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Openness, Uncertainty, and Social Spending: Implications for the Globalization—Welfare State Debate

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We extend the literature on openness and spending in developing countries arguing that the effect of increasing openness depends on both regime type and the level of openness. Democracies respond to increases in openness by increasing spending while dictatorships respond by decreasing spending. However, the *degree* to which countries pursue the strategy of choice depends on the level of openness. In autarkic countries, an increase in import competition has more severe consequences for perceptions of job insecurity and dislocation. In response, government management of openness will be more vigorous under these conditions regardless of whether the leader increases or decreases spending. Economic selection mechanisms at work will produce an outcome wherein, at higher levels of openness, further import liberalization has smaller effects on perceptions of job insecurity and dislocation. Hence, both the demand and the supply of government management of openness will be lower.

Over the past 30 years, the developing world has become much more integrated in the global economy, turning away from older policies associated with import-substitution industrialization and loosening restrictions on import competition. Exposing one's economy to the vicissitudes of the international market is a politically risky decision however (Rodrik 1994), and policy reforms aimed at lowering barriers to foreign competition can face domestic political and social opposition stemming from the distributive consequences of trade (Rodrik 1997). Even if trade openness raises national welfare, individuals and groups within a

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given society might ''lose'' from the reduction of trade barriers if they are employed in globally uncompetitive firms or sectors, or if they are endowed with factors that are relatively scarce in the country. This recognition—that trade openness causes economic dislocations that can engender opposition to further reform—has led scholars and policymakers to concern themselves with finding ways to make openness more palatable for the citizenry.

One strategy many have turned to is increasing spending on social security and education. For instance, in 2000, Clare Short, then head of the United Kingdom's Department for International Development, ''emphasized that trade liberalization needed to be buttressed by other policies, particularly universal provision of health and education, and said that countries which had liberalized trade had seen increases as well as declines in equality'' (*Financial Times*, December 12, 2000). More recently, U.S. Federal Reserve Chairman Ben Bernanke's (2006) remarks on this topic are worth quoting at some length:

> Although [opposition to free trade] has many sources, I have suggested that much of it arises because changes in the patterns of production are likely to threaten the livelihoods of some workers and the profits of some firms, even when these changes lead to greater productivity and output overall. The natural reaction of those so affected is to resist change, for example, by seeking the passage of protectionist measures. The challenge for policymakers is to ensure that the benefits of global economic integration are sufficiently widely shared—for example, by helping displaced workers get the necessary training to take advantage of new opportunities—that a consensus for welfare-enhancing change can be obtained.

This proposition—that increasing particular types of government spending can be useful in building support for import liberalization—is increasingly common. Even the editorial page of the *Financial Times*—historically no strong supporter of larger government—has made this point. An editorial published in June 2007 argues that even as freer trade increases national welfare, ''globalization has also created losers'' necessitating governments to take actions to ''protect citizens.'' Policymakers can do so by funding ''additional training or other means to help those who have lost their jobs to reenter the market quickly'' and policymakers should consider ''a more progressive tax system, partial wage insurance, and untying social benefits such as basic healthcare from jobs to avoid undue fears of unemployment'' (*Financial Times*, June 20, 2007).

It is not altogether clear however that governments will increase spending on such services when faced with greater import competition; indeed, many scholars have argued the opposite: that governments may in fact decrease spending as a way to lower the cost of labor and therefore the costs of consumer and intermediate goods. In this article, we ask under what conditions politicians follow Short's and Bernanke's suggestions and increase spending on social security and education in the presence of openness, and when politicians opt not to do so. There is, of course, quite a bit of scholarship on the relationship between openness and spending. What makes our approach a useful addition to the extant literature is our argument that the effect of increasing import competition on spending strategies is simultaneously conditional on both the level of openness in a country at a given time and its regime type. We contend that the threat of dislocation and declining international competitiveness is greatest in the context of a closed economy lowering barriers to foreign competition rapidly. Consequently, demands for government management of openness will be the most intense and, regardless of whether incumbents increase or decrease spending, they will do so most vigorously at this time. However, the marginal effect of an increase in import competition on the degree to

which governments manage openness (again, regardless or whether they increase or decrease spending) declines as the level of openness increases and the economy has already endogenized much of the risk and insecurity that import liberalization can bring.

Furthermore, we contend that democratic governments respond to demands to manage openness with increased government spending while authoritarian regimes do not. Democracies increase spending both as a way to compensate citizens (evidenced in our empirical models through an increase in welfare spending) and to build a competitive advantage based on labor productivity (evidenced through an increase in education spending). Non-democratic systems in similar situations are better able to resist pressures to increase spending as leaders are more insulated from the median citizen. Accordingly, non-democracies engineer competitiveness based on reducing spending, thereby reducing firms' operating expenses and eschewing spending strategies that manipulate the exchange rate in such a way to disadvantage domestic firms.

We organize the article in three main sections. We begin by discussing the limitations of existing research on the relationship between globalization and domestic spending and why we think the marginal effect of increasing import competition depends on the level of import openness. We then turn to the modifying effect of regime type. We test the argument on a time-series cross-section dataset of developing countries from 1960 to 2002. Our penultimate section discusses our findings in relation to our theoretical arguments as well as others in the literature. We conclude with a consideration of the implications of our research for our understanding of globalization's effects on the domestic political economy, and identify directions for future work on these important questions.

Literature Review

Traditionally, openness is thought to have one of two possible effects on public service spending in developing countries. One expectation is that increased openness forces governments to reduce public spending—the so-called efficiency hypothesis. The argument is that openness exposes domestic firms to competition and the goal of maintaining a sufficiently high level of competitiveness compels governments to reduce spending on a host of goods and services. Doing so can reduce the price of intermediate and consumer goods both by reducing the price of labor and by ensuring that the exchange rate keeps the prices of domestic goods competitive vis-à-vis imports (Rudra 2002, 2005).

Other scholars disagree that we should observe decreases in spending when an economy opens. Instead, some argue that openness should compel governments to increase social spending. Two arguments are proffered. The first is that governments compensate citizens for higher levels of economic insecurity and dislocation with social spending. Kaufman and Segura-Ubiergo (2001, 557) summarize this position as follows:

> First, regardless of their specific roles in the international economy or the net economic gains brought about by trade liberalization, countries that increase their exposure to international markets are likely to experience social dislocations, uncertainty, and unequal distributive effects. This in turn creates a potential for political instability and/or backlash against market-oriented economic policies. Governments and business would have an incentive to keep these threats at bay by providing welfare transfers to social sectors or geographic regions that had fallen behind in the process of change.

The core of the compensation argument is that dislocation is unavoidable and increased spending to co-opt disaffected citizens is simply the price of import liberalization and obtaining the welfare gains associated with openness. A second argument exists for why governments may increase social spending—doing so may increase worker productivity. Again, Kaufman and Segura-Ubiergo (2001, 557) provide a succinct overview of this position:

> As in developed countries, moreover, increasing exposure to trade may also strengthen incentives to use social spending to enhance the skill level and productivity of the labor force. To the extent that public investment in human capital provides a collective good to the private sector, business groups might welcome or even press for these expenditures. This is because when large welfare states enhance labor skills and ensure political stability, they may provide collective goods that enhance the competitiveness of the economy in international markets.[1]

Rather than assuming there is an unconditional effect of openness on spending in the developing world as one must to subscribe to either the efficiency or compensation viewpoints, scholars have begun to argue that whether governments increase or decrease spending likely depends on regime type. Therefore, the fact the developing world has both democracies and non-democracies may mean that the findings regarding trade and spending in the OECD set of countries will not apply to the developing world. Adserà and Boix (2002), for instance, argue that regime type affects the propensity of governments to open the economy to the international competition and opening an economy also reflects the government's perceived ability to provide an adequate level of government spending to accommodate public demands for compensation. The key implication to their work is that democracies that open their economies to international trade will also have larger budgets as leaders will respond to public demands for compensation.

Kaufman and Segura-Ubiergo (2001), Avelino, Brown, and Hunter (2005), and Rudra and Haggard (2005) also tackle the question of whether domestic political institutions should condition how higher exposure to trade and mobile capital affects spending. In a sample of 14 Latin American countries, Kaufman and Segura-Ubiergo (2001, 554–55) find that globalization produces downward pressure on social security but less so for education and health-care spending. They also find that democracies do not cut welfare expenditures in the face of openness, and spend more on health and education than non-democracies. Analyzing a similar set of countries, Avelino, Brown, and Hunter (2005, 626) report contrary results, however. They find that ''trade openness has a strong positive impact on the resources devoted to education and social security while democracy's impact on spending results from increased expenditures for education.'' Rudra and Haggard (2005, 1015)utilize a global sample of developing countries to examine the effect of the interaction of trade openness and regime type on public service spending and conclude that ''social spending in 'hard' authoritarian regimes is more sensitive to the pressures of globalization than in democratic or intermediate regimes.'' Specifically, they find that autocracies cut spending in the face of openness, but that, contrary to the findings reported by Kaufman

[1] There is good reason to believe that increased spending on human capital-oriented policies like education and health may indeed bolster competitiveness. Education increases the success rate of innovation (Arrow 1962; Lucas 1993), and, more important for developing economies, facilitates the efficient adoption of frontier technologies and effects the pace at which an economy accumulates capital (Papageorgiou 2002, 2003). Understood in this manner, Kaufman and Segura-Ubiergo (2001) add the term *compensation* to describe increases in government spending can be misleading because of the implication that increased social spending in the face of economic globalization is necessarily inefficient.

and Segura-Ubiergo, and to a smaller degree, those of Avelino et al., ''democracies do not show a consistent tendency to spend more in the face of increasing trade openness'' but that ''authoritarian governments clearly spend less'' (Rudra and Haggard 2005, 1041).

Given this abundance of research, one might wonder whether we need one more study on the topic and why that study should pay specific attention to developing countries. On the one hand, the mixed evidence reviewed above contrasts sharply with the robust evidence of a positive relationship between openness and spending in industrialized democracies. The mixed support in the developing world suggests that the relationship between openness and spending is far from closed when we consider developing economies and compare across regime types.

Along with this, we think the reasons the developing world opened in the first place are different from those that operated in developed economies and we can leverage this difference in a theoretically useful way. When considering the compensation hypothesis, one must address the question of how it could be that citizens who are not powerful enough to stop openness from happening in the first place are then powerful enough to demand and receive compensation from the government after the fact. This is an important issue as it suggests that the causes of openness are correlated with the factors that affect how governments respond to the demands of the citizens after integration has occurred.[2] Given this, it is not always clear why governments should follow the compensation strategy at all. We think that openness in the developing world, however, may be a situation in which citizens are too weak to, or do not prefer to, halt openness, but do have preferences over whether and how governments respond to increased openness.

In the developing world, governments often opened their economies in compliance with the conditions set by international aid donors—particularly the IMF and the World Bank. We think it not a surprise that the increase in openness in the developing world corresponds closely with the increasing importance of the so-called ''Washington Consensus,'' the set of policies that often constituted the conditions countries were to follow to receive aid, an important component of which was lowering barriers to import competition. This matters because the economic problems that encouraged countries to seek foreign aid in the first place were severe enough that citizens would prefer to receive foreign aid, even if that required openness, rather than forgo aid altogether and remain in the status quo. Similarly, states often felt pressure to liberalize their economies in order to take advantage of membership in multilateral trading arrangement, such as the General Agreement on Tariffs and Trade (GATT) and the World Trade Organization. Membership gave developing countries access to other member country markets but required that they open their economies as a show of good faith and as part of the negotiations before they were admitted to the GATT or WTO.[3] Liberalization thus promised definite benefits, even when the impetus came from external sources, but understandably citizens remained uncertain about the effects of openness and therefore retained preferences over how the government should respond to that openness.

We liken the openness-compensation issue in the developing world to a patient who is choosing between various postsurgery pain management regimens. (Indeed, politicians themselves use a similar analogy; see Stokes 2001, 47). Ideally, one would not need surgery in the first place, but in a situation in which the status quo is likely to worsen and not improve, surgery seems to be the only

[2] We thank an anonymous reviewer for encouraging us to address this point.

[3] We thank an anonymous reviewer for pointing out the role of the GATT and WTO in state's decisions to liberalize.

viable option. The best a patient can do is pick between how best to manage the aftermath of the surgery. Citizens in the developing world experienced a similar situation in the latter 1970 and 1980s when economic integration began in earnest. For many countries, the ISI growth strategy produced a situation of large and growing government debt (Nooruddin 2008). Notably, there was little reason to believe that this status quo would improve over time. Foreign aid, even with its often harsh conditions was often seen by citizens as a better option than the status quo. This would not, however, stop citizens from forming and expressing preferences over how governments could manage openness in a way that reduced the burden of dislocation.

We think these points make the focus on the developing world worthwhile, but, we also argue that the existing literature suffers an important theoretical weakness. Specifically, existing research assumes, either implicitly or explicitly, that the effects of lowering barriers to international trade and increasing exposure to the vicissitudes of international markets are constant regardless of one's prior experience and exposure to openness. That is, increasing the share of one's economy derived from either imports or exports (the traditional trade openness measure) by 10 percent is argued to have the same effect on spending whether the economy was hitherto insulated from international markets or heavily trade-dependent. We disagree, and contend instead that the types of policy interventions citizens demand and the vigor with which they are demanded differ when the country is closed compared to when it has long been open to international competition. The crux of our argument then is that even as openness to import competition places demands on the government to manage the economy in such a way as to reduce the probability or costs of dislocation, the *marginal effect* of increasing import competition on government management is decreasing with increasing levels of openness.

Theoretical Argument: Openness and Government Spending

Lowering barriers to international trade has two main effects. First, domestic producers gain access to international markets, allowing them to identify new markets for their goods and services, and to find new sources of inputs for their own production processes. Second, increased openness allows foreign economic actors access to one's domestic market, creating competition for domestic producers. Standard economic theory makes clear that, so long as countries differ even slightly in their comparative advantages, free trade increases aggregate economic welfare. However, it also makes clear that, in the short-run, whether a particular individual benefits or loses from increased openness will depend on their skill-set in relation to the skill-set of the country as a whole or the competitiveness of the sector in which they work. Thus, even as increased openness might enhance the overall welfare of the society, for individual workers or groups of workers it can cause significant dislocations.

Significantly, it is unclear a priori to most workers whether they are going to be winners or losers in the global economy and we argue that this uncertainty should lead to demands for a government response to openness that would reduce either the probability or the costs of dislocation.[4] How do we justify this

[4] Scott Page (2008, 117) provides a pedagogically useful definition of uncertainty: ''[U]ncertainty refers to the absence of information about some relevant variable or what some call the state of the world—tomorrow's weather, to give one example, is uncertain.'' Note that one can be uncertain about the next day's weather—whether it will rain for instance—regardless of whether one likes rain or not, and therefore take steps to hedge against the risk of the event in question occurring (by packing one's umbrella maybe or driving to work instead of walking). The analogy to our analysis is straightforward: irrespective of whether one thinks greater openness will be good or bad, one is uncertain about exactly how the economy will respond and therefore asks government to provide social programs to insure against the worst-case scenario.

claim given that standard trade theories suggest that unskilled labor—the abundant factor in most developing countries—should win from free trade? Why should uncertainty about openness's impacts lead to pessimism from citizens regarding the employment prospects rather than more optimistic assessments?[5] While it is true that trade theories predict liberalization will lead to improved aggregate welfare overall, and that abundant factors should benefit more than scarce factors, such results hold over the long-term. In the short-run, individuals face potential dislocation if their firms prove uncompetitive or if their wages are compressed. Accordingly, while citizens—particularly labor in developing countries—might be reasonably optimistic about their prospects for finding new employment eventually, the short-run costs to which they are exposed are hardly insignificant. Even this optimism might be dampened by recent research that shows barriers to labor market mobility prevent displaced workers in developing countries from moving across sectors as trade theory predicts, thereby leading to increasing economic inequality rather than decreasing (Goldberg and Pavcnik 2007).[6] This uncertainty—about their current job's future and about their prospects for finding a new job—drives citizens to press their government for a response to openness. Dani Rodrik (1994, 68) makes this point emphatically:

> By its very nature, trade liberalization creates a lot of winners whose identities cannot be discerned beforehand. That is because not all of the general-equilibrium ramifications of reform can be sorted out with perfect foresight. After reform, some entrepreneurs in import-substituting sectors will transform themselves into successful exporters; some new, unanticipated export opportunities will be created. Only after reform takes root does the full configuration of gainers and losers become evident.

Thus, even though the Hecksher-Ohlin or Stolper-Samuelson theories predict benefits from trade over the long term, fears of short-term dislocations tend to dominate political discussions over liberalization, and a standard solution by pro-market reformers is to offer compensatory social policy spending in exchange for the increased uncertainty.[7] A standard part of this advice is the need for ''social safety nets to compensate displaced workers'' (Rodrik 2001). The realities of potential short-term costs, even if employment assessments are brighter over some longer period of time, has led the World Bank and other development practitioners to advocate ''managed liberalization.'' Liberalizing countries thus might manage increasing openness by choosing to spend more to compensate citizens for increased uncertainty or by reducing spending to reduce tax burdens for domestic businesses and increase competitiveness.

Taking Rodrik's argument one step further, we argue that that these demands for governments to take action to decrease the probability or costs of dislocation, whether in the form of increased compensation or increased efficiency, will be most intense when an economy that has long been closed to import competition loosens those restrictions dramatically. It is precisely in such an environment that ''the general equilibrium ramifications of reform'' will be the most difficult to ascertain for the average citizen. In a closed economy that has decided to open rapidly, many firms will be exposed to intense competition for the first time and many will find it hard to compete against the new imports. Citizens likely understand that a great many firms will decline or perhaps collapse altogether under the weight of import competition, but

[5] We thank an anonymous reviewer for raising this point.

[6] We thank an anonymous reviewer for suggesting this citation.

[7] Managed liberalization seems to work. Scheve and Slaughter (2006, 245) analyze World Values Survey data and find that ''public opinion over trade policy is decidedly less protectionist when policy liberalization is explicitly linked to government adjustment policies for workers.''

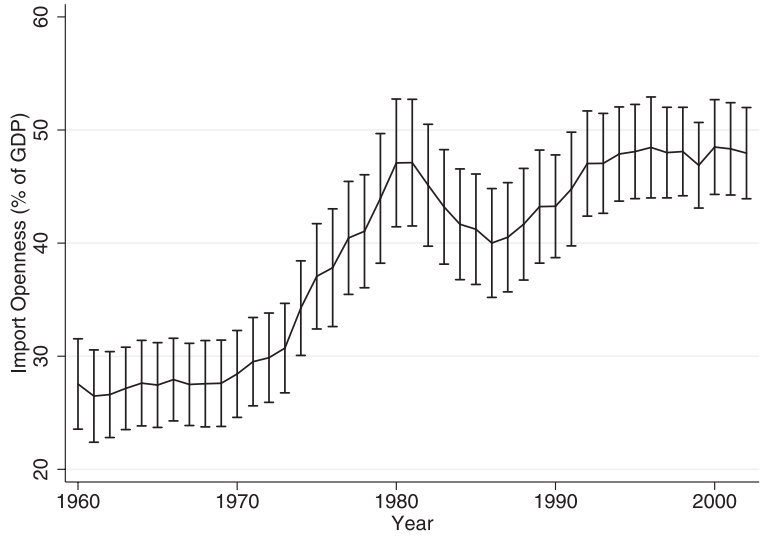

FIG. 1. Import Penetration in the Developing World Over Time

citizens lack a priori knowledge of *which* firms will fail and this uncertainty motivates citizens to demand that governments take action to reduce the cost of dislocation, should they be exposed to it. A key point here is that the lack of exposure to import competition makes this uncertainty especially widespread in the population and intensely felt. Most citizens do not know whether their current job is tenable when domestic firms are suddenly exposed to competition from abroad. Accordingly, governments that open their economies can expect to face significant demand to offset the potentially negative distributional implications of greater import competition.

We can see some evidence of the effect of increasing openness on perceptions of job insecurity in the following set of graphs. Consider first Figure 1, which graphs the average level of import penetration in the developing world since 1960.[8] The figure shows clearly that openness to international economic competition in the developing world is a relatively recent phenomenon (starting in the 1970s) that proceeded rapidly once begun. The latter point is evidenced by the fact that openness to imports doubled since the 1970s.

Furthermore, there is evidence that perceptions of job insecurity go hand-in-hand with increases in openness. Suggestive evidence of this can be found in Figure 2, which shows two temporal trends for three countries, Mexico, India, and Argentina.

The solid lines represents the percentage of citizens in each country that identifies ''job security'' as the most important feature of a job over a series of four ''waves'' of the World Values Survey (WVS).[9] The second, dashed line is the average level of trade openness in that country in the years between each wave. The trade values are averaged in panels corresponding with the four WVS waves.[10] This second trend is to be evaluated according to the Y-axis on the right side of the graph. The results show clearly that for each country, as the level of trade openness increases, so too does the percent of the population that lists job security as the most important feature of a job—suggesting that citizens feel more insecurity

[8] The bars in the figure extend to plus and minus 1 standard deviation.

[9] Wave 1 occurred in 1981, wave 2 in 1990, wave 3 in 1995 and wave 4 in 2001 (http://www.worldvaluessurvey.com).

[10] The panels are 1975–1980, 1980–1990, 1990–1995, and 1995–1999.

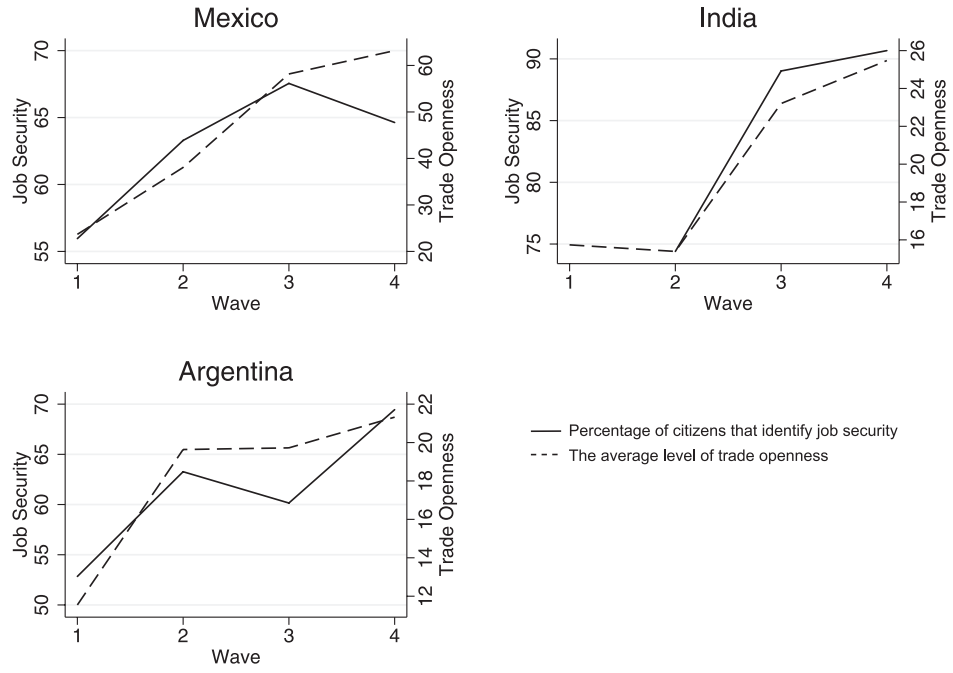

FIG. 2. Trade Openness and Preference for Job Security Over Time for Three Countries

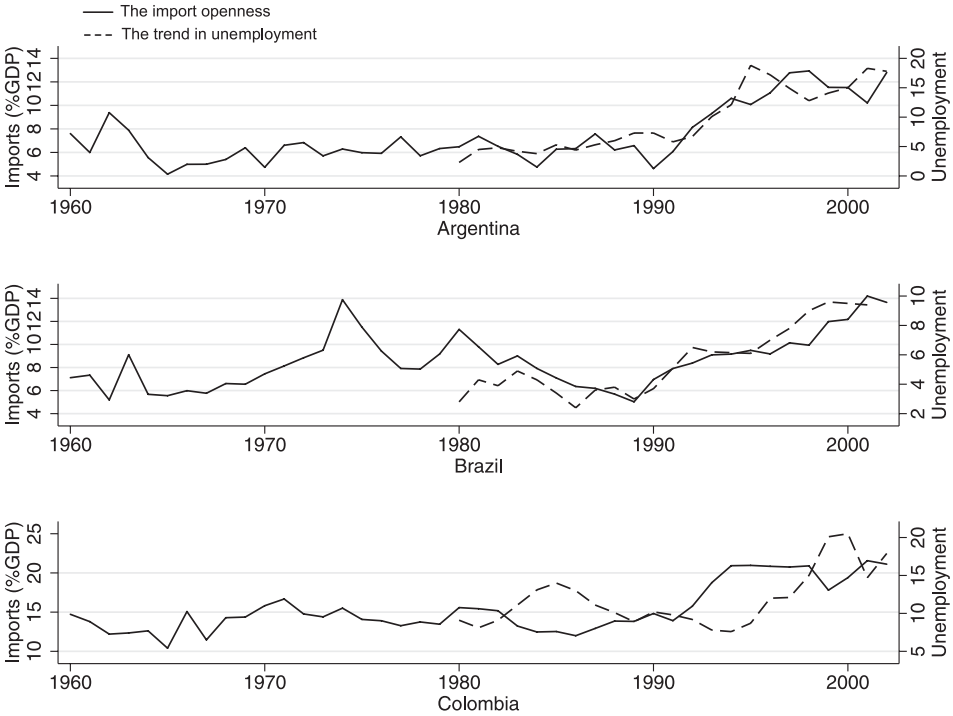

FIG. 3. Imports and Unemployment in Argentina, Brazil, and Colombia

as they are exposed to international competition.[11] Additionally, it seems to be the case that citizens' concerns may be rooted in economic realities as seen in Figure 3, which plots the trend in unemployment (the dashed line) and the import openness (the solid line) for another small set of countries. It seems that increases in openness correspond with rising unemployment suggesting that there may be grounds for citizens to identify job security as a major concern.

We argue however that the marginal effect of an increase in import competition on demands for government management grows smaller with greater levels of openness. The argument, in short, is that as the economy endogenizes risks, uncertainty falls and the general equilibrium effects of openness become clearer to citizens. There are two parts to this argument. The first deals with economic selection mechanisms. In an open economy, those firms that managed to survive to the present period, even as the economy has liberalized, are those that have, either by luck or concerted effort, discovered successful ways of remaining competitive even when exposed to foreign competition. Notably, these are also the same firms that likely will be able to cope successfully with further increases in openness. While past success is no guarantee of future success, we suggest that firms and sectors that have survived in the face of competition have gained skills and resources, or perhaps are simply endowed with competitive advantages of other sorts, that will help them to continue to survive in the presence of further increases in imports. The longer a firm survives in an open economy, the less likely it is that further openness brings about the demise of that firm.

Secondly, as economic selection processes take effect, citizens' uncertainty about the distribution of costs and dislocation due to openness declines as citizens observe the effects of openness on various firms and industries and adjust accordingly. To the degree that the factors of production are mobile, citizens will move from declining and uncompetitive sectors and firms to those that are competitive. In other words, there is a learning component to our model wherein the long-run effects of openness become learned by citizens, but only as the economy endogenizes risks and some sectors and firms fail, others survive, and still others thrive in the face of competition. This learning process should correspond with fewer citizens making demands for managed openness. If this logic holds, the marginal effect of increasing import competition further on job insecurity should be decreasing with greater openness.[12] We see some empirical evidence in support of this argument in Figure 4.

Here, we display two scatterplots. In each, the X-axis is the percent increase in the level of trade openness and the Y-axis is the percent of the World Values Survey sample in a given country that indicates that job security is an important concern. The left graph is the set of observations where the *level* of trade openness is at or below the median in the sample (63.07 percent of GDP), and the right graph is for the sample at or above the median. Compare the slopes of the lines in the two figures. In the left figure, we see a positive relationship between the two variables, indicating that in economies that are relatively closed (i.e., at or below the median in the sample), increasing openness corresponds with an increase in the percent of the population indicating that they are concerned about the security of their job. In the right figure, we see no such positive relationship. Rather here, the slope is

[11] We will return to these data below for a larger sample of countries.

[12] The literature on economic reform provides some support for our argument that the effect of liberalization of imports should correspond with higher demands for a government response when the economy is closed than when open. The reform literature often argues that policy reforms in the developing world, of which trade liberalization is often an important component, along with privatization, lower government spending, and other market-oriented reforms, exhibit a ''J-curve'' relationship—that is, ''they tend to make things a good deal worse before they get better'' (Piñera 1994). Bresser Pereira, Maria Maravall, and Przeworski (1993, 2) agree, writing that the effect of reforms is often negative in the short run and that ''trade liberalization [among other reforms] inevitably cause temporary unemployment of capital and labor.''

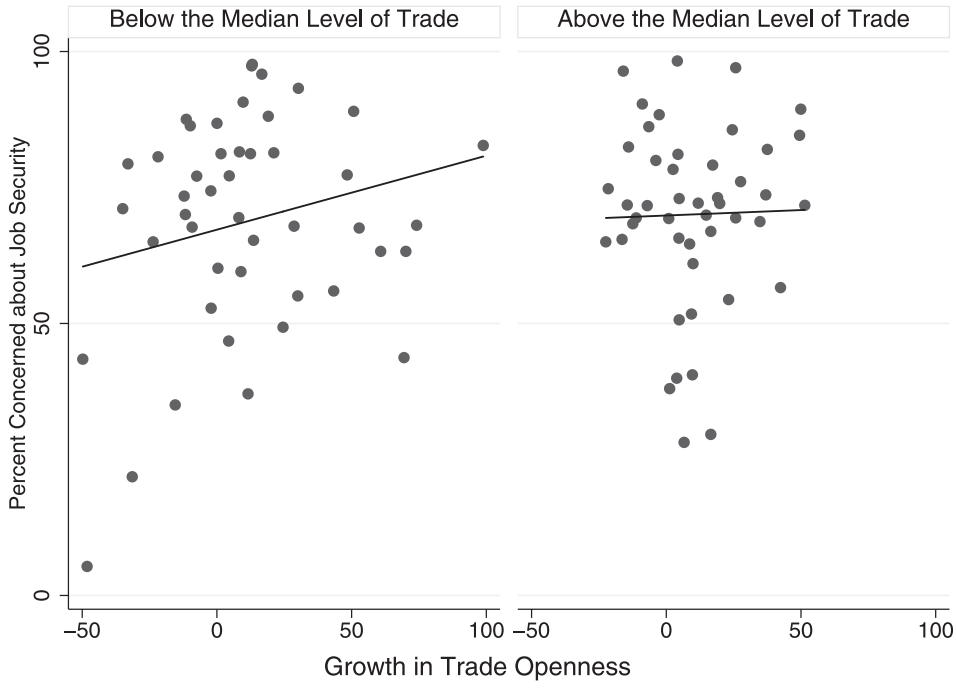

FIG. 4. Trade Liberalization, the Level of Openness, and Job Insecurity

flat, indicating that once the economy has endogenized much of the risk associated with openness, further increases in openness have little effect on the percent of the population concerned with job security.

To assess further the relationship between increasing openness and uncertainty about job security, we estimate a regression model where job security is the dependent variable and the right-hand side includes the growth in trade, a dummy variable indicating whether the observation's level of trade openness is above or below the sample median, and an interaction term between these two variables. When we do, we obtain the following coefficients (*p*-values in superscript): $JobSecurity = 0.14^{(0.107)}(TradeGrowth) + 2.61^{(0.534)}(TradeMedian) - 0.12^{(0.481)}(TradeGrowth * TradeMedian)$. The positive coefficient on *TradeGrowth* indicates that openness increases the share of respondents that are concerned about job security when the economy is relatively closed. The negative coefficient on the interaction term indicates that increased openness has a smaller marginal effect on perceptions of job insecurity when the economy is opened.[13] These results are consistent with what we observe in Figure 4 and both the graphs and coefficients are consistent with the argument we have made thus far. We turn to more rigorous tests later.

Regime Type and Coping with Openness

To this point, we have said nothing about which strategy—increasing or decreasing spending—politicians will use, only that the degree to which they use the

[13] A graph for this output (not shown to preserve space) shows that the marginal effect of increasing openness is extremely close to significance at the 90 percent confidence level when the economy is closed, but the marginal effect is clearly insignificant for open economies. This is consistent with our argument here that increasing openness affects job security perceptions much more when the economy is closed but opening rapidly, than when the economy is already opened. The results are consistent, indeed even stronger, when we use a continuous measure of the level of trade openness instead of the dummy variable we report here.

tool they have reason to prefer depends both on the level of openness as well as its rate of change. We draw on the literature on democracy and regime type to articulate the political variable that shapes which strategy a government will choose to follow.

Three basic arguments link variation in regime type to variations in levels of spending on public services such as welfare, education, and healthcare, many of which can be found in the literature reviewed above, and all of which conclude that democracies should spend more on such services than non-democracies. First, the *electoral accountability* perspective argues that democracies provide more public services because such programs are popular with the median voter and the election mechanism in democracies forces leaders to pay attention (Brown and Hunter 1999; Meltzer and Richard 1981). Second, the *constituency size* argument, developed by Bueno de Mesquita et al. (2003), argues that the size of the winning coalition relative to the size of the selectorate is a relevant variable for understanding government policy. Where this ratio is high, that is, where the government must construct a large winning coalition as in democracies, it is more efficient for governments to use their scarce resources to provide public goods than to try to win the support of the winning coalition by providing private goods.[14] Finally, the *competition* argument offered by Lake and Baum (2001) identifies higher levels of competition for office in democracies as the motivation for governments to provide public services. In their framework, governments are modeled as revenue-maximizing firms whose revenues depend on the public services provided to citizens: undersupplies create rents in the form of bribes while oversupplies reduce rents. Where governments face little competition for office, they can exploit their position as monopolistic producer of public services, and undersupply them—thereby creating rents to the government. In contrast, since democratically-elected leaders face regular competition, such systems behave more like regulated monopolies, supplying more public services in an effort to maintain an advantage over their potential competitors. Taken together, these arguments explain why democracies should privilege social spending relative to non-democracies. The available empirical evidence is very supportive of this claim (Nelson 2007 reviews this literature).

Faced with increased insecurity about future employment and income prospects due to increased openness, the institutional rules governing the selection of leaders should therefore shape their responses. Liberalizing trade rules to increase import competition generates diffused insecurity among a large section of the population, and concentrated costs on businesses and firms having to compete with their international counterparts. While workers might prefer increased social spending to assuage their insecurities, businesses prefer reduced tax burdens to improve their competitiveness (Burgoon 2001; Rudra 2007). The electoral calculus in democracies, however, requires leaders to pay attention to the demands of the median citizen who is likely to be a worker in democracies. Thus, retaining power will require leaders to increase spending in an effort to appeal to that citizen. Note that that the diffused perceptions of increased insecurity among workers does not require these workers actually to be ''losers'' to international trade ex post. Rather, the sheer fact of openness causes them to worry about their future prospects because they do not know with certainty if their current situation is tenable. Accordingly, workers will demand greater government management of the economy. We expect therefore that democratic governments should respond to increasing openness to import competition by increasing spending on welfare and

[14] Chhibber and Nooruddin (2004) apply this argument to explain variation in the provision of public services across 15 major Indian states.

education, and that this effect should be especially pronounced when the country is hitherto relatively closed.

Governments in non-democratic countries, on the other hand, are less constrained in their response to increased competition and the resultant insecurities it creates amongst workers. The survival of these governments does not require the renewal of popular mandate, but rather the continued support of a narrower winning coalition of organized interests. This insulation from popular demands for greater spending allows non-democratic governments to respond to increased imports by cutting spending, and taxes, in order to become more efficient. This expectation, which accords with the insights of Adserà and Boix (2002, 230) that non-democratic leaders will seek ''to keep the economy open while minimizing public expenditure,'' meaning that increasing import competition in non-democracies is likely to result in reduced spending on public services such as welfare and education. Again, the responses of non-democratic governments to increasing openness should be greater when their economies have been previously insulated from pressures to compete internationally, and more muted as experience with openness increases.

The theoretical framework outlined in this section yields a set of empirically-verifiable propositions. First, democracies that are closed but experiencing liberalization should increase public service spending more than their closed democratic counterparts, more than open democracies that are liberalizing more slowly, and more than all autocracies. By contrast, closed autocratic regimes should reduce spending—that is, pursue the ''efficiency'' strategy—to a greater degree than open autocratic regimes, autocratic regimes that are liberalizing more slowly, and democratic regimes of all kinds. Second, at high levels of *ex ante* openness, there are fewer losers from increased import competition (they have been driven out or are now adjusting well) and more winners, and these winners are not interested in financing generous compensation for the remaining losers, which should lead to a negative marginal effect of changes of imports at high import levels on welfare spending.[15] To assess these propositions, we turn to data in the next section, which begins by describing our research design.

Research Design, Data, and Results

For all subsequent statistical models, we collect data for all developing countries (i.e., non-OECD) for which data are available.[16] We estimate models using two different dependent variables: share of a government's total spending allocated to (a) welfare and social security and (b) to education.[17] We use both welfare and education spending to capture the two rationales that may lead politicians to increase

[15] We thank an anonymous reviewer for suggesting this hypothesis.

[16] Depending on specification, the temporal range of the estimation sample varies as some variables are not available for all years. The main models reported in Table 2 below cover 1977 to 1997, though the results are robust to using a more parsimonious set of control variables and therefore to extending the period covered.

[17] Data on social security spending are drawn from Rudra (2007) while data on education spending are from the World Development Indicators (World Bank 2004). Another possibility is to utilize the share of spending on healthcare as a dependent variable as education and healthcare are often linked together as public goods expenditures. Given the context however, we believe this would be inappropriate as there is little evidence to suggest that healthcare is seen as a response to openness. Three reasons for this exist: first, while better public health would improve productivity of workers in the long run, government responses to increased openness typically evince a shorter-term logic; second, in most developing countries, businesses rarely provide healthcare insurance to their workers, thereby weakening the linkage between job insecurity and healthcare in people's minds; and, third, workers in the organized sector in most developing societies utilize private providers of healthcare to a greater degree than for education. Public demands for government intervention in response to increased openness are therefore more likely to focus on unemployment benefits and education spending than on health-care spending. Nevertheless, we obtain consistent results if we use health-care spending instead; see Web appendix.

spending: to compensate citizens for the dislocation they have suffered at the hand of import competition and increasing worker productivity through education spending to compete better against imports.[18] While many existing models of the effect of openness of government spending measure spending categories as shares of GDP, we concur with Rudra and Haggard (2005, 1022–23) that ''social spending as a share of total government spending seems to provide a more direct measure of government priorities.'' Our concern with spending as a share of GDP is that this measure captures the effects of the size of the economy rather than any concerted effort a government might make to manage openness either through efficiency or compensation. We would argue that spending as a proportion of total government expenditures better captures the relevant political decision being modeled because it reveals the premium a government places on a particular budgetary category. Brown and Hunter (1999, 782) agree, arguing ''budget shares can provide important information regarding political priorities.''[19]

Estimation Strategy

We model the impact of increased import competition on government spending using an error-correction framework (Beck 1991, 1992). We do so for both methodological and theoretical reasons. Methodologically, we find that our dependent variables have considerable serial correlation and we cannot rule out the possibility of a unit root.[20] By first-differencing the dependent variable, the error-correction specification allows us to avoid some of the problems unit-roots create for statistical analysis. Theoretically, we also recognize that governments do not set spending levels anew each year, but rather spending levels exhibit ''stickiness'' or path dependence (Berry 1990). Even so, we should expect that governments will change their spending allocations on the basis of new conditions and information, even as these spending modifications can be seen as deviations from some baseline spending level. The error-correction format is useful in modeling both of these processes. The model uses the first difference of the output phenomenon in question and includes on the right-hand side variables that shape the equilibrium level of the dependent variable and also factors expected to produce deviations from that equilibrium.

Our model regresses changes in welfare and education spending on (i) their lagged level plus any lagged changes the data suggest are necessary to model serial correlation, (ii) lagged levels of each independent variable theory suggests as a potential cointegrating factor, and (iii) any changes in the independent variables theory suggests (Beck 1991, 243–44; Franzese 2002). As we lack strong theoretical priors about the dynamics of the spending effects of our theoretical and control variables, we follow Beck (1991) and enter all the independent variables in lagged differences and levels. Additionally, we include country dummies and a time trend variable to prevent spurious correlation. We also account for any panel heterogeneity that may exist by making use of panel-corrected standard errors as suggested by Beck (2001) and Beck and Katz (1995).

[18] Ideally we would have more finely-grained measures of education spending to distinguish between spending on general education versus job training programs, for instance, as this would provide a stronger test of the argument. However, such data do not exist for the sample of countries or time period covered here.

[19] When we use spending as a share of GDP, we obtain results that are largely consistent, especially in the case of welfare. The education models are less consistent, but this appears to be an accounting artifact as the denominators of the dependent variables are growing at different rates across the two specifications. Essentially, total spending is growing faster than GDP (Adserà and Boix 2002).

[20] The first-order correlation for welfare spending is .989 and for education spending is .722.

Independent Variables

The central independent variables under scrutiny are *changes in import competition*, *the level of import competition*, and *regime type*. We focus on imports as a share of GDP to measure the dislocations caused by trade liberalization as opposed to the more common measure of openness, (imports + exports) / GDP. Whatever dislocation occurs as a function of trade liberalization is due primarily to import competition. Insofar as our theory concerns responses to risk of dislocation, imports as a share of GDP is a better measure than total trade. This said, our models also control for the exports as a share of GDP (ExportGDP), allowing us to assess the validity of this claim empirically, and also to distinguish between the effects of import competition and export performance on government spending decisions.[21]

We use the Polity database to measure regime type as a dichotomous variable (Marshall et al. 2003). We recode the original 20-point Polity variable such that observations where $P_i \leq 6$ on the original −10 to 10 scale are coded as non-democracies and observations where $P_i \geq 7$ are democracies (Jaggers and Gurr 1995).

Our models control for the following: First, we include the log of Gross Domestic Product per capita (lnGDPpc) to account for income effects and Wagner's Law. Second, we include the change in the log of Gross Domestic Product, which is equivalent to controlling for GDP per capita growth rates. We include this variable as prior research has found that growth has a counter-cyclical effect on spending (Burgoon 2001). As is conventional in this literature, we include the dependency ratio (DRatio) in the model, which we measure as the ratio of population under the age of 16 and over the age of 65 to the total population. We also include exports as a share of GDP (ExportsGDP) to capture the possibility that a vibrant export sector may offset the degree to which a government will be compelled to manage openness. Where export sectors are competitive, some nontrivial share of workers dislocated from import-competing sectors will relocate to the more competitive export-oriented sectors thereby reducing the demand for the government to pursue either the efficiency or compensation strategies. Finally, we control for the country's current account balance and size of its external debt burden to capture liquidity problems and debt overhang pressures that might affect spending decisions (Mahdavi 2004). Summary statistics for all variables used in the models as well as a list of countries in the estimation sample can be found in Table 1.

Our error-correction models take the form: [1]

$$\begin{aligned}(\Delta\text{Welf})_{i,t} = {} & \beta_0 + \beta_1(\Delta\text{Welf})_{i,t-1} + \beta_2\text{Welf}_{i,t-1} + \beta_3\Delta(\ln\text{GDPpc}_{i,t-1}) + \beta_4\ln\text{GDPpc}_{i,t-1} \\ & + \beta_5\Delta(\text{DRatio}_{i,t-1}) + \beta_6\text{Dratio}_{i,t-1} + \beta_7\Delta(\text{CurrAcct}_{i,t-1}) + \beta_8\text{CurrAcct}_{i,t-1} \\ & + \beta_9\Delta(\text{Debt}_{i,t-1}) + \beta_{10}\text{Debt}_{i,t-1} + \beta_{11}\Delta(\text{ExportGDP}_{i,t-1}) \\ & + \beta_{12}\text{ExportGDP}_{i,t-1} + \beta_{13}\Delta(\text{ImportGDP}_{i,t-1}) + \beta_{14}\text{ImportGDP}_{i,t-1} \\ & + \beta_{15}\Delta(\text{Dem}_{i,t-1}) + \beta_{16}(\text{Dem}_{i,t-1}) + \beta_{17}(\Delta\text{ImportGDP}_{i,t-1}) * (\text{Dem}_{i,t-1}) \\ & + \beta_{18}(\Delta\text{ImportGDP}_{i,t-1}) * (\text{ImportGDP}_{i,t-1}) \\ & + \beta_{19}(\text{Dem}_{i,t-1}) * (\text{ImportGDP}_{i,t-1}) + \beta_{20}(\Delta\text{ImportGDP}_{i,t-1}) * \\ & (\text{Dem}_{i,t-1}) * (\text{ImportGDP}_{i,t-1}) + \varepsilon_t \end{aligned} \quad (1)$$

[21] When we use total trade instead of imports, the results are largely consistent. We return to this point below. The inconsistencies that arise are likely due to the fact that opening an economy to imports and exports causes different dislocations for workers, unleashes different types of demands for policy interventions from businesses, and therefore results in different policy outcomes from governments. By collapsing the two into a single aggregate ''trade openness'' variable, scholars elide these differences with important theoretical and empirical consequences.

$$
\begin{aligned}
(\Delta \mathrm{Ed})_{i,t} = {} & \beta_0 + \beta_1(\Delta \mathrm{Ed})_{i,t-1} + \beta_2 \mathrm{Ed}_{i,t-1} + \beta_3 \Delta(\ln \mathrm{GDPpc}_{i,t-1}) + \beta_4 \ln \mathrm{GDPpc}_{i,t-1} \\
& + \beta_5 \Delta(\mathrm{DRatio}_{i,t-1}) + \beta_6 \mathrm{Dratio}_{i,t-1} + \beta_7 \Delta(\mathrm{CurrAcct}_{i,t-1}) + \beta_8 \mathrm{CurrAcct}_{i,t-1} \\
& + \beta_9 \Delta(\mathrm{Debt}_{i,t-1}) + \beta_{10} \mathrm{Debt}_{i,t-1} + \beta_{11} \Delta(\mathrm{ExportGDP}_{i,t-1}) \\
& + \beta_{12} \mathrm{ExportGDP}_{i,t-1} + \beta_{13} \Delta(\mathrm{ImportGDP}_{i,t-1}) + \beta_{14} \mathrm{ImportGDP}_{i,t-1} \\
& + \beta_{15} \Delta(\mathrm{Dem}_{i,t-1}) + \beta_{16}(\mathrm{Dem}_{i,t-1}) + \beta_{17}(\Delta \mathrm{ImportGDP}_{i,t-1}) * (\mathrm{Dem}_{i,t-1}) \\
& + \beta_{18}(\Delta \mathrm{ImportGDP}_{i,t-1}) * (\mathrm{ImportGDP}_{i,t-1}) + \beta_{19}(\mathrm{Dem}_{i,t-1}) * \\
& (\mathrm{ImportGDP}_{i,t-1}) + \beta_{20}(\Delta \mathrm{ImportGDP}_{i,t-1}) * (\mathrm{Dem}_{i,t-1}) * \\
& (\mathrm{ImportGDP}_{i,t-1}) + \varepsilon_t \qquad (2)
\end{aligned}
$$

Testing our theory requires that we analyze the sign and magnitude of the coefficients on $\Delta(\mathrm{ImportGDP}_{i,t-1})$, $\mathrm{ImportGDP}_{i,t-1}$, $\mathrm{Dem}_{i,t-1}$, and their various interactions.[22] If our argument is correct that the effect of import liberalization on spending is mediated by both regime type and the level of import competition, we expect to observe the following: $\boldsymbol{\beta_{13}}$ in the above equations should be negative, indicating that when a country is a dictatorship (when $\mathrm{Dem}_{i,t-1} = 0$), *and* when the economy is closed (when $\mathrm{ImportGDP}_{i,t-1} = 0$), increasing import competition produces a *decrease* in government spending on education; closed dictatorships follow the efficiency strategy. $\boldsymbol{\beta_{17}}$ should be positive, however, indicating that closed democracies spend more in the presence of liberalization than closed autocracies do. More precisely our theory suggests that, when $\mathbf{Dem_{i,t-1} = 1}$, $\boldsymbol{\beta_{13} < 0 < \beta_{17}}$. That is, closed democracies should actually *increase* welfare and education spending as they open their economies rather than just pursuing the efficiency strategy less vigorously than non-democracies do. $\boldsymbol{\beta_{18}}$ too should be positive. This would tell us that import liberalization has smaller effects on education spending in already open dictatorships such that the amount of spending in dictatorships tends toward zero as the level of openness increases. That is, open dictatorships use the efficiency strategy less vigorously than closed dictatorships. $\boldsymbol{\beta_{20}}$ should be negative; in open democracies, further increases in import competition results in less vigorous compensation than in closed democracies.

Results

Model 1 in Table 2 shows results from the welfare spending model and Model 2 reports the results of the education spending model.

The results are supportive of the empirical predictions from our theoretical framework. We begin our discussion with Model 1. The coefficient on the change in imports (β_{13} in equation 1) is indeed negative, indicating that closed dictatorships decrease spending in the presence of increasing import competition. Notice, however, the signs and magnitudes of the various interaction terms.

[22] Our results hold if we split the sample between democracies and non-democracies and estimate separate models in each. We prefer the triple interaction specification described here on grounds of statistical efficiency. Also, the reader should note that models that split the sample are not exactly comparable to those in equations 1 and 2. Splitting the sample by regime type is the equivalent of interacting *all variables in the above equations* with regime type. Therefore, the variation in the control variables in the split sample models is not the same as the variation in the control variables in the pooled sample model. As regression coefficients are a function of this variation in the Xs [$\beta=(X'X)^{-1}X'Y$)], the resulting coefficients (and therefore slopes of the marginal effect lines) will differ in the split-sample setting from the triple interaction setting. The key point here is that any differences in the coefficients between the split sample model and equations 1 and 2 are artifacts of the incorrect modeling of all the control variables as interactions with democracy. Results using the split-sample approach are provided in the Web appendix to this article.

TABLE 1. Summary Statistics

Variable	*Obs*	*Mean*	*Std. Dev.*	*Min*	*Max*
ΔEducation	1,016	0.149	5.019	−65.904	83.366
Education	1,323	16.094	6.441	0.379	98.338
ΔWelfare	1,031	0.154	2.555	−16	16
Welfare	1,111	2.757	3.214	0	21.19
ΔImports	4,561	0.322	7.526	−71.493	70.428
Imports	4,739	40.516	26.129	1.052	223.647
ΔExports	4,562	0.269	6.143	−50.063	59.192
Exports	4,740	33.271	24.204	0.419	215.382
ΔTrade Openness (X + I)	4,628	0.829	13.187	−142.940	140.637
Trade Openness (X + I)	4,801	71.911	45.672	0.957	354.724
ΔDemocracy (Dichotomous)	4,755	0.004	0.129	−1	1
Democracy (Dichotomous)	4,905	0.202	0.402	0	1
ΔDemocracy (Trichotomous)	4,755	0.010	0.249	−2	2
Democracy (Trichotomous)	4,905	0.733	0.775	0	2
ΔDemocracy (Continuous)	4,755	0.090	1.930	−18	16
Democracy (Continuous)	4,905	−2.150	6.776	−10	10
ΔGDP per capita (Log)	3,213	0.012	0.077	−0.719	0.942
GDP per capita (Log)	3,360	8.002	0.935	6.039	10.653
ΔDependency Ratio	6,393	−0.121	0.588	−8.123	19.179
Dependency Ratio	6,568	43.294	6.016	26.813	60.451
ΔCurrent Account Balance (% GDP)	2,884	−0.066	10.064	−261.585	238.229
Current Account Balance (% GDP)	3,037	−4.424	10.967	−240.496	56.698
ΔExternal Debt (current US $, Log)	3,327	0.1299	0.264	−1.427	3.972
External Debt (current US $, Log)	3,461	21.023	2.204	12.612	26.225

Countries in estimation samples (Countries in *italics* are only in the education spending sample): Argentina, *Azerbaijan*, Bangladesh, *Belarus*, Bolivia, Botswana, Brazil, *Bulgaria*, *Burkina Faso*, *Burundi*, Cameroon, Chile, China, Colombia, *Congo (Rep.)*, Costa Rica, *Cote d'Ivoire*, *Czech Republic*, Dominican Republic, Ecuador, Egypt, El Salvador, *Estonia*, *Ethiopia*, Fiji, *Georgia*, Ghana, Guatemala, Guyana, *Haiti*, *Hungary*, India, Indonesia, Iran, *Jamaica*, Jordan, Kenya, *Kyrgyz Republic*, *Latvia*, Lesotho, *Lithuania*, *Madagascar*, *Malawi*, Mali, Mauritius, Mexico, *Mongolia*, Morocco, Nepal, Nicaragua, *Nigeria*, *Oman*, Pakistan, Panama, Paraguay, Peru, Philippines, *Romania*, *Russian Federation*, *Senegal*, *Sierra Leone*, *South Africa*, Sri Lanka, *Swaziland*, Syrian Arab Republic, Thailand, *Togo*, Tunisia, *Uganda*, Uruguay, Venezuela, *Yemen (Rep.)*, Zambia, Zimbabwe.

The interaction between the regime type dummy and the change in import competition is positive, indicating, as we predicted, that closed (i.e., ImportGDP$_{i,t-1} = 0$) democracies spend relatively more than closed dictatorships in the face of increasing openness. Notably, the size of the coefficient on that interaction term is large and since $0.47 > 0 > -0.11$, we can conclude that democracies actually *increase* spending on welfare provision rather than just cutting spending less than dictatorships do. Next, while quite small, the coefficient on the interaction term between change in imports and the level of imports is positive (the coefficient is 0.0001), and, finally, as we predicted, the coefficient on the triple interaction is negative and statistically significant. This last coefficient tells us that open democracies increase spending to a smaller degree in response to further opening in comparison to closed democracies.

That all of the coefficients for which we have clear expectations accord with our theory is a good start, but we need to push further to assess the accuracy of the theory. In our theory, the central question is the effect of increasing import competition on spending. Using equations 1 and 2 above, we can see that the relationship can be calculated as follows:

$$\delta(\Delta \text{Welf}_{i,t})/\delta(\Delta \text{ImportGDP}_{i,t-1}) = \beta_{13} + \beta_{17}(\text{Dem}_{i,t-1}) + \beta_{18}(\text{ImportGDP}_{i,t-1}) + \beta_{20}(\text{Dem}_{i,t-1} * \text{ImportGDP}_{i,t-1}) \quad (3)$$

TABLE 2. The Effect of Increasing Openness on Welfare and Education Spending

Dependent Variable	*Model 1* *ΔWelf Spend*	*Model 2* *ΔEd. Spend*
Welf. Spend.	−0.23*** (0.05)	
ΔWelf Spend.	−0.04 (0.08)	
Ed. Spend.		−0.55*** (0.06)
ΔEd. Spend		0.13** (0.06)
ΔImports	−0.11** (0.05)	−0.06 (0.06)
Imports	0.05 (0.03)	0.11*** (0.04)
Polity Score	1.31 (0.96)	−0.61 (0.76)
ΔImports × Imports	0.00** (0.00)	0.00 (0.00)
ΔImports × Polity Score	0.47*** (0.12)	0.33** (0.13)
Imports × Polity Score	−0.02 (0.02)	0.02 (0.02)
ΔImports × Imports × Polity Score	−0.01*** (0.00)	−0.00* (0.00)
ΔGDP per capita	3.05 (2.49)	−4.19* (2.26)
GDP per capita	−0.00 (0.90)	0.11 (0.90)
ΔDependency Ratio	−0.20 (0.44)	−0.71 (0.47)
Dependency Ratio	−0.11 (0.09)	−0.35*** (0.12)
ΔPolity Score	0.44 (0.68)	1.31* (0.73)
Exports	−0.07** (0.03)	−0.11*** (0.04)
ΔExports	0.04 (0.04)	0.01 (0.04)
Current Account Balance	0.01 (0.04)	0.08** (0.03)
ΔCurrent Account Balance	0.00 (0.04)	−0.03 (0.03)
Government Debt	−0.38 (0.40)	0.51 (0.33)
ΔGovernment Debt	0.47 (0.66)	1.32 (0.90)
Time Trend	0.05 (0.05)	0.04 (0.05)
Constant	−86.74 (99.41)	−64.41 (97.91)
Observations	633	632

Note. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

The best way to assess the effect of import liberalization given our model specification is through a graph based on equation 3. Accordingly, we plot the marginal effect of import competition on welfare spending across the ranges of both regime type and import levels. This gives us a good sense of whether the effect of a change in import competition is ever statistically significant. Figure 5 shows the relevant results. In the figure, there are two lines, each representing the marginal effect of increases in import liberalization on welfare spending as the level of imports increases: the solid line shows the relationship for dictatorships and the dashed line for democracies. The stars above each line indicate the points at which the marginal effect of changes in imports is statistically significant at the 95 percent confidence level.[23]

Several aspects of the figure are worth mentioning. First, we can see clearly that at low levels of openness, increases in import competition have different effects across the two regime types. Closed democracies respond to import liberalization by increasing the share of their total budget dedicated to welfare provision, while non-democracies in the same economic situation cut welfare spending. These findings are consistent with the expectation that when economies have not yet endogenized the risk and dislocation associated with trade liberalization, democracies and non-democracies manage openness using very different strategies.

Notice though, that the gap between the two regime types is decreasing with increasing levels of openness, until import levels reach about 50 percent of GDP.

[23] We use the STATA code generated by Brambor, Clark, and Golder (2006), available at <http://homepages.nyu.edu/~mrg217/interaction.html>.

That each line tends toward the 0 horizontal line is consistent with our argument that where national economies have already endogenized the relevant risks, the demand to manage further openness is lower. Accordingly, governments, *irrespective of regime type*, manage further import liberalization with less vigor. In practice, this means that at greater levels of import openness, democracies increase welfare spending by smaller amounts. Similarly, welfare spending sustains shallower cuts in dictatorships that are already open to imports. Also notice that as the two lines converge, further liberalization has no statistically significant effect on spending. This is precisely what our theory would lead us to expect. Further liberalization in an open economy does not produce further government management.

How then, can we explain the negative and statistically significant effect of import liberalization in democracies at very high levels of openness? This would seem to contradict our argument. We offer two explanations. First, consider the value of the import level where the marginal effect of import liberalization in democracies is negative and significant. This negative effect becomes significant when import levels are about 60 percent of GDP and greater. However, in our sample, only a handful of democratic observations have import levels that high. In our sample, the mean level of import openness in democratic countries is 29.32 percent GDP, the median is 32.85 percent and, most importantly, 56.21 percent constitutes the 90th percentile. Thus, of 203 democratic observations in the sample, over 90 percent are consistent with the theory and fewer than 10 percent are not. Furthermore, the observations that appear to work against our theory all come from two countries: Botswana and Mauritius, countries that are well-known for being outliers on the African continent and in the developing world, in terms of regime type, economic policy, and economic performance.[24] Of the 17

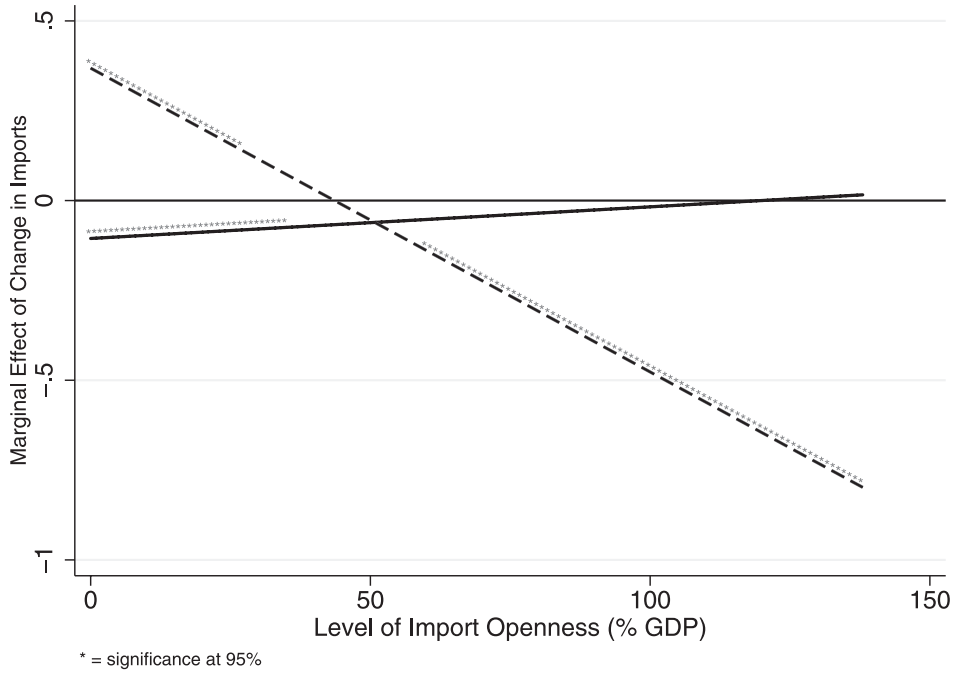

FIG. 5. Marginal Effect of Import Liberalization on Welfare Spending as the Level of Openness and Regime Type Change

[24] See Acemoglu, Johnson, and Robinson (2003) and Subramanian and Roy (2003).

observations that have import levels above 60 percent of GDP, *all* come from Botswana and Mauritius. We suspect that these two countries constitute interesting outliers that are worth studying in their own right. That said, to assess whether these observations have damaging effects for our empirical model, we reestimate a model excluding them. When we do so, the substantive results do not change at all. All of the coefficients for which we have expectations keep their appropriate sign and the marginal effect graphs do not change in any substantive way.[25]

Another possible reason why the marginal effect may be negative at high levels of import openness in democracies is that, if these economies have adjusted well to high *ex ante* levels of openness, winners from globalization become unwilling to underwrite generous compensation schemes for remaining ''losers.''[26] This proposition is not at all inconsistent with the argument that we proposed in the theory.

Next, we turn to the education spending model in Table 2. The coefficient estimates are similar in substance to those for the welfare model. Here again, the coefficient on the change in imports (ΔImportGDP) is negative, its interaction with regime type is positive and obviously, $0.33 > 0 > -0.06$. The coefficient on the interaction between change in imports (ΔImportGDP) and level of imports (ImportGDP) is positive (but again very small), and the triple interaction has a negative coefficient. Figure 6 produces the corresponding marginal effect figure.

Again, the effect lines for democracies and non-democracies have different slopes, and different predicted effects. At lower levels of past openness, democracies respond to further increases in imports by increasing spending on education, and this effect is statistically significant over a substantively important range

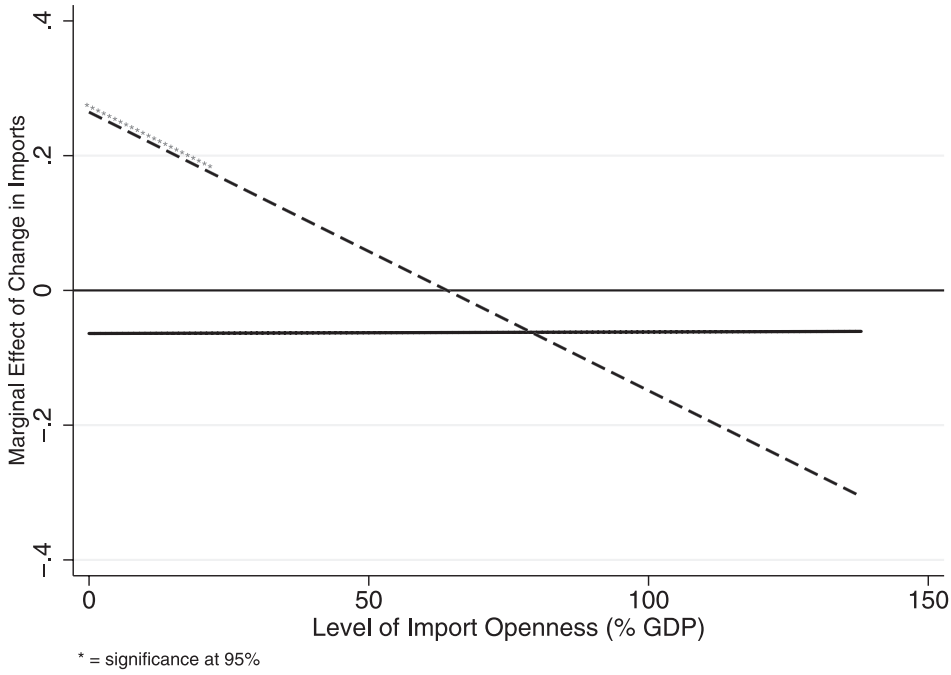

Fig. 6. Marginal Effect of Import Liberalization on Education Spending as the Level of Openness and Regime Type Change

[25] Results of this model are available in the Web appendix to this article.

[26] We thank an anonymous reviewer for making this point.

of import competition. Again at higher levels of openness, however, we observe that there is no effect of further liberalization on spending in democracies, consistent with our argument that at high levels of openness, further import liberalization does not affect the demand or the supply of compensation. For dictatorships, the story is a bit different than in the welfare model. Here, there is never a statistically significant effect of import liberalization on education spending. One possible reason for this is that dictators do not spend much on education spending under any condition (Stasavage 2005) and thus do not gain much efficiency by cutting spending in that category.[27]

One other finding is worthy of note. First, notice that in both graphs, the effect lines for democracies are steeper than for non-democracies, indicating higher openness elasticity for the former than the latter. That is, a 1 percent increase in import competition has a larger marginal effect on spending in democracies than it does in non-democracies, independent of the direction of the effect. This is consistent with arguments that democracies are more responsive to public demands for policy responses to openness, while non-democracies are relatively insulated from such public pressure (Brown and Hunter 1999).

Sensitivity Analysis

Table 3 shows that our results do not hinge on the controls that we include in equations 1 and 2. To preserve space, we show only the coefficients for the welfare model. The education model results are consistent and are available in the Web appendix. When we exclude controls, our results still hold. Indeed, marginal effect graphs (not shown to preserve space) show that the models in Table 2 are the conservative estimates.

We next assess the sensitivity of our results to our measure of regime type.[28] While we think the dichotomous measure used above is a useful one, we recognize that lumping ''hard'' and ''soft'' authoritarian regimes together may conceal more than it reveals. We estimate the same models as in equations 1 and 2, but we use two alternative specifications of the democracy variable. First, we utilize a 3-point coding scheme wherein we code an observation as a dictatorship if $P_i \leq -7$, observations where $-6 \geq P_i \leq 6$ are coded as anocracies or mixed regimes, and observations where $P_i \geq 7$ are coded as democracies.[29] The marginal effect graphs for these models are shown in Figure 7.[30]

Graph *a* corresponds to the education model using the DIC democracy coding. Graph *b* is the coding and *d* is the welfare model. In graphs *a* and *b*, we plot four values of the Polity Scale, −10 (the black solid line), −5 (the black dashed line), 5 (the red dotted line), and 10 (the red solid line). In *c* and *d*, we plot all three values of the trichotomous coding: 0 (the black solid line), 1 (the blue dashed line) and 2 (the red solid line). In all four graphs, we observe the same trends that we observed using the dichotomous coding, although the patterns of significance are weaker. While important, the lack of significance is due primarily to the size of our sample. While we have over 600 observations in the full sample, what we need to assess statistical significance accurately is a large number of cases in the various ''cells'' created by the interaction of regime type, import

[27] Nooruddin and Simmons (2006) find a similar effect with respect to spending cuts under IMF conditionality programs.

[28] We thank an anonymous reviewer for encouraging us to address our choice of how to measure to democracy.

[29] Jaggers and Gurr (1995) provide these thresholds.

[30] We do not show the coefficients to preserve space. These are available from the authors or through the Web appendix.

Table 3. Sensitivity Analysis

Dependent Variable	*Model 3 ΔWelf Spend*	*Model 4 ΔWelf Spend*	*Model 5 ΔWelf Spend*	*Model 6 ΔWelf Spend*	*Model 7 ΔWelf Spend*
Welf. Spend.	−0.24*** (0.04)	−0.24*** (0.04)	−0.22*** (0.05)	−0.23*** (0.05)	−0.23*** (0.05)
ΔWelf Spend.	−0.02 (0.07)	−0.02 (0.07)	−0.06 (0.07)	−0.03 (0.08)	−0.04 (0.08)
ΔImports	−0.06* (0.03)	−0.06* (0.03)	−0.04 (0.03)	−0.08* (0.04)	−0.11* (0.05)
Imports	0.00 (0.01)	0.00 (0.01)	−0.01 (0.01)	−0.00 (0.02)	0.05 (0.03)
Polity Score	1.38* (0.81)	1.37* (0.83)	1.37 (0.90)	1.09 (1.00)	1.31 (0.96)
ΔImports × Imports	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00* (0.00)	0.00* (0.00)
ΔImports × Polity Score	0.38*** (0.11)	0.39*** (0.11)	0.39*** (0.11)	0.47*** (0.12)	0.47*** (0.12)
Imports × Polity Score	−0.02 (0.02)	−0.02 (0.02)	−0.02 (0.02)	−0.01 (0.03)	−0.02 (0.02)
ΔImports × Imports × Polity	−0.01*** (0.00)	−0.01*** (0.00)	−0.01*** (0.00)	−0.01*** (0.00)	−0.01*** (0.00)
ΔGDP per capita	1.64 (1.61)	1.83 (1.59)	2.04 (1.83)	3.73 (2.53)	3.05 (2.49)
GDP per capita	−0.16 (0.59)	−0.26 (0.58)	−0.00 (0.68)	−0.40 (0.89)	−0.00 (0.90)
ΔDependency Ratio		0.38 (0.24)	0.32 (0.24)	−0.07 (0.43)	−0.20 (0.44)
Dependency Ratio		−0.00 (0.07)	−0.06 (0.08)	−0.08 (0.10)	−0.11 (0.09)
ΔPolity Score		0.31 (0.67)	0.37 (0.70)	0.37 (0.69)	0.44 (0.68)
Current Account Balance			−0.02 (0.03)	−0.03 (0.03)	0.01 (0.04)
ΔCurrent Account Balance			0.01 (0.02)	0.02 (0.03)	0.00 (0.04)
Government Debt				−0.48 (0.39)	−0.38 (0.40)
ΔGovernment Debt				0.56 (0.66)	0.47 (0.66)
ΔExports					0.39 (0.39)
Exports					−0.65* (0.03)
Year	0.05** (0.03)	0.06* (0.03)	0.02 (0.04)	0.07 (0.05)	0.05 (0.05)
Constant	−103.16** (47.42)	−108.44* (57.44)	−31.96 (71.09)	−116.58 (102.21)	−86.74 (99.41)
Observations	797	797	741	633	633

Note. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

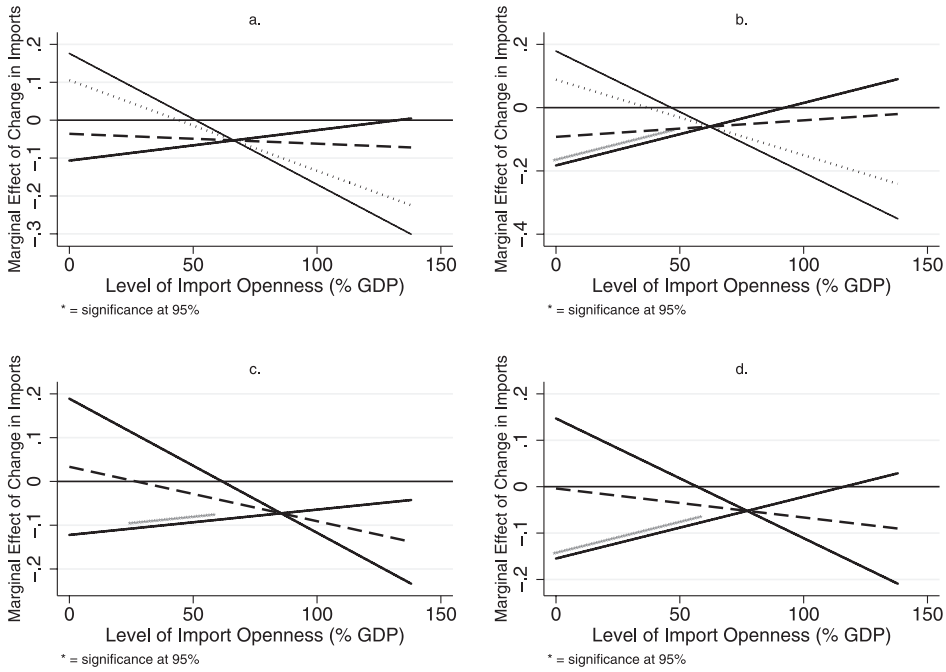

FIG. 7. Marginal Effect of Import Liberalization on Welfare and Education Spending Under Alternative Democracy Coding Rules

levels, and changes in import levels. Unfortunately, we do not have such large numbers. Using the trichotomous democracy coding, we divide up the observations by quartile according to the level of openness, by quartile according to the change of import openness, and finally by regime type. When we do so, we see that we have, for example, only 14 observations that have a democracy score of 0 and fall in the bottom quartile in both import levels and import changes; there are only 13 observations with a regime type score of 1 in the bottom quartile of both import variables, and only three observations with regime score of 2. Similarly small numbers of observations exist in all the other cells as well. Ultimately, when we divide up the observations this way, we have, on average, only 13 observations per cell—too few to achieve statistical significance. Using the continuous democracy coding only worsens the problem as we have, on average, fewer than two observations per cell using that coding. The upshot is that we are not discouraged by the wide standard errors in these models. On the contrary, we take comfort in the fact that these results, even when we have so few observations in each cell, are so consistent with the baseline results discussed above.

Conclusions and Future Research

In this article, our principal argument has been that governments react to increased import competition differently depending on the level of openness already experienced. Evidence based on statistical analysis of the experience of developing countries from 1960 to 2002 supports hypotheses derived from our argument. Three main findings emerge from this analysis. First, at lower levels of past import openness, further increases in import competition have divergent effects on welfare and education spending in developing countries depending on the political incentives faced by political leaders. Democracies in relatively closed economies react to further openness by increasing spending on welfare

and education, while non-democracies in similar conditions cut back spending on both categories. Second, at higher levels of past openness, these differences between democracies and non-democracies are attenuated, and, at very high levels of past openness, democracies and non-democracies react similarly to further openness. Finally, we find evidence that democracies are more responsive to further increases in imports than non-democracies. This is consistent with expectations about the sensitivity of democracies to public pressure, though we must note that our results cannot conclusively distinguish between demand-side and supply-side explanations of policy formation. Indeed, whether any policy responses to openness are the result of governments heeding public demands (demand-side) or utilizing the opportunity to push through preferred reforms (supply-side) remains a question for future research. On that note, we consider other avenues for research suggested by our research.

First, we do not distinguish between different types of import competition in this article. For instance, should we expect governments to react similarly if the increased imports are the result of greater energy consumption and if they are the result of higher imports of foreign manufactured products? We would argue not. The source and type of imports has important implications for the nature of dislocation caused in the domestic economy, depending on whether the imports are providing resources otherwise unavailable to the domestic populace or competing directly with existing firms in the country. As such, this should affect the nature of demands for protection made by citizens. Similarly, even if the imports represent increased competition for domestic firms, it might matter if the resultant dislocations are primarily in low-skill versus higher-skill sectors as the nature of compensation demanded will differ accordingly. At present existing research lumps together all imports into a single category, but more nuanced examination of different types of imports is likely to be promising.

Second, in this article we have argued that, in the developing world, public services such as education can be understood as a response to increased insecurity caused by openness (see Ansell 2008; Avelino, Brown, and Hunter 2005). Research on the globalization—welfare state nexus in the OECD and Latin American contexts has often concentrated on contractions in social security and pension provision. Yet, India's budgets in an era of its greatest openness consistently include greater allocations to education, justified in terms of allowing citizens to compete in a new economy by gaining skills, and improving opportunities for their children in the future (Biswas 2006). Thinking of education as possible ''compensation'' allows scholars to consider the importance of intergenerational considerations made by workers, and opens new opportunities for continued research on the impact of globalization on developing countries.

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