code of labor standards. This certification then became part of product’s brand image in the eyes of western consumers, who were eager to know that their clothing had not been manufactured in a sweatshop. Compliance with higher labor and workplace safety standards enhanced the perceived quality of goods and offered benefits that offset higher costs.[5] However, events like the 2012 Dhaka factory fire and the 2013 Savar building collapse in Bangladesh suggest that, because private regulation lacks the coercive power of the state, there are greater problems with implementation and compliance, and so it may in the end be less efficacious.

Finally, arguments about regulatory races mostly assume that politicians in legislatures set regulatory policy, and that as voters' elected representatives they are primarily concerned with preventing job losses. One important extension relaxes this assumption. Autor, Donohue and Schwab (2004) note that courts can also impose new employment regulations, and that judges may face different incentives from legislators. In particular, through their rulings during the 1970s and 1980s, state judges created new restrictions on the ability of employers to fire their employees (see also Krueger 1991). Autor et al. estimate that these three new classes of restrictions ("public policy," "good faith," and "implied contract") had only a small effect on overall employment within a state, but note that they increased demand among employers for temporary help agencies (as a way to secure labor outside of a formal employment relationship). In a follow-up study, Autor, Kerr, and Kugler (2007) examine establishment-level effects of these new restrictions and find that workforce turnover slowed down and capital deepening increased, but that the effects on overall employment were inconclusive. Using Autor's data, Bird and Knopf (2009) studied banks and found that adoption of "implied contract" exceptions reduced firm profitability. Autor and his co-authors recognize that state legislatures are not the only ones creating regulations, and the political dynamics that support regulatory races probably work differently for courts than for legislatures, governors or other elected politicians. Judges are

[5] This is consistent with Alatas and Cameron's (2008, 220) conclusion that large global firms like Nike and Reebok could easily afford to pay higher wages to their Indonesian factory workers.

less beholden to the electorate (they may or may not be elected, and their terms of office can be lengthy and even unlimited), and in their decision-making they are constrained by legal precedent.

Research on labor regulations has covered only some of the causal links that make up a regulatory race. It has addressed whether labor regulations are consequential, whether they are converging, and whether they impose substantial net costs on firms. This research reveals that firms are unlikely to respond to regulatory differences unless the costs of regulation are large relative to other costs. Furthermore, even if the costs are significant they can be offset by benefits or managed cooperatively so that they do not necessarily produce a race. Those who determine the content of regulations, either by writing laws (legislators), interpreting them (judiciary), or enforcing them (executive branch) do not necessarily have the same interests and incentives. They are not equally responsive to threats or perceived threats of business disinvestment, nor to organized interest groups.

3.2. Environmental Regulation: Races or Niches?

Globalization has been accused of sparking regulatory races that have strong environmental effects, in addition to undermining labor standards. According to this argument, environmental regulations raise operating costs and reduce corporate profits, firms migrate to countries where laws are weaker and costs are lower, and governments respond by weakening their laws and reducing their efficacy. The predicted result of such a race is that populations worldwide suffer from the health effects of environmental degradation. Debates about regulatory arbitrage have also raised the issue of whether the appropriate level for domestic U.S. environmental regulation is with state governments or with the federal government. Some have argued that regulatory competition among states will lead to efficient or optimal environmental regulations, but others claim that federal regulation is necessary precisely because competition among states will lead to weaker environmental regulation and worse environmental outcomes (Levinson 2003, Revesz 1997, Revesz 2001, Saleska and Engel 1998, Swire 1996).

As with labor regulation, sweeping claims about the outcome of regulatory races are generally not borne out by empirical studies. Although regulatory race arguments imply that firms should relocate in response to costly regulations, it appears that environment regulations are seldom definitive for locational decisions. Similarily, although regulatory races should produce regulatory convergence, considerable variation in environmental rules remains. Finally, environmental regulations reveal a mechanism (market access) through which large jurisdictions can impose higher regulatory standards, without fear of being undermined by a race to the bottom. This mechanism also played a role in the international spread of the "labor compact" at the end of the nineteenth century.

There are as many ways to measure environmental as labor regulations, and there are many relevant environmental spheres to consider (for example, air versus ground versus water-born pollution). As Copeland and Taylor (2004: 20, 54) stress, moreover, even within each sphere, there is little reason to expect that regulatory outcomes will be invariant across different pollutants. In the case of air pollution, for example, some contaminants, like particulates, produce local negative externalities, whereas others, like carbon dioxide, are more purely global in their effects (see Frankel and Rose 2005: 88). This has implications for how such externalities might be mitigated or "internalized."

One of the causal links in regulatory races implies that firms respond to regulatory differences, and, other things being equal, move away from onerous regulations. Researchers have studied the responsiveness of firms to regulatory differences at the U.S. state level. Stafford (2000) examines the location of hazardous waste facilities to see whether stringent state-level environmental regulation leads firms to locate elsewhere. Her findings are mixed: On the one hand, firms were less likely to locate in states that spent more on environmental programs; on the other hand, they were more likely to locate in states that had more stringent and numerous environmental programs (perhaps, Stafford suggests, because this made the regulatory environment more certain). Berman and Bui (2001) study the effect of local air quality regulations and find that they have virtually no impact on employment, but when Keller and Levinson (2002) examine the effect of pollution abatement costs on levels of FDI going to specific U.S. states, they find that higher costs do deter investment. Henderson and Millimet (2007) use nonparametric methods in a reassessment and find that the effect of abatement costs on FDI is smaller than estimated by Keller and Levinson, and varies across states. At the county level within states, List, McHone, and Millimet (2003) find that local air quality standards did affect firms' decisions to relocate: more stringent regulations encouraged firms to locate elsewhere. And using plant-specific data within counties, Walker (2013) finds that the 1990s amendments to the Clean Air Act resulted in workforce adjustments and worker displacements that significantly reduced earnings. Nevertheless, the estimated losses were more than two orders of magnitude less than most estimates of the health benefits of the regulatory changes (Walker 2013: 1791).

Several studies examine how environmental regulations affect locational decisions at the international level and find that firms do not respond to regulatory differences in a uniform manner. Kirkpatrick and Shimamoto (2008) study Japanese foreign direct investment (FDI) in five pollution-intensive industries, on the grounds that firms in such industries would be highly sensitive to the costs imposed by regulation. They find that, other things being equal, Japanese FDI tended to go to countries with stronger, not weaker, environmental regulations, and speculate that the overall attractions of a stable and transparent regulatory framework trumped direct regulatory costs. By contrast, Mulatu et al. (2010) study European firms and find a weak tendency for firms to locate in countries with lax environmental regulations, with the effect being stronger for firms in highly polluting industries. Dam and Schotens (2008) also find that multinational corporations respond to environmental regulations, but their evidence suggests that corporations with low "corporate social responsibility" were the ones more likely to locate in countries with weak regulations. Porter (1999) claims that sensitivity to regulatory differentials is greater in industrializing countries than in those with highly developed economies. Consequently, he says, industrializing countries do not so much race to the bottom as remain stuck there.

If environmental regulations are to drive regulatory races, they should have an effect on firm performance. Looking at the costs of pollution controls in a variety of industries and their effects on net exports, Jaffe et al. (1995: 157) conclude that environmental regulations had no great impact on the competitiveness of U.S. manufacturing: estimated coefficients are either small, insignificant, or not robust. High-pollution industries, like chemical or petroleum, should be especially sensitive to environmental regulations, particularly when they are highly integrated into global markets. More generally, Copeland and Taylor (2004: 40) noted that world prices in the "dirty" goods produced by high-pollution industries were largely stable between 1965 and 2000, a trend that is inconsistent with the claim that stringent environmental regulations in the global North substantially raised costs of production and prices, and forced industry to move to jurisdictions where regulations were weaker.

According to Levinson (2003: 96), a number of empirical studies have examined the impact of state-level regulation on economic activity, but none have really considered the second key connection in the race-to-the-bottom argument, namely, whether regulations in one state are influenced by regulations in competing states. These regulatory consequences are considered by Saleska and Engel (1998), who state (without strong evidence) that locational decisions by industry are largely unaffected by state environmental standards, but that state legislators nevertheless relax such standards in order to attract industry. Legislators, in other words, sometimes weaken regulation even when they really do not have to. Konisky (2007) makes a stronger argument by examining state enforcement of various federal pollution control programs, and finds that states adjust their level of enforcement up or down, depending on what competing states do. Millimet (2003) claims that the devolution of environmental policy from federal to state government under the Reagan Administration set off a race to the top, and so once state finances improved in the mid-1980s, public expenditures on air pollution control grew. However, the impact on levels of air-born pollutants was less clear. Generally, studies of state environmental regulations do not reveal strong or consistent evidence of regulatory races.

When regional integration and the reduction of trade barriers make it easier for firms to move across national borders, then differences in environmental regulations should become more consequential, and politicians should respond to those differences. Holzinger and Sommerer (2011) note that EU member countries have changed their environmental regulations many times between 1970 and 2005, but almost always by making standards more stringent. Carpentier (2006) summarizes the results of many studies of NAFTA and concludes that passage of NAFTA had no strong environmental effects, good or bad, despite the concerns widely expressed beforehand. Vogel (2000) notes that global economic integration over the last several decades has not produced a systematic race to the bottom. In fact, most countries now have stricter environmental rules than in the past, and they devote more resources toward environmental protection. Among other reasons, the costs of compliance with environmental rules are often not very significant compared to other kinds of business costs. The business community has mixed interests since some firms find compliance easier than others, and may support higher regulatory standards as an indirect way to burden their rivals if competing firms are out of compliance or find it harder to comply (Heyes 2009). Furthermore, big countries with big markets can dictate higher environmental standards to the marketplace secure in the knowledge that they are simply too important to ignore (Vogel 2000: 269). If a small country sets higher standards than its peers, firms can credibly threaten to leave since the loss of business is relatively inconsequential. Firms subject to higher standards imposed by a large jurisdiction, however, do not have such a credible threat since to exit would be very costly. This is called the "California effect," in recognition of the state of California's ability to set emissions standards for automobiles that are higher than in the rest of the U.S. A similar mechanism facilitated the spread of the "labor compact" a century ago, when nations conditioned market access on the adoption of higher labor standards.

The environmental effects of regional integration should also be considered in light of the status of environmental regulation as a normal good. Copeland and Taylor (2004) summarize arguments about the impact of free trade on pollution by considering the environmental Kuznets curve, which posits that among poor countries, income growth is associated with worsening environmental quality, whereas among rich countries it is associated with improving environmental quality (Dasgupta et al. 2002). It may be that high income leads both to greater demand for environmental quality and more resources to supply it via stronger environmental regulations, and hence that trade-driven economic growth need not produce environmental degradation (Copeland and Taylor 2004: 8,66).

Many processes besides regulatory races can shape regulatory outcomes. Busch, Jörgens, and Tews (2005) focus on industrialized countries and argue that widespread adoption of a variety of environmental policies over the last several decades owed largely to policy diffusion rather than a competitive regulatory race. In such a process, an innovator country is emulated by other countries, which are themselves emulated, so that eventually all adopt the innovation, but not necessarily because failure to adopt makes investors move elsewhere. Adoption could be driven by concerns for national status and legitimacy, for example, because of external diplomatic coercion, or as a result of domestic political pressures that call for stronger environmental regulations (as when voters benchmark politicians against neighboring jurisdictions, see Besley and Case 1995). Furthermore, diffusion of innovation unfolds through a network of contacts that link the adopting population together. In some of the cases examined by Busch et al., countries were "encouraged" to adopt policies through the explicit use of "conditionalities" attached to World Bank loans, sometimes countries adopted measures that had been endorsed by supra-national entities like the UN or EU, and in the case of FAI (free access to information) the regulation improved public accountability in environmental policy without substantial consequences, positive or negative, for firms or investors.[6]

A further complication arises from the fact that some environmental policy initiatives do not map easily onto the simple "up versus down" distinction that underpins regulatory race arguments. This one-dimensional distinction gauges the stringency of prescriptive rules that constrain firm behavior, so that greater stringency means "up" and less means "down." But

[6] FAI rules govern the provision to citizens of information that is already held by public authorities. They do not typically require firms to provide additional information.

some regulations are permissive and enabling rather than just constraining (as with "command and control" regulations). In the case of environmental regulation, this is particularly true of cap-and-trade systems, where government creates a new form of property in the right to emit a certain amount of pollutant in a given year, then creates a market in that property, and finally regulates overall annual emissions by setting a cap on the total number of emission rights (Gorman and Solomon 2002, Schmalensee and Stavins 2013). Government can fix the overall level of pollution (for example, only so much sulfur dioxide emitted per year) but it gives firms who pollute the flexibility of a market. The system constrains the overall amount of pollution, but it gives individual firms considerable freedom to decide how much to pollute and therefore how many permits to purchase. Does creation of a cap-and-trade system mean that regulation has become more stringent? The answer is not simple, and the introduction of such systems raise the possibility that regulatory convergence may be neither up nor down.

Voluntary environmental programs (VEP) represent another challenge to simple "up versus down" characterizations. A VEP is a program or agreement that encourages businesses to reduce their environmental impacts beyond what is legally required by existing regulations (Prakash and Potoski 2012, Darnall, Potoski and Prakash 2010). Such programs are usually sponsored either by industry groups (for example, the American Chemistry Council's Responsible Care Program), non-governmental organizations (for example, the Forest Stewardship Council), or by state or federal level governmental agencies (for example, the New Jersey Clean Energy Program, or the EPA's Climate Leaders Program). Participation can offer various benefits to member businesses, primarily by publicly signaling the firm's environmental commitments to consumers, customers, or other external stakeholders. VEP participation becomes part of "brand management," although the strength of the message may depend on the

VEP sponsor (typically industry-sponsored VEPs have a weaker environmental image). Using data from an OECD survey of manufacturers, Darnall, Potoski and Prakash (2010) found that firms were more likely to join a VEP in response to external pressure from key stakeholders. Since VEPs augment the effect of public regulations, albeit for participants only, they create regulatory variation without encouraging firms to exit from jurisdictions with more stringent standards.

Prakash and Potoski (2006) consider how international trade affects the adoption of private environmental regulations. One important organizational source for private regulation is the International Organization for Standardization (ISO), founded in 1947, which promulgates thousands of technical standards for a variety of products and processes. Although it initially focused on industrial and engineering standards, ISO has broadened its scope to include areas like quality management and environmental standards. Prakash and Potoski find that the likelihood of a firm adopting ISO 14001 (which stipulates environmental process standards for *how* products are produced) within an exporting country is higher when that standard has also been adopted by firms in the corresponding importing country. This finding suggests that suppliers are more likely to embrace private regulations when their customers have already adopted them, so that regulations diffuse through transaction networks and supply chains as suppliers embrace standards to avoid losing customers.

The Marine Stewardship Council (MSC) exemplifies another type of private regulation, and certifies particular fisheries as compliant with “sustainability” standards. Wakamatsu (2014) studied an MSC-certified Japanese fishery and by analyzing price data found that certification functioned as a type of product differentiation, protecting the fishery from what would otherwise be direct competitors. Even for the same species of fish, consumers regarded eco-labelled seafood as significantly different from conventional seafood, and were willing to pay for the difference. Foster and Gutierrez (2013) examined a private Mexican program in which industrial plants were voluntarily certified as compliant with environmental standards, and point out that certification was a useful signal that enabled public regulators to target oversight activities more efficiently. In this setting, public and private regulations were complements rather than substitutes.

One study that directly considered the politics of environmental regulation, Kahn and Matsusaka (1997), used county-level data on electoral support for 16 environmental measures on the California ballot to examine voter preferences for environmental goods. Their results suggested that environmental quality was a normal good in that higher incomes were associated with greater demand. However, at the very high end of the income distribution it became an inferior good, perhaps because wealthy voters were better able to provide environmental quality privately. In addition, counties with more income coming from construction, farming, forestry and manufacturing (that is, industries likely to bear disproportionately the cost of the proposed environmental measures) offered less electoral support. However, imposition of environmental rules does not necessarily ensure compliance, and so Earnhart (2004) considered how conformity with water pollution standards by municipal wastewater facilities varied across different communities in Kansas during the 1990s. As a whole, Kansas suffered from poor water quality and so the issue possessed particular relevance. Earnhart carefully modelled both direct effects on compliance, and indirect effects (where community features influenced the likelihood of regulatory inspections and enforcement actions, which in turn affected compliance). Regulatory inspections of water facilities were more likely in communities with higher incomes and lower population density, and less likely in communities with more Republican support or lower voter turnout. Furthermore, Republican support, population density, and unemployment both increased the likelihood of non-compliance with water quality standards, while per capita income lowered non-compliance. Although Earnhart's study involved no direct measures of political processes, his results were consistent with the idea that communities vary in the pressure they manifest both for regulatory activity and environmental outcomes.

Most studies of environmental regulations neglect the political processes that might turn regulatory effects on the economy into pressures for regulatory change, but some recognize that environmental regulatory races can be politically tempered by the NIMBY effect (Not In My Back Yard). NIMBY denotes situations in which citizens oppose the presence of hazardous sites or pollution sources, and exert political pressure to have these put elsewhere (out of their town, out of their state, etc.). The NIMBY effect occurs when the concerns of politically-mobilized residents about proximity to pollution trump the employment and investment advantages of such proximity, and residents are able to push the polluting source outside of their political jurisdiction (Potoski 2001). NIMBY raises the possibility of stable jurisdictional differences, where the particular balance of domestic political forces from both citizens and regulated businesses leads to regulatory divergence rather than convergence. In such situations, jurisdictions could occupy distinct regulatory niches.

Overall, there is little systematic evidence for regulatory races-to-the-bottom in the case of environmental regulations, either at the global level or that of U.S. states. Regulatory differences seldom have a determinative effect on firm location, and polities rarely compete for investment by "underbidding" each other's regulations. Instead, as the social costs of environmental degradation become apparent, higher standards become politically popular, and big economies are able to restrict market access in order to enforce compliance with high standards. Additionally, firms can adopt private regulations as a way to signal “sustainability” or other forms of value in the marketplace.

3.3. The Case of Corporate Chartermongering

Scholars often cite the chartermongering competition waged by the various U.S. states in the late-nineteenth and early-twentieth centuries as the canonical example of a race to the bottom. Before this rivalry erupted during the 1890s, nearly all corporations obtained charters from the state in which they originated. New Jersey broke this pattern when it amended its general incorporation laws in 1888 and 1889. Under existing state laws corporations generally could not own stock in other companies, and two corporations could merge only if one of them dissolved and the other purchased its assets (in most states such actions required large supermajority votes or even unanimous consent). New Jersey’s revisions created a streamlined process for mergers and facilitated the creation of holding companies by allowing one corporation to own shares in another. These changes made New Jersey an attractive domicile for the many consolidations formed during the period’s merger wave, and the state, which taxed corporations on the basis of their authorized capital stock, found its revenues soaring (Butler 1985, Grandy 1989, Lamoreaux 1985). New Jersey’s flush treasury in turn inspired a number of other states (most notably Delaware, but also West Virginia, Maryland, Maine, and New York) to enter the competition to attract corporate charters (Grandy 1989). The result, critics charged, was a race to the bottom, “an inevitable tendency of State legislation toward the lowest level of lax regulation” (U.S. Commissioner of Corporations 1904, 40; Berle and Means 1932; Cary 1974; Nader, Green, and Seligman 1976; Bebchuk 1992).

Chartermongering could succeed because it was relatively costless for a firm to move its corporate domicile from one state to another. When companies changed their legal homes, all they technically had to do (besides file the necessary paperwork and pay the incorporation fees) was hire an agent and designate the agent's office as their place of business in the state. They did not have to move their headquarters, let alone their production and marketing facilities, so they did not have to assess the costs and benefits of relocating physical assets. The only other factor they had to consider was litigation costs. Because lawsuits between the corporation and its shareholders would usually be tried in the state of domicile, the option of moving was more attractive to large firms that already operated in (and hence had legal business in) multiple jurisdictions (Daines 2002).

From the states' perspective, this calculus meant that the stakes of losing the chartermongering competition were also relatively low. States did not risk the loss of production facilities and jobs if corporations doing business within their bounds decided to shift their domiciles elsewhere. Nor did states lose their ability to regulate the corporations' operations. As we have already seen, businesses had to conform to local safety and environmental regulations, to laws governing the hours and conditions of labor, and to minimum-wage statutes wherever they operated. Similarly, to sell goods in a state, firms had to obey local product safety laws and labeling laws.[7] In addition, for most states the stream of tax revenues to be gained from

[7] A good example of the ongoing importance of heterogeneous state regulation in the context of corporate chartermongering is the insurance industry. In 2001 the top three domiciles for life insurance companies were Texas with 62 companies, New York with 58, and Illinois with 43. Five states did not charter any life insurance companies at all, twenty-four chartered 1 to 9, fourteen 10 to 19, and four 20 to 22. These companies all did business in multiple states, each of which independently regulated the terms on which companies could offer insurance to its residents, regardless of where they were chartered. Companies who found a state's regulations burdensome face the binary choice of whether to continue to write policies there or pull out. Hence, in 2001 the number of life insurance companies licensed to operate in a state ranged from a low of 101 (New York) to a high of 363 (Texas). The forty-nine life insurance companies that in 2001 offered policies in all fifty states had to conform to the demands of fifty different regulatory regimes (McShane, Cox and Butler 2010). Domicile states typically set standards for financial

winning the chartermongering competition was not large enough for them to bother to race. Once states copied each other's general incorporation laws, the only way to gain additional charters was to cut fees and taxes. Big states quickly dropped out of the competition because only small states like Delaware could lower tax rates and still gain enough revenue relative to their needs to make the effort worthwhile (Romano 1985).[8] Once Delaware won the competition, moreover, its relative dependence on this source of revenues enabled it credibly to commit not to undermine the attractiveness of its general incorporation statutes (Grandy 1989).

Although some scholars have attributed Delaware's victory to its ruthlessness in lowering regulatory standards, others have insisted that the chartermongering competition improved the efficiency of regulation and hence should be thought of as a race to the top. Before New Jersey sparked the competition with its amendments to its general incorporation law, states imposed many different kinds of restrictions in the charters they granted, including ceilings on the amount of capital companies could raise, limits on the kinds of businesses in which they could engage, prohibitions against owning shares of other enterprises, and mandatory corporate governance rules (Harris and Lamoreaux 2010, Lamoreaux 2015). These restrictions, it has been argued, inhibited firms' ability to pursue profitable opportunities, exploit economies of scale or scope, and adopt the most effective organizational structure. When states sought to outdo each other in

sufficiency for the companies they chartered. As early as 1871, states took steps to prevent a race to the bottom in this area by creating the National Association of Insurance Commissioners, which to the present day sets financial reporting standards for the industry. Licensing states exercise a secondary level of financial oversight, which further helps to limit regulatory arbitrage. Nonetheless, some scholars have claimed that firms do take advantage of differences in financial rules across states and that states have lowered their standards as a consequence. Hence it is claimed that lax regulation led to a wave of failures in the mid-1980s and then a move to tighten standards to forestall federal regulation (Klein 2008). For a recent example of race-like behavior, see Walsh and Story (2011).

[8] New Jersey, Maine, and West Virginia dropped out of the chartermongering competition for idiosyncratic political reasons. New Jersey tried to get back in again, but was unable to dislodge Delaware from its dominant position. See Butler (1985) and Grandy (1989).

the race to charter corporations, they competed these inefficiencies away (Winter 1977, Romano 1985, 1987, and 1993b).

Because in most cases the location of a firm's domicile mattered more for the regulation of corporate governance than for other kinds of regulation, the potential victims of a chartermongering race to the bottom were most likely to be minority shareholders or outside investors, and the potential beneficiaries blockholders or managers (Cary 1974; Bar-Gill, Barzuza, and Bebchuk 2006). Scholars who argue that chartermongering stimulated a race to the top acknowledge that regulatory competition induced states to eliminate restrictions on managers' powers (Winter 1977). But, they claim, these restrictions impaired the profitability of the firms and, as a consequence, actually lowered shareholders' returns (Fishel 1982, Easterbrook 1984).[9] If reincorporating in Delaware benefited managers at the expense of shareholders, they point out, one should observe that the relative market value of companies switching to Delaware charters would fall. Yet the empirical record shows there was no penalty for reincorporation in Delaware (Dodd and Leftwich 1980, Romano 1985), and some scholars have even found that Delaware corporations had higher market valuations relative to the book value of their assets (Tobin's q) than similar firms domiciled in other states (Daines 2001; Barzuza and Smith 2011).[10]

The interpretation of this evidence, however, is not quite as straightforward as some supporters of the race-to-the-top position claim. Firms that decided to reincorporate in Delaware usually did so at a time when they were making other major changes, such as pursuing important

[9] One could argue that the original New Jersey legislation had real benefits for stockholders. Before the law regularized the merger process, a minority of shareholders could extract returns by refusing to approve a motion to dissolve. Also, controlling shareholders could sell out to majority interests in the acquiring corporation, leaving other investors with shares in a company that was little more than a shell. The New Jersey law prevented holdup and also gave investors who opposed a merger the right to be bought out at fair market value.

[10] Subramanian (2004) argued that controlling for size and charter year made Daines's finding of a Delaware premium disappear, but he did not find that there was a penalty for incorporating in Delaware.

acquisitions or reorganizing their structures (Romano 1985). As a consequence, it is difficult to disentangle empirically the effects of those changes from the decision to shift their charters to Delaware (Bebchuk, Cohen, and Ferrell 2002). Moreover, it is possible that a Delaware charter conferred benefits on shareholders, at the same time as it allowed managers to benefit themselves at shareholders' expense. The effect of a move to Delaware on the price of a company's stock thus depends on the relative magnitude of these two effects (Bar-Gill, Barzuza, and Bebchuk 2006).

A further difficulty is that over time the various states' general incorporation laws have converged to such an extent that there is no reason to expect there to be a penalty for incorporating in Delaware versus anywhere else. The question, therefore, is whether this convergence was the outcome of a regulatory race or some other process. Undoubtedly, in the early part of the twentieth century the chartermongering competition propelled many states to copy New Jersey's and then Delaware's general incorporation laws (Harris and Lamoreaux 2010).[11] By 1940, however, when the American Bar Association created the Committee on Corporate Law and charged it with the task of drafting a Model Business Corporation Act (MBCA), the movement for uniform state laws also played an important role. The MBCA has since been revised a number of times and has proved enormously influential. To date, more than thirty states have entirely or substantially adopted its provisions, and most of the rest have imbedded large chunks of the model act into their general incorporation laws (Vaaler 2011).

[11] In 1902, for example, the Massachusetts legislature created a special commission to examine the effect of the state's corporation laws "upon trade, commerce and manufacturers, … especially in respect to matters of taxation" in comparison with the laws of other states. The commission's report concluded that Massachusetts's general incorporation statute was "unsuited to modern business conditions" and, as a result, "during the past ten or fifteen years … the possibilities of incorporation in other States have become well known and have been availed of to the detriment of this Commonwealth." The commissioners drafted a completely new statute, modeled on the laws of New Jersey and Delaware and other chartermongering states, which was adopted by the legislature in 1903 almost as proposed. See Massachusetts (1903b), 7, 19, and 20. For the statute, see Massachusetts (1903a), 418-56.

The committee that produced the first version of the MBCA in 1946 consisted largely of members of the Chicago bar, who deliberately based the model statute on Illinois's 1933 Business Corporation Act rather than on Delaware Law. As one of the drafters later wrote, "not a single member of the committee thought it desirable to use the Delaware statute as a pattern," among other reasons because Delaware "makes little or no effort to protect the rights of investors" (Campbell 1956, 100). Nonetheless, the Illinois law they used as a template already embodied substantial parts of the Delaware model, and the MBCA and Delaware law would become more and more similar over time. William L. Cary, one of the chief proponents of the race-to-the-bottom view, complained in 1974 that the MBCA had been "watered down to compete with the Delaware statute" and that because it bore the imprimatur of the bar association it had only "accelerated the trend toward permissiveness" (Cary 1974, 665). But others have emphasized the role of legal professionals in harmonizing the two statutes. In 1963, for example, the Delaware legislature responded to the MBCA by creating its own Delaware Corporate Law Revision Committee, which promptly hired law Professor Ernest L. Folk III to propose modifications. The resulting *Folk Report* drew heavily on the MBCA, as did the 1967 revision to the Delaware General Corporation Law (DGCL). Moreover, drafters of the MBCA and DGCL subsequently "worked hand-in-hand in" to write a controversial provision indemnifying corporate directors (Gorris, Hamermesh, and Strine 2011, 111). There was undoubtedly a competitive subtext to Delaware's response to the MBCA. The enabling statute that set up the Revision Committee began "WHEREAS, many states have enacted new corporation laws in recent years in an effort to compete with Delaware for corporate business...."[12] Moreover, as Janger has argued, uniform law committees must worry about the effects of interstate

[12] Act of Dec. 31, 1963, ch. 218, § 1, 54 Del. Laws 724, quoted in Gorris, Hamermesh, and Strine (2011), 111.

competition on the likelihood that any statute they draft will be widely adopted (Janger 1998). But it is very difficult to measure the extent to which the resulting laws were actually shaped such concerns or even whether the concerns were real. Kahan and Kamar (2002) ranked states by the speed with which they adopted key provisions of the MBCA. They found no significant correlation between these rankings and Romano's (1985) ordering of states in terms of their attractiveness to corporations.

Because there has been so much convergence over time in states' general incorporation laws, the debate over the direction of the regulatory race has shifted to the analysis of anti-takeover statutes. Invoking interest-group theory, some scholars have argued that managers used the substantial political clout they exercised in their firms' home states to secure legislation protecting themselves against takeovers. States with strong antitakeover statutes were less likely to lose corporations to Delaware, which was a laggard in this area, so Delaware responded to this threat to its dominance with antitakeover measures of its own. The result, these scholars suggest, has been a new spurt of regulatory competition that has worsened shareholders' position relative to managers (Bebchuk and Ferrell 1999; Subramanian 2002; Bebchuk, Cohen, and Ferrell 2002; Bebchuk and Cohen 2003). Sceptics of the race-to-the-bottom view have countered by emphasizing the comparative mildness of Delaware's statute and the lack of evidence that shareholders punished businesses for reincorporating there (Netter and Poulsen 1989, Jahera and Pugh 1991, Romano 1998). Moreover, there is at least mild support for the idea that antitakeover laws had an adverse effect on the share prices of firms headquartered in the states that passed them (Karpoff and Malatesta 1989, but see Kahan 2006). The evidence is much stronger for Pennsylvania's draconian antitakeover statute (Karpoff and Malatesta 1995), which provoked organized opposition from important shareholders. Threats to pull funds out of companies incorporated in Pennsylvania kept not only kept other states from copying the law but induced a majority of Pennsylvania corporations to take advantage of an opt-out provision in the statute to mollify shareholders (Romano 1993a and 1998). The episode suggests that threats of exit can work in two very different ways. On the one hand, the threat that firms will shift their domiciles can undermine corporate governance rules. On the other, the threat that shareholders will move their money to other companies can bolster efforts to tighten regulatory standards (Subramanian 2002).

Another potential brake on races to the bottom is the possibility that the federal government will step in and impose its own regulations. The U.S. government charters corporations only in rare instances and hence obtains no fiscal benefit from competing for corporate charters that would undermine its regulatory resolve, though like all governments it is subject to interest-group pressures. Proponents of the race-to-the-bottom view of corporate chartermongering have repeatedly called upon the federal government to take responsibility for regulating large corporations (Cary 1974; Nader, Green, and Seligman 1976; Seligman 1990; Bebchuk 1992), and Roe (2003) has argued that the main threat Delaware faces to its hegemony is the possibility that federal regulation of corporations could undermine the value of a Delaware charter. This threat took concrete shape when the wave of corporate governance scandals that followed the collapse of Enron in 2001 resulted in a major incursion by the federal government—the Sarbanes-Oxley bill of 2002—into areas that had previously been the domain of state law. Delaware's top justices certainly regarded the legislation as a challenge and responded defensively. On the one hand, they argued that Sarbanes-Oxley did not represent a fundamental change—that it really just embodied "best practice" principles long supported by the Delaware courts. On the other, they called for Delaware and other states to forestall additional federal legislation by making themselves “a source of creative and responsible reform” (Chandler and Strine 2003).

Over time, Delaware has been able to reduce its vulnerability to competition from other states—and from the federal government—by developing complementary assets that give incorporators positive reasons to select Delaware as their state of domicile. The jewel in Delaware’s crown is its chancery court, where judges, not juries, decide disputes. Appointed on the basis of merit, the chancery judges develop an unparalleled expertise in corporate law because of the number and variety of cases they hear. All the judges’ opinions are reported, and Delaware provides the court with the financial support it needs to make the system work efficiently. Law schools all over the country devote considerable time in their corporate and business law curricula to studying Delaware case law, and the state has attracted legions of talented lawyers to its corporate bar (Romano 1985, Kahan and Kamar 2002, Armour, Black, and Cheffins 2012a).

The rich layers of precedents that have issued from the Delaware courts have given the state’s law a complexity that makes it difficult to replicate. Although that complexity enhances Delaware’s advantage (Kamar 1998), it has also led to a recent explosion of litigation that threatens to make a Delaware charter less attractive (Carney and Shepherd 2009). Moreover, the turn of the twenty-first century has witnessed a new tendency for lawsuits against Delaware corporations to be filed in other venues perceived to be more favorable to plaintiffs’ interests (Armour, Black, and Cheffins 2012b). Delaware justices, therefore, must perform a careful balancing act to maintain their state’s hegemony. They must preserve the attractiveness of their courts to the corporate managers (and their lawyers) who are responsible for choosing their companies’ state of domicile, but they cannot be so manager-friendly that they alienate shareholders (and their lawyers) who have the power, by filing suits elsewhere, to make the Delaware courts irrelevant (Armour, Black, and Cheffins 2012a). Here again the double threat of exit shows the limits of the race-to-the-bottom theory of Delaware's dominance in the area of corporate law.

Perhaps the best evidence against the idea that corporate chartermongering led to a simple race to the bottom is Nevada, which moved at the beginning of the twenty-first century to capture a greater share of the available chartering revenue by offering what Barzuza has called "a shockingly lax corporate law" (Barzuza 2012, 935). Nevada brazenly advertises that it provides corporate officers with an environment in which they "may enjoy a higher level of protection against personal liability due to Nevada's business-friendly corporate laws,"[13] including protection against liability for transactions from which officials derived an improper benefit (Barzuza 2012). Nevada's tax revenues from incorporation fees have soared, but its proportion of all out-of-state public incorporations is still relatively small—8.6 percent in 2008, compared to Delaware's 80.1 percent. Nonetheless, despite a hefty increase in fees, that proportion was up from 5.6 in 2000 (Barzuza 2012, Barzuza and Smith 2011).[14]

Although Nevada's relaxation of its incorporation laws might seem to be the opening salvo of a new regulatory battle to the bottom, it more likely is leading to a Tiebout-type market segmentation in which corporations deliberately sort themselves into jurisdictions according to their desired levels of regulatory oversight. The out-of-state public corporations that take out Nevada charters look quite different on average from those that choose Delaware as their

[13] Ross Miller, Secretary of State, "Why Nevada?" http://www.whynevada.gov/commercialrecordings/Why.Nevada.Legal.Comparison.pdf, accessed on 30 May 2012.

[14] Nevada's marketing efforts have been especially directed at closely held corporations, for whom it promises that it is "the most difficult state in the country in which to pierce the corporate veil" and "the only state in the country that does not exchange information with the IRS." Quoted in Kahan and Kamar (2002), 717, notes 129 and 130.

corporate home (Barzuza and Smith 2011). They are newer, smaller, less likely to be listed on a major exchange, and generally also less profitable. In addition, their accounting practices indicate that they are much less likely to be run in their shareholders' interests. Using an instrumental variables approach, Barzuza and Smith (2011) show that firms that are most likely to have to restate their financials deliberately choose to locate in Nevada, perhaps because those in control are better able to extract private benefits in that environment.[15] Cohen (2012) has found similar evidence of sorting across states. For example, he found that firms with a large institutional blockholder were more likely to avoid states with strong antitakeover laws than firms whose managers did not face this kind of internal check.[16]

Until recently there has been no international equivalent of the regulatory chartermongering competition that occurred among the U.S. states, though corporations from many nations have long found it advantageous to open subsidiaries in offshore locations for tax purposes (Hines 2010).[17] Firms that shifted their corporate domicile to a foreign country potentially were subject to huge costs, ranging from trade restrictions to outright exclusion from the home market (Coffee 1999). Even where trade barriers disappeared, as in Europe following the creation of the European Union, obstacles to a "market for incorporations" persisted, with many countries continuing to impose their own rules on companies chartered by other jurisdictions (Deakin 2001). These restrictions were contrary to the spirit, if not the letter, of the

[15] Siegel and Wang (2013) have found a similar a similar pattern with foreign corporations (most notably Chinese companies) engineering reverse mergers (acquisitions by a U.S. shell company) during the first decade of the twentieth century, especially during the financial bubble. The shell companies were disproportionately domiciled in Nevada and exhibited numerous signs of poor corporate governance.

[16] Because Cohen includes state fixed effects in his estimating equation and Delaware accounted for the lion's share of out of state incorporations, he is picking up sorting that occurs on the margin, for example after controlling for the attractions of Delaware's unique court system.

[17] Recently, U.S. corporations have been negotiating inversion mergers with European companies, particularly in Ireland, in order to lower their corporate income taxes. For examples of media accounts of this practice, see McKinnon and Thurm (2012) and Schwartz and Duhigg (2013).

European Community's founding Treaty of Rome, however, and they have been partially eroded by the courts and the European Parliament. For example, a key decision of the European Court of Justice in 1999 undercut, though it did not abolish, the doctrine of *siège réel*. Imposed by most European countries, this doctrine required companies to abide by the incorporation laws of the country in which they were headquartered rather than the country in which they were domiciled. Similarly, the European Parliament's enactment in 2005 of the Cross-Border Merger Directive has enabled companies to move their corporate domiciles by merging with entities in other jurisdictions (Deakin 2001 and 2006, Ugliano 2007). But there have also been contrary trends. In the name of "harmonization," European Community institutions have simultaneously erected barriers to a U.S.-style chartermongering competition. The stakes involved in maintaining individual country laws are much higher in Europe than they were in the U.S. because of the controlling role played by family blockholders in many continental companies and because some countries, most notably Germany, require that labor be represented on corporate boards. As a result, powerful interest groups have ensured that harmonization does not mean homogenization (Bratton, McCahery, and Vermeulen 2009).

As the European experience suggests, the removal of trade restrictions is not in itself sufficient to stimulate a regulatory race in the arena of incorporation law. There must also be some overarching supra-national governance institutions that are capable of preventing countries from discriminating against each other's companies. As the European experience also suggests, however, these institutions can themselves be barriers to regulatory races. To the extent that there has been homogenization in corporate governance practices across countries, the impetus has mainly come, as we will discuss in the section on races to the top, from the operation of securities laws, not from corporate chartermongering.

3.4. The Rarity of Races to the Bottom

That there was a chartermongering competition among the U.S. states in the late nineteenth and early twentieth century is unquestionable. But whether the race for charters degraded regulatory standards or simply spurred states to abandon inefficient restrictions on management is not nearly so clear. Scholars have arrayed themselves on both sides of this question, and though they have conducted useful quantitative tests of the two views, the results cannot be regarded as conclusive. Several inferences can nonetheless be drawn from this debate. First, even if there was a race to the bottom, it seems to have been self-limiting, in part because the winner (Delaware) invested in complementary legal capabilities that protect its leadership position, and in part because states have to worry that lax standards will lead to a federal regulatory takeover. Second, there is evidence that large corporations are sensitive to how they are perceived by external investors and so opt out of legal rules, such as those enabling the most drastic antitakeover stratagems. Recent attempts (most notably by Nevada) to attract chartering revenues by lowering regulatory standards have led to Tiebout-type sorting rather than to a new regulatory race. Finally, it is clear that the initial chartermongering competition among states was fueled by the low cost to firms of changing corporate domiciles. In the international arena, these costs have not been nearly so low, and so regulatory arbitrage has been much less vigorous.

In both the labor and the environmental regulatory areas, there has been similarly strong rhetoric about the dangers of a race to the bottom. Overall, however, the evidence suggests that full blown races are unlikely to break out. If it is true that regulatory differences can affect where firms locate, it is also true that firms' locational decisions are heavily determined by non-regulatory considerations and that those other factors often outweigh the costs of regulation in firms' calculations. In addition, firms care about market access, and if the market is big enough they will live with higher regulatory standards. This so-called “California effect” is similar to the mechanism that facilitated the spread of the “labor compact” a century ago, when nations conditioned market access on the adoption of higher labor standards. In addition, compliance with higher standards may be advantageous to some businesses if competing firms are out of compliance or find it harder to comply. For international regulatory races, the fact that most FDI flows among North America, Europe, and Japan suggests that higher regulatory standards in these regions are not a significant liability relative to the much lower standards in place elsewhere in the world.

Whether elected politicians perceive it as in their interest automatically to match the weaker regulations of a neighboring community sometimes has little to do with whether regulatory differences actually lead to differences in economic growth and investment. Citizens in their polities care about the environment (as inhabitants of a physical space), about labor rules (as workers), and about the quality of the products they purchase (as consumers). They may weigh the potential benefits of regulation more highly than the costs, and depending on the strength of different interest groups, regulation may occur even when the costs it imposes on businesses are substantial (Walker 2013). The overall outcome, across different jurisdictions, may not be convergence so much as stable divergence, in which for political and economic reasons states or nations occupy distinctive and largely stable “regulatory niches” (Radaelli 2004). There may be some “racing” within niches, as, for example, when countries with high value-added high-quality high-wage production regimes compete with each other in raising standards (or conversely, as low-wage low-productivity countries compete to cut costs by lowering standards), but there is generally less regulatory competition across niches.

4. Races to the Top

In theory, races to the top are most likely to occur when there are information or governance problems that make it difficult for economic actors to signal their worth to others. For example, if information is imperfect, producers of high quality goods and services might find it difficult to signal the superiority of their offerings to consumers. Similarly, governance problems might make it difficult for businesses credibly to commit not to take advantage of external investors. Because a regulatory regime that sets and enforces standards can help firms solve their signaling and governance problems, firms may voluntarily submit to such rules and even migrate to jurisdictions that impose them. Governments in turn may respond to such behaviors by strengthening their regulatory standards—in other words, by racing to the top.

Whether a race to the top actually occurs in practice depends on many factors, just as in the case of races to the bottom. In the first place, the benefits of the regulations must outweigh the costs of conforming to them and also the costs of relocating to jurisdictions that have them. The relative magnitudes of these benefits and costs can be affected by consumers' and investors' preferences, as well as by the nature of the product and the burden of the regulations. If consumers and investors do not value quality sufficiently, it will not be worthwhile for firms to seek regulation in order to signal the superior value of their goods or services. Similarly, if consumers' or investors' preferences are heterogeneous, the outcome will more likely be regulatory diversity rather than a race to the top. For a regulatory race to occur, governments must also be structured so that the parties that formulate the rules are the ones most likely to care about the effect of regulatory competition on economic growth. Moreover, if policy makers do not have a clear understanding of which parts of a complex bundle of regulations firms find most valuable, they will not be able to race effectively. As we shall see, in the real world these conditions have rarely all been met.

4.1. Securities Regulation

One arena of economic activity in which one might expect firms to display a preference for strict regulatory standards is the market for securities. Corporations that issue equities need to convince potential investors that insiders will not expropriate their returns once the investment is sunk. Although there is no perfect way to make this case, regular disclosure of financial information can go a long way toward reassuring investors (Dranove and Jin 2010). The problem, however, is that corporate insiders cannot creditably commit ex ante to publish financial information that it would not necessarily be in their interest to reveal ex post. Strict regulations mandating disclosure are a way to resolve this commitment problem (Mahoney 1995, Stulz 2009). An added advantage is that disclosure reduces the research costs that those with savings must bear in order to find appropriate investments and in that way further promotes the market for securities (Coffee 1984).

If rules mandating disclosure enhance corporations' ability to raise funds on the capital markets, then in a competitive context one would expect firms to want to list their securities in places that have them. This expectation (often called the "bonding" hypothesis) is all the more plausible because the decision about where to list is independent of the decision about where to locate production, and because firms can list simultaneously in multiple locations (Karolyi 1998, Romano 1998, Stulz 2009). Although some early studies of the effect of the creation of the U.S. Securities and Exchange Commission (SEC) raised doubts about the benefits of disclosure

(Stigler 1964, Benston 1973), more recent research indicates that the advantages can be significant. For example, Neal and Davis (2007) have shown that, after the New York Stock Exchange instituted new rules in 1896 that made the annual publication of audited financial statements a requirement for listing, the share values of firms listed on the NYSE increased dramatically, as did the number of listings, trading volume, and the price of a seat on the exchange. La Porta, Lopez-de-Silanes, and Shleifer (2006) coded the laws regulating securities issues for 49 countries and found that mandatory disclosure was strongly and positively associated with the ratio of equity market capitalization to GDP, the number of listed firms per capita, and trading volume relative to GDP. Similarly, Hail and Leuz (2006) found for a sample of 40 countries that the cost of capital was lower in countries with more extensive disclosure requirements and stronger securities regulation. Other studies have shown that foreign companies that cross-listed in the U.S., where they were subject to tougher regulations than at home, had ratios of equity market to book value (Tobin's q) that were significantly higher than others from the same country, even after controlling for specific characteristics of the firms (Doidge, Karolyi, and Stulz 2004). The cost of capital for such companies also fell significantly—by as much as 70 to 120 basis points for firms listed on the major American exchanges (Hail and Leuz 2009, Coffee 2007).

Such studies have a couple of weaknesses, however. First, in most cases the authors only checked for listing premiums in the United States and did not investigate other markets. One exception was a study by Doidge, Karolyi, and Stulz (2009), who found a premium for listing in New York but not in London.[18] Although this result seemed to confirm the U.S. advantage, another study by Sarkissian and Schill (2012) found that foreign firms earned listings premia on

[18] The cost of complying with securities regulation, however, was less in the U.K. than in the U.S. See Franks, Schaefer, and Staunton (1998).

a number of exchanges, including those in France, Japan, and Switzerland, and that the premia were not statistically associated with institutional features of the markets. A second weakness is that there is evidence that the SEC does not effectively enforce U.S. securities laws against foreign firms. Thus Siegel (2005) has argued that Mexican firms making offerings of equities in the U.S. had to invest in reputation in order to secure the listing premium. As Coffee (2007) has pointed out, however, that Siegel's evidence for the lack of enforcement is primarily negative: the lack of reported cases involving foreign issuers. Most cases involving securities issues settle before going to judgment, and Coffee found that published lists of the "Top Ten Shareholder Class Action Settlements" included a number of foreign companies. Although the SEC might devote relatively fewer resources to enforcing the securities laws against foreign than domestic firms, it probably still provides a greater level of enforcement than the foreign company's home government. Moreover, the ability of private individuals to bring suit under the U.S. securities laws may be a more important support for "bonding" than the level of public enforcement (Coffee 2007, Karolyi 2012).

If stringent securities regulation can increase the market for a firm's securities, then one might expect that jurisdictions eager to attract (and tax) such transactions would race to provide appropriate rules. The evidence on this point, however, is even more mixed. On the negative side, the competition for corporate charters among the various U.S. states led, if anything, to a weakening of disclosure requirements over time. Although the original general incorporation statutes passed during the mid-nineteenth century usually included some disclosure provisions, these rules had largely disappeared from the statutes by the end of the century (Kuhn 1912, Cadman 1949, Hawkins 1986, Baskin and Miranti 1997). Indeed, as late as the 1960s, just fourteen states required corporations to make annual reports to their shareholders, and only two required that the reports be certified by public accountants (Cary 1974).

Nor were the so-called “blue-sky” laws that states passed during the 1910s and ’20s a good substitute for disclosure regulation. These statutes required brokerage firms marketing securities in a state to obtain a license and file regular financial reports. They also often empowered the state’s banking commissioner to review securities offered for sale and bar those that did “not promise a fair return” (Loss and Cowett 1958, Macey and Miller 1991, Mahoney 1995). Although one might expect states with the largest securities industries to have jumped on the blue-sky bandwagon in order to enhance the reputation of their capital markets, the pattern was just the opposite. Investment banks, who should have been the primary beneficiaries of any imprimatur of quality that the legislation conferred, vigorously opposed such laws, as did utilities and other businesses that issued large amounts of securities, and they successfully blocked the passage of strong statutes in states where they had an important presence. According to Macey and Miller (1991), investment bankers and their customers had an interest in curbing disreputable securities issuers, but they recognized that the main proponents of the legislation were small banks and savings institutions whose goal was to limit the competition for savings that even legitimate issuers posed. Hence the resulting legislative pattern owed more to the relative strength of the interests pro and con in each state than to regulatory arbitrage (Macey and Miller 1991, Mahoney 2003).

After the stock market crash of 1929, of course, the federal government stepped in to regulate securities issues with the passage of the Securities Act of 1933 and the Securities Exchange Act of 1934. These laws required companies whose securities were publicly traded to file detailed annual financial reports. The 1934 Act also created the Securities and Exchange

Commission to enforce the law, to regulate the exchanges on which securities were traded, and to promulgate rules for safeguarding investors against corporate fraud and abuse (McCraw 1984). As we have seen, there is now considerable research showing that these reforms had a positive effect on U.S. capital markets, so one might expect to see other countries following the U.S. example, and indeed we do. In recent years, for example, an increasing number of countries, including all of the members of the European Union, have created SEC-type regulatory agencies (Prentice 2006). This emulation may be evidence of an international race to the top, but if so, it took an extraordinarily long time to get going. Moreover, the countries involved seem not to have a very precise understanding of how the race should be run. Regulatory regimes are complicated bundles of laws, organizations, and administrative practices. Emulators are likely to copy some features but not others (Coffee 2007), and the ones they choose may not be the most significant. For example, La Porta, Lopez-de-Silanes, and Shleifer (2006) find that disclosure requirements are much more strongly associated with the ratio of stock market capitalization to GDP and other measures of capital-market activity than is the existence of an SEC-type regulatory commission, yet many countries instituted commissions but failed to beef up disclosure. The Netherlands, for example, has an SEC-type commission, but its disclosure standards are significantly weaker than those of the U.S.[19]

The passage of the Sarbanes-Oxley Act (SOX) in the United States provides another opportunity to explore the regulatory-arbitrage hypothesis. Congress enacted the bill in 2002 to strengthen financial reporting and disclosure rules in response to Enron’s failure and a series of other corporate governance scandals. The action might be seen as an attempt to maintain the

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[19] The regulations also need to be enforced. Utpal Bhattacharya and Hazen Daouk (2002) found that the number of countries with laws against insider trading increased from 34 to 87 during the 1990s, but that the cost of capital only fell in the 38 countries where there were prosecutions of violators.

regulatory high ground—to bolster the reputation of the United States for securities regulation in the wake of this evidence of laxity. In that goal the legislation seems to have been only a modest success. Some studies have shown that the premium foreign companies obtained by listing their securities in the United States dropped, particularly for firms from countries with high regulatory standards that did not emulate SOX (Litvak 2007 and 2008). Coffee (2007) has countered that the decline in the premium predated the enactment of SOX, that it owed more to the shock to investor confidence that resulted from the bursting of the stock-market bubble in 2001, and that it rose again after SOX took effect. One thing is certain, however. Compliance with the new U.S. rules imposed additional costs that seem to have weighed more heavily on some kinds of firms than others. Comparing the effect of SOX on foreign firms' decision to list on exchanges in the U.S. versus the U.K., Piotroski and Srinivasan (2008) found that large firms' listing preferences did not change, but that small firms' shifted in favor of the U.K.[20] Foreign firms that operated in slow-growth industries, and hence were unlikely to need to raise additional outside funds, also tended to delist from U.S. exchanges and terminate their registrations with the SEC (Doidge, Karolyi, and Stulz 2010; Coffee 2007). Rather than instigating a regulatory race to the top, in other words, SOX may simply have led to a resorting of firms among exchanges, as some companies decided that the increased stringency of U.S. regulations came at a cost that they were unwilling to bear (Coffee 2002, Choi and Guzman 1998).

This Tiebout-type sorting seems also to have characterized the history of the various stock exchanges in the U.S. Although members of the NYSE profited from the Big Board's decision to raise its listing standards in 1896, three decades later regional and secondary markets

[20] In the U.S., similarly, an increasing number of small public companies decided to go private (Wilda 2004, Skouvakis 2005).

in the U.S. still had not followed suit (Ripley 1927).[21] Nonetheless, trade on those exchanges was booming, as was the over-the-counter-market (O'Sullivan 2007, Federer 2008). Large, well-established enterprises stood to benefit from listing on the NYSE, but smaller, more entrepreneurial firms could not meet its size, earnings, and share-value thresholds and, in addition, had relatively little to gain from disclosing their comparatively irregular earnings. Yet such high-yield securities were often attractive to investors, and so trade on regional and secondary markets soared during the 1920s. After the creation of the SEC, regulators forced these smaller exchanges to adopt what were effectively the same standards as the NYSE. No longer able to play their original economic roles, they became mere satellite locations for trading securities listed in New York, and most of them closed as a consequence. In recent decades, however, new exchanges like the NASDAQ have emerged to provide a trading venue for more risky securities, and the over-the-counter market is once again growing (White 2013).

Following a strategy similar to that of the NYSE in 1896, exchanges in countries with weak regulatory systems have managed to attract listings by creating special "premium" markets for firms meeting strict standards. The Bovespa exchange in São Paulo, Brazil, for example, created three distinct markets with progressively more stringent listing standards. The controlling shareholders and managers of firms seeking to list on them have to sign contracts committing them to adhere to the requisite standards, and firms accused of violating the rules must submit to mandatory arbitration. Although Brazil's legal protections for minority investors were otherwise very weak, the premium listings enabled controlling shareholders credibly to commit not to extract private benefits of control. The firms that benefited the most were those

[21] Mahoney (1997) has argued for the superiority of this earlier system of regulation by the exchanges, but he does not examine the historical evidence for any market but the NYSE.

that had not already taken a similar step by listing in the United States (Gledson de Carvalho and Pennacchi 2012).

The case of securities regulation provides evidence that firms can benefit from the enforcement of tough regulatory standards, but it does not offer much support for the idea of a regulatory race to the top. Although there has been a general rise in regulatory standards around the world over the last half century, considerable heterogeneity remains, and firms have made their decisions about where to list by weighing the relative costs and benefits of conforming to stricter rules. The continued growth of markets with lower standards than those enforced by the SEC in the U.S. suggests that investors have heterogeneous appetites for risk and are willing to trade off less regulation for higher returns. As a result, differences across regulatory regimes have persisted.

4.2. Banking Regulation

One might think that banking regulation, even more than securities regulation, would fit the race-to-the-top model. After all, banks have to attract funds in the form of deposits from the public in general, and so one might expect them to value a regulatory environment that enhanced confidence in their safety (Smith and Walter 1997). Moreover, because a strong financial sector is generally regarded as the key to economic growth more generally, one might expect governments to compete by bolstering the soundness of their banking systems. The history of banking regulation suggests otherwise, however. Competition among jurisdictions has played relatively little role in defining regulatory practice until recently, and in the cases where this kind of rivalry has arisen, its effect has mainly been to lower rather than raise standards.

One reason why the case of banking is so different from that of securities is that historically lending has been a local activity, and it was difficult for banks from one jurisdiction to operate in another. Information problems kept most banks' activities geographically circumscribed because institutions that did not have offices in the areas where they were making loans were at a disadvantage in learning about borrowers' creditworthiness. Similarly, investors had difficulty judging the solvency of banks in distant locations. These information problems were reinforced, however, by legal rules that prevented banks from doing business outside their home jurisdiction. In the United States before the 1860s, for example, banks had to secure charters from the government of the state in which they were operating, and states also typically imposed residency requirements on directors.[22] During this period there was considerable variation across states in the number of banks chartered, the provisions written into the charters, and the way the banks were regulated. Some states had unit banking systems, some allowed branching, some had state monopolies. In the absence of interstate competition to charter banks, however, there was little convergence in regulatory practice (Bodenhorn 2003).

During the American Civil War, the federal government passed legislation setting up a National Banking System with the dual aim of creating a uniform national currency and inducing banks to buy Union war bonds. The new system was national only in the sense that participating banks were subject to federal regulation; banks that took out national charters still could only operate in their home states. Initially many banks balked at switching to national charters, but Congress forced them to do so by imposing taxes on the notes issued by state banks. The rise of

[22] The only banking institutions that operated nationally were the two chartered by the federal government: the first Bank of the United States, which existed from 1791 to 1811; and the Second Bank of the United States, from 1816 to 1836. In the early nineteenth century some states limited entry into banking in order to protect the monopoly rents of favored institutions. Prohibiting out-of-state banks from operating was a way of bolstering those rents. See Hilt (2013).

deposit banking during the 1880s altered the calculus once again because banks no longer had to issue currency to be viable. States took advantage of the change to pass enabling legislation for new kinds of bank-like institutions (most importantly trust companies), and by the 1890s the number of financial institutions with state charters surpassed those in the national system (James 1978, Neal 1971, White 1982).

Although banks still could not operate across state lines, the competition between the federal and state governments to charter financial institutions introduced an element of regulatory arbitrage to the system that seems to have undermined standards across the nation. As a general rule, the regulatory costs imposed by the states were less burdensome than those of the federal government. Capital sufficiency and reserve requirements were typically lower and supervision laxer. National banks responded to the competition they faced from state-chartered institutions in two somewhat contradictory ways. First, they lobbied state regulators to impose more stringent standards on the financial community as a whole. Their motives here were partly to prevent entrepreneurial upstarts from taking advantage of lower reserve requirements to offer higher interest on deposits, but also to protect themselves from the bank runs that the failure of any of these upstarts could spark (Lamoreaux 1994). Second, they lobbied the federal government to lower their own regulatory costs by reducing capital and reserve requirements. This latter strategy, however, led the states to reduce theirs even further, and the number of state-chartered financial institutions continued to grow relative to national banks (White 1982 and 1983).

This race-to-the-bottom dynamic in a context where one might expect a race to the top is puzzling, but it seems that the imprimatur of quality that possession of a national charter conveyed was not valuable enough in the eyes of the public to offset the costs of higher capital and reserve requirements. Until the Great Depression, savers seems to have been perfectly willing to accept a tradeoff between higher interest on deposits and lower reserve requirements, perhaps because they expected the risk of default to be low over their relevant time horizon. In the aftermath of the banking panics of the early 1930s, the terms on which they were willing to accept the tradeoff became steeper, and the advent of deposit insurance shifted preferences even further. As a consequence, state banks moved voluntarily to submit to federal regulatory standards in order to obtain this certificate of quality.[23] As memories of the Great Depression faded, however, there was something of a shift back, and especially during the 1970s banks began to pull out of the Federal Reserve System in large numbers, though not out of the Federal Deposit Insurance Corporation. This time, however, the federal government resorted to the expanded authority it had amassed during the depression years to stamp out any resurgence of regulatory competition with the states. In 1980 Congress passed the Depository Institutions Deregulation and Monetary Control Act, which imposed the same reserve requirements on all banks, whether they were members of the Federal Reserve System or not (Butler and Macey 1988).[24]

Interstate banking developed gradually over the course of the twentieth century as information systems improved and financiers exploited loopholes in regulations to expand across state lines. In the early years of the century banks could not operate branches in different states,

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[23] Eight western and southern states experimented with deposit insurance during the early twentieth century. Their experiments may have accelerated the shift to state charters, but all these systems collapsed during the 1920s when falling agricultural prices caused large numbers of farmers to default on their loans. See Calomiris 1990.

[24] By demonstrating that the states no longer had much if any ability to compete with the federal government in the banking arena, Butler and Macey (1988) convincingly refute Scott's (1977) race-to-the-top argument that competition between state and federal authorities in the post-World War II period improved the efficiency of bank regulation. In the area of interest rates, the U.S. Supreme Court has held that states cannot impose usury ceilings on national banks headquartered in other states. See *Marquette National Bank v. First Omaha Service Corp.* 439 U.S. 299 (1978). States still set interest rates for other banks, but credit card companies have relocated to states with lenient rules. See Vanatta (2012).

but individuals or corporations could purchase controlling interests in banks in multiple states. As the number of such banking chains (multiple banks owned by individuals) and banks holding companies (multiple banks controlled by corporations) expanded during the 1920s, small banks mounted a lobbying effort at both the state and federal level to forestall this new source of competition (see, for instance, Rajan and Ramcharan 2011a and 2011b). Their campaign was largely derailed by the collapse of the banking system during the Great Depression and then by the Second World War, but in the 1950s it began again in earnest. The fruit of this lobbying was the federal Bank Holding Company Act of 1956, which banned holding companies from acquiring additional banks outside the state of their headquarters and required the Federal Reserve to approve all further acquisitions within the state. Counter lobbying by large banks induced Congress to pass the Douglas Amendment in 1982, which gave states the authority to permit outside holding companies to control banks in their jurisdictions. Congress then eliminated all restrictions on interstate banking with the passage of the Riegle-Neal Banking Act in 1994 (Anon. 1957, Kane 1996).

The growth of interstate banking competition did not have much effect on regulatory standards because the federal government already determined policy. What did force a relaxation in standards, however, was growing competition for savers' dollars from brokerage houses and other non-bank financial institutions. Here the driver of change was not regulatory competition in the conventional sense but rather traditional interest-group pressure from banks that wanted to expand into more profitable (and as yet largely unregulated) segments of the financial markets (Butler and Macey 1988). Moreover, almost all the action was at the federal level. The Bank Holding Company Act of 1956 had prohibited bank holding companies from owning non-bank financial subsidiaries except for those closely related to their banking activities. However, it also gave the Federal Reserve Board the power to determine what "closely related to banking" meant, and as large banks clamored increasingly loudly during the 1980s and 1990s to be allowed to engage in a broad range of financial services, the Fed expanded the list of permissible activities.[25] At the same time, the large banks exerted pressure on Congress to repeal the Glass-Steagall Act, which had enforced a separation of commercial and investment banking since 1933. The banks finally succeeded with the passage of the Gramm-Leach-Bliley Act in 1999. The new statute enabled bank holding companies to apply to the Federal Reserve Board to turn themselves into financial holding companies.[26] Again, the Fed had responsibility for determining the non-bank financial activities in which financial holding companies could engage, and under the chairmanship of Alan Greenspan, the list of activities steadily expanded (Burke 2002). Regulatory competition was not a primary driver of this expansion, though the Fed is always alert to its position with respect to rival regulators in the U.S., as well as to other countries with major capital markets.[27] Rather, the pattern of Fed decisions suggests it was responding primarily to desires of the large banks that are its main regulatory constituents. It thus facilitated their moves into new areas at the same time as it limited the ability of other large entities (Wal-Mart, for example) to move into direct competition with banks (Calomiris 2006).

The same kinds of factors that, for most of U.S. history, kept states from competing with each other to attract banks also kept regulatory competition from heating up in the international arena until the late twentieth century. By the 1980s, however, economic and regulatory changes

[25] Banks did not just clamor but also pressured regulators and Congress by making aggressive gambles on mergers that pushed the envelope on permissible activities. See Kane (1999).
[26] Applicants had to meet a set of capitalization and managerial standards and have achieved a rating under the Community Reinvestment Act of "satisfactory" or "outsdanding" (Burke 2002).
[27] Although Congress imposes many regulatory rules on all banks regardless of the agency that supervises them, there are still some areas of regulatory competition. For a recent example, see Silver-Greenberg (2012).

had increased international as well as interstate competition in banking (Kane 1987, Schooner and Taylor 1999 and 2010). Although there is evidence from this period that savings tended to migrate to countries with deposit insurance (Huizinga and Nicodème 2006), there were also signs of that a regulatory race to the bottom was developing (Schooner and Taylor 2010; Houston, Lin, and Ma 2012). For example, there was a surge of acquisitions whereby banks in countries with strict regulatory stands acquired subsidiaries in places where banking regulation was relatively lax (Focarelli and Pozzolo 2005). More importantly, it was becoming abundantly clear that banks in countries where regulatory restrictions were comparatively mild had an important advantage in securing business in world markets. Japanese banks in particular benefited from the relative laxity of their capital sufficiency rules. In 1981 only one Japanese bank ranked among the ten largest in the world in terms of total assets. By the end of the 1980s seven of the top ten banks were Japanese, and Japanese banks accounted for more than a third of all international lending (Wagster 1996).

Financial institutions in the U.S. and Europe complained vociferously that banks from Japan and other countries where capital requirements were lax had an unfair advantage. Rather than join the race to the bottom, bank regulators in the U.S. and Europe induced their governments to negotiate a solution (Trachtman 1991, Schooner and Taylor 1999 and 2010). In other words, they turned to cooperation to overcome the underlying prisoner's dilemma game. The outcome was the 1988 Basel accords, an agreement among the twelve leading industrial nations to peg capital requirements to the riskiness of the assets on banks' balance sheets (Schooner and Taylor 2010). These accords (Basel I) proved insufficient to staunch banks' regulatory arbitrage, and so they were revised in 2004 (Basel II) (Wagster 1996, Blundell-Wignall and Atkinson 2010). The resulting increase in stringency had the unintended consequence of encouraging banks to shift risky assets off balance sheet and thus contributed to the financial crisis that began in 2007 (Eichengreen 2008). Another effort to rework the Basel Accords followed (Basel III), and negotiations among the so-called G20 nations to coordinate on regulatory policy are ongoing (Blundell-Wignall and Atkinson 2010).[28]

The important point to take away from this discussion is that the imprimatur of quality that stringent regulation of banking could provide has never been sufficient to spur a race to the top. Banking regulation has sometimes displayed characteristics of a race to the bottom, but more generally the contours of regulatory policy—at the state, federal, and even international levels—have been shaped by the interests of politically powerful banks. Banks generally have favored regulations that protected them from competition, and sometimes those have increased the soundness of the banking system by raising capital and reserve requirements.[29] At times, however, they have also lobbied to relax rules that prevented them from moving into profitable new areas of business (Butler and Macey 1988). As the 2007-2008 financial crisis underscored, the consequence could be to increase their vulnerability to financial crisis.

4.3. The Rarity of Races to the Top

Races to the top, like races to the bottom, seem to have been relatively rare occurrences. The case that comes closest to fitting the theory of races to the top is securities regulation, where the mandatory disclosure of financial information seems to have enabled well-managed companies to raise capital at lower cost. Because firms could list their securities in jurisdictions

[28] See, for example, the website for the 2014 meeting of the G20, https://www.g20.org/g20_priorities/g20_2014_agenda/financial_regulation, accessed 22 October 2014.
[29] In U.S. history, however, the main outcome of such efforts to forestall competition were rules against branching that increased banks' vulnerability to local shocks. See Bordo, Rockoff, and Redish 1994; and Calomiris 1990 and 2000.

with high disclosure requirements regardless of where they were located, one would expect firms to do so if the advantages to be gained in the form of cheaper capital exceeded the costs of conforming to the rules. The evidence indicates that many firms did indeed choose to list their securities in markets where high regulatory standards raised investors' confidence. Such concentrations of listings, however, have not been a sufficient spark to touch off a race to the top. To the contrary, as companies' heterogeneous responses to SOX suggest, firms differ in their need for capital and in their ability to bear disclosure costs, and they sort themselves across regulatory regimes in accordance with their desired levels of stringency. Similarly, consumers differ in their appetites for risk, allowing exchanges with radically divergent regulatory requirements not only to coexist but to prosper.

Banking offers another case where one might expect regulators to race to provide quality assurances, but there is little evidence that they have. Consumers have demonstrated a preference for deposit insurance, but otherwise generally have not gravitated towards institutions that faced higher regulatory standards. To the contrary, state banks in the U.S. were able were able to use the laxer standards to which they were subject to gain competitive advantage over more stringently regulated national banks until Congress put a stop to the practice in the 1950s. There is evidence, moreover, of the beginnings of an international race to the bottom in banking in the late twentieth century, but governments quickly moved to nip it in the bud by negotiating global standards of capital adequacy. As a general rule, the history of bank regulation suggests that regulatory arbitrage has been much less important in raising or lowering standards than intense lobbying by affected interest groups.

6. Conclusion

Although the four empirical literatures we surveyed cover a wide range of regulatory situations, we have found few unequivocal instances of regulatory competition. This result is perhaps not surprising because, even in its most stylized form, a regulatory race depends upon a complex causal connection. In particular, there must be evidence that firms migrate in response to geographic differences in the costs and benefits of regulation, *and* there must be evidence that governments shape their regulatory policies with the aim of affecting those migration flows. If either of these prerequisites is missing, if its impact is mediated or attenuated in some fashion, or if it is swamped by other factors, what results is not a race.

Many factors affect a firm's decision about whether to locate in one jurisdiction versus another. Regulation is just one of a large number of attributes of a location that in combination affect firms' profitability, and its salience is likely to vary with circumstances. The relative burden of a given set of regulations will often differ across industries, for example. Industries that employ labor-intensive technologies are more likely to be affected by labor regulation, those that are resource-intensive by environmental regulation, and so on. Moreover, regulation will weigh more heavily when "location" is a purely legal matter than when it is a physical reality. It is one thing to move a factory, lock stock and barrel, from one jurisdiction to another, because such a shift will simultaneously affect the firm, and its constituents and stakeholders, along many dimensions. It is quite another to recharter the firm in a different state or list it in a different market when that decision has no effect on operations but simply subjects the firm to different corporate-governance rules and securities regulations.

A large number of studies have been devoted to the question of whether firms relocate in response to shifts in the regulatory burden, but we think the more interesting (and less studied) questions revolve around the circumstances that can attenuate firms' response to changes in regulatory costs. Why, for example, did New Jersey's increase in the minimum wage above the level in nearby Pennsylvania not stimulate major job losses, whereas Pennsylvania's subsequent catch up to New Jersey's level did? Why did small restaurants respond to the increase in New Jersey differently from large restaurants? More generally, we need a better sense of the complementary factors that might make firms relatively more or less sensitive to increases in the burden of regulation. We need a better sense of how and why firms' responsiveness to regulatory differences might vary according to their attributes and also to characteristics of locations.

Races to the bottom have received the most attention, but races to the top occur about as (in)frequently. And like races to the bottom, races to the top do not always happen where we would expect them to. Enduring uncertainties about bank solvency would seem to invite regulatory initiatives that offered assurances to depositors, and yet the history of state-level bank regulation shows little evidence of a race to the top. Why banking regulation would be so different in this respect from securities regulation is a question that requires further study. Even in the case of securities regulation, moreover, the case for a race to the top is by no means clear. Though firms display a propensity to list in securities markets that are subject to more stringent regulation, and though governments have responded to these movements by beefing up their regulatory efforts, they have done so in a selective, even haphazard fashion, establishing regulatory agencies, for example, but not following up with tough disclosure requirements. Although there is general quantitative support for the idea that such selectivity limits the effectiveness of the imitation, more remains to be done to measure the effect of such partial imitation on the listing decisions of different types of firms and also to determine whether the pattern of the imitation is systematically related to the relative strength in the economy of companies that might benefit from less full-throated regulation.

Of course regulation is shaped by many forces, not just the expected locational decisions of existing and prospective firms. Policy makers in one jurisdiction are undoubtedly influenced by what other jurisdictions do, but internal pressures that come out of the domestic political economy also powerfully influence regulatory decisions. Indeed, their continuing importance is one reason why we see an overall pattern that resembles Tiebout sorting. Elected politicians are responsive to the demands of the business community, but they are also responsive to voters and other interest groups. Different internal configurations of political and economic interests beget distinctive and durable regulatory regimes. Despite pressures for convergence either up or down, businesses in a particular industry may lobby successfully for rules that benefit themselves at the expense of workers or consumers and even at a cost of jobs in other sectors. Alternatively, voters are sometimes able to push for policies that the business community resists, as when they secure environmental regulations that raise the cost of operating in their jurisdictions. Moreover, the size of the jurisdiction matters for the viability of a given policy. One the one hand, we have seen that large jurisdictions (like California) are sometimes able to impose a higher regulatory burden on firms because businesses cannot forego access to this market. On the other, we have seen that small jurisdictions (like Delaware) can sometimes attract business from other locations because they can afford to undercut taxes as well as to offer a more attractive set of rules.

Popular regulatory impositions may be tolerable, even desirable, for businesses if their public image is thereby enhanced (if, for example, firms that comply with high standards are viewed as “good corporate citizens”), if regulations provide quality assurances that solve informational or principle agent problems, or, again, if compliance ensures continued access to large markets. Moreover, the business community may also have divided interests, in which case an internal power struggle can determine the regulatory outcome (recall the difference between small banks and investment banks over the question of securities regulation). Using Tiebout's language, we can view regulation as a public good provided by government, and in offering different levels of regulation different jurisdictions reflect the relative preferences and political influence of the firms and citizens who inhabit them. Since configurations of domestic political and economic factors are often unique to a jurisdiction, external pressures for regulatory convergence can be offset and even dominated by idiosyncratic internal forces. There are too few studies that tackle the question of the geographic diffusion of regulatory initiatives and what determines the pattern of variation across jurisdictions. Fishback and Kantor's (200) study of the spread of workers' compensation laws can serve as a useful model for future work.

Who regulates also varies, and this in turn affects the kinds of political processes that drive regulatory reform. Ordinarily, one thinks of regulations as rules embodied in statutes passed by state or national legislatures. The legislators who pass those laws are politicians who are subject to the electoral process and vulnerable to political pressure. And according to the simple regulatory race model, they are especially sensitive to the threat of divestment by business. But sometimes the regulatory locus lies elsewhere, and the extent of political responsiveness may not be as great or as direct. Through their rulings and through the development of case law, common-law judges set and reform regulations (recall the judge-made restrictions on employment-at-will). Judges are typically not accountable to electorates in the same manner as politicians are, however, and hence may be more resistant to race-type pressures. Too little work has been done on how the identity of the regulator affects the responsiveness of a jurisdiction to pressures arising from differences across localities in the burden of regulation.

It is important to bear in mind that a number of distinct processes can produce regulatory convergence. The one of interest here is, of course, a regulatory race. But it would be a serious error to conclude that when regulations have converged across different jurisdictions, that a regulatory race has occurred. Other possibilities have to be taken into consideration. For example, it is possible that governments face similar problems and independently adopt similar solutions or that they copy solutions pioneered by other jurisdictions because they seemed to work. It is also possible that regulatory rules are deliberately harmonized at the behest of a body or organization whose goal is to create greater regulatory uniformity, as occurred when the American Bar Association created the Committee on Corporate Law and charged it with the task of drafting a Model Business Corporation Act. Governments can also cooperate with each other with the deliberate goal of preventing a race to the bottom. A good example is Basel accords on bank capital sufficiency. We know relatively little about the interest-group pressures at work in such harmonization efforts, though variation across states in the passage of model acts and the extent to which they were modified could certainly be studied, as could differences across countries in the implementation of international accords.

Finally, the idea of a regulatory race presumes that government regulation can be decomposed into separable components, each of which has its own independent effect on the costs and benefits faced by firms. Depending on those effects, ceteris paribus, a race ensues. Looking across all the policy areas covered in our literature review, it becomes clear that regulations are not so neatly separable. In fact, we suspect that jurisdictions that impose strong regulations in one area also tend to set high standards in other areas as well. Regulation and deregulation often comes in waves that affect many issue areas at the same time, with substantial spillover effects. These patterns raise the possibility that what drives regulatory change in one issue area is change that has occurred in a collateral area. The existing literature tends to investigate regulatory races in a balkanized fashion, one issue area at a time, but a more synthetic perspective could well uncover influences and connections that narrowly focused research overlooks.

The image of the “regulatory race” is politically useful and has been exploited by various groups to oppose strengthening regulations they do not like (on the grounds that business will flee elsewhere), or to criticize global economic integration (on the grounds that it will set off races to the bottom, and lower environmental and labor standards around the world). Regulatory races also offer convenient political cover because leaders can justify policy choices as “necessary” given the threat of a race. The dire predictions of those who assert that more stringent regulation of business will produce divestment and flight have seldom been realized in practice; business typically have exercised their “voice” option more vigorously than their “exit” option. The one important exception to this generalization involves cases where businesses can select a new regulatory home without physically moving their operations. Since the cost of moving is minimal, firms can easily seek out their preferred regulations. The original home jurisdiction does not suffer from loss of jobs or declining production, but it does lose regulatory control. Even in such cases, however, the result has not necessarily been a regulatory race, whether to the bottom or the top. To the contrary, the more common outcome has been a Tiebout-type sorting across alternative regulatory regimes.

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