Globalization and Risk Redistribution in the Developing World

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Abstract:

The ways in which societies cope with the risk of income loss have drawn attention in recent debates over the links between globalization and state-sponsored social insurance. Research on the advanced industrial nations has generally portrayed this as a positive relationship: the expansion of social welfare programs supported economic integration in the postwar era, and rising insecurity is once again fueling demands for broader state sponsorship of social protection. There is much less consensus, however, over whether such dynamics extend to the developing world as well. There is good reason for caution. Consumption-smoothing efforts in developing countries often entail informal, 'second best' strategies that are organized by households and communities, rather than by the state; and they often fail to reduce insecurity and poverty. These features suggest a potentially very different role for risk protection in the process of globalization in the developing world. Analysis of these linkages in 106 advanced industrial and developing nations betweem 1970 to 2006 reveals starkly diverging effects of risk protection on movements toward economic integration in rich and poor countries. Risk protection in developing countries has been much less supportive of economic integration than it has been in advanced industrial nations. State intervention to smooth over distributional conflicts and dampen insecurity in lower-income nations thus may not follow closely the logic observed among the rich nations. The analysis finds evidence as well to suggest that risk protection systems in developing countries mediate globalization's effect on public sector interventions in ways that differ sharply from the dynamic observed in the developed economies.

A prominent debate in international political economy has emerged over the effect of economic integration on state intervention in domestic economic relations. The contours of this debate have taken shape around competing claims about whether states will increase or decrease their allocative functions in response to the competitive forces of globalization. On the one hand, concern for economic efficiency arising from trade exposure and capital mobility were expected to strain state social budgets, while the enhanced 'exit option' of capital would oblige governments to shift tax burdens from liquid capital to less-mobile labor (Kaufman and Segura-Ubiergo 2001; Swank 2001). Other scholars countered such gloomy predictions, however, with evidence that economic insecurity and dislocations arising from globalization would lead citizens to demand broader state interventions as 'compensation' for exposure to the uncertainties of the global economy (e.g., Garrett 1998, 2000). The conterminous expansion of the public economy in globalizing post-war Europe (e.g., Cameron 1978; Katzenstein 1985) was held up as evidence of the supportive role of the welfare state in open, industrial economies (Hicks and Swank 1992; Huber et al. 1993). Nevertheless, evidence to sustain both sides in this dispute has been decidedly mixed (e.g., Dreher et al. 2008; Garrett and Mitchell 2001), particularly when the empirical domain of this question is extended to the developing world. Indeed, among poorer nations, scholars find broader, but nevertheless mixed, evidence of downward pressure on public sector budgets in the context of economic integration (e.g., Avelino et al. 2005; Kurtz and Brooks 2008; Garrett 2000; Kaufman and Segura-Ubiergo 2001; Rudra 2003). For the vast majority of the world's population living outside the richest nations, the pressing question remains: are states in the developing world likely to play a broader role in risk protection systems in the context of globalization, or are the effects of rising insecurity likely to be countervailed by the demands for global economic competitiveness?

At the heart of this debate is the way in which societies cope with the risk of income loss in market economies. Despite the centrality of risk protection to this question, research in political economy has often overlooked the distinctive nature of these strategies in the developing world, and their implications for an array of political, social and economic consequences of globalization. What is more, scholarship on social protection in the developing world frequently follows research on the advanced industrial world by using public sector outlays as a measure of social insurance systems. These assumptions warrant more careful scrutiny, however. Not only do risk protection systems in many developing countries exist outside the bounds of formal, state-sponsored social insurance programs, but in many cases these institutions are suboptimal at best, and may even undermine rather than promote economic efficiency.

Given these possibilities, two critical linkages in the analysis of risk protection and globalization may be worthy of reconsideration. The first is the supportive role of risk protection in movements toward globalization in the developing world. More effective risk-coping practices could paradoxically complicate, rather than promote, the movement toward greater economic integration. And second, reliance on private and informal means of risk protection could make it less likely that globalization spurs demands for a broader redistributive role for the state in the developing world. How, then, will citizens of the developing world cope with societal conflicts that may arise in response to economic integration? Will governments be called upon take a more active role in the reapportioning of mischance in response to globalization? Or, will globalization spawn ever-widening social and economic cleavages? This question is central to understanding the consequences of globalization for the state, as well as for domestic societal conflicts (e.g., Rodrik 1998). And indeed, the question is in the offing: a growing literature has

tied globalization to expanded forms of violence as rising insecurity and uncertainty coincide with greater interdependence among different peoples (Appadurai 1998; Briceño-León and Zubillaga 2002; Hoffman 2002; Keohane 2002).

Addressing these questions requires not only that we examine the distributional consequences of globalization, but also that we understand the formal and informal means through which societies cope with those effects. Indeed, our understanding of the domestic political and economic underpinnings of the role of the state in the development is incomplete, as Boix (2001) has observed. As a first step, my analysis of the links between risk, redistribution and globalization begins by examining the implications of risk-pooling systems for economic integration in the developing world. This task requires an approach to social insurance that moves beyond social spending to capture the array of informal and nonmonetized systems of insuring against the loss of income. Accordingly, I employ a measure of the *ex post* realization of consumption-smoothing to proxy for the strength of domestic risk pooling programs. Because risk protection efforts in developing nations frequently involve 'second-best' means of insuring against the loss of income such as through precautionary savings and risk-avoiding economic behavior, I expect more robust consumption-smoothing to be less favorable to economic integration in lower-income countries than it has been in the advanced industrial world. I test this expectation through time series analysis of risk protection and economic integration in a broad set of nations from the developing and advanced industrial world. I find support for the expectation that risk protection systems in developing nations differ from those in the advanced industrial world and that the former have *not* promoted deeper movements toward economic globalization among poorer countries.

This result suggests a broad agenda for future research on the role of in risk protection in open, developing economies. In particular, it calls for more in-depth analysis of the nature and consequences of the role played by states in mediating distributional conflicts well before the most recent wave of globalization began. A preliminary test of the role of risk protection in mediating the impact of globalization on state spending in rich and poor countries suggests that although broader forms of risk protection have not supported economic integration in many developing nations, they have been associated with more expansive public sector efforts, except in the most liberal developing economies. Here again, the links between risk and state in the developing world vary starkly with the trends in advanced industrial nations, lending further caution to efforts to extend theoretical paradigms across levels of development.

Risk Protection and Economic Integration

Efforts to protect against the chance of poverty may be divided between *ex ante* and *ex post* insurance mechanisms. The former include state-sponsored income protections such as tariffs and job security regulations that diminish the riskiness of economic processes and prevent the loss of income in a market economy. By contrast, *ex post* protections include insurance mechanisms to smooth consumption in the event of income loss. Both types of risk-coping institutions, when sponsored by the state, have significant redistributive implications and thus have played a central role in international political economy research on globalization. Indeed, the postwar bargain of 'embedded liberalism' (Ruggie 1982) has become a critical referent for theories of the political and economic causes and consequences of globalization. State social welfare programs expanded in the post-war era when strong controls on the movement of capital allowed both progressive taxation and domestic social policy autonomy to underpin political support for trade liberalization. Accordingly, risk-sharing was found to be consistent with

economic growth and broad state intervention in the context of economic integration (Dreher 2005; Katzenstein 1985; Rodrik 1997). Yet, because old age pension and unemployment insurance systems expanded without the threat of capital flight, the collapse of Bretton Woods and the resurgence of international capital mobility stoked concern among scholars and observers that the enhanced 'exit' option of capital and pressures for trade competitiveness would exert downward pressures on state social welfare spending (Kay 2001; Tanzi 2002; however, see Scharpf 2002).

A rich stream of research has emerged in recent years to evaluate this expectation, and has largely allayed fears of a "race to the bottom" in social policy provision among advanced industrial nations. Common to this literature, however, are two common assumptions that merit further interrogation before we extend similar expectations to the developing world. The first is that consumption smoothing occurs principally *through the state*, and thus that the size of the public sector should provide adequate evidence of whether rising economic insecurity has unleashed broader demands for compensation.[1] A second critical premise in this research is that economic openness is exogenous while the size of the public sector is endogenous (Adserà and Boix 2002). The latter view has meant that scholars look principally to the mix of domestic institutions (democracy, veto points) and economic structures (concentration and relative size of competitive versus non-competitive and protected sectors) to predict the capacity of winners and losers of openness to impose their economic interests (for protection or compensation) on the rest of society.

What if the state is not at the center of risk protection? And, what if globalization itself is endogenous to the ways in which societies cope with economic risk? If we relax these two

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[1] A largely overlooked factor in this debate is the notion common in economic research that asset redistribution may improve allocative efficiency, and thus that redistributive social protection and efficiency concerns are not antimonies. See, for example, Atkinson and Bourguinon 2000.

assumptions, then we may be obliged to reconsider the state-globalization dynamic in the broad swath of the world's population that resides in the developing world. Indeed, research in development economics suggests that the ways in which societies share risks in poorer and agricultural countries differs from that in many advanced industrial nations in theoretically and empirically significant ways. These risk-coping mechanisms are also much less complete, as is evidenced by the higher levels of vulnerability to – and realization of – poverty in the developing nations. The political implications of these differences in risk protection may be profound, as incomplete insurance systems have been linked not only to the persistence of poverty, but also to variations in growth and inequality in liberalizing economies (Atkinson and Bourguignon 2000; Dercon 1999, 2001; Dreher 2005; Barrientos et al. 2005; Yaqub 2002).

Forms of Risk Protection. Governments in market economies – whether rich or poor – intervene in a wide variety of ways to reapportion risk and cost of income loss. Doing so has been justified in economic terms both to enhance economic efficiency and to cope with the limits of insurance markets, such as for nondiversifiable risks (Holzmann and Jorgensen 1999; Kim 2006). In many cases, these interventions do not involve government financial outlays, or even the expansion of private insurance markets. For instance, policies meant to reduce the riskiness of income processes in agricultural economies often involve setting agricultural procurement prices to delink them from world prices (Deaton 1992: 254). Other programs entail state financial commitments that are distinct from formal social insurance budgets. These may include the provision of government credit to encourage investment in risky but productive enterprises, or through relief policies to cope with income loss through emergency food and income provision. Well-designed forms of state-sponsored risk redistribution such as these, moreover, have positive implications both for allocative efficiency and growth.

Where formal, state-sponsored insurance programs are insufficient to protect against the risk of poverty, however citizens rely in varying degrees on private, informal and household risk-coping mechanisms. Even though private forms of consumption smoothing typically entail saving on private capital markets in the advanced industrial nations, risk-hedging often takes a different form in the developing world. In many cases, individuals in poor countries engage in low-risk, but also low-return, economic activities as a way to diminish the chance of income loss. Households also self-insure to smooth consumption by building up precautionary savings (Alderman and Paxon 1994). Credit markets in many cases provide an important means through which households de-link income and consumption in the short term. However, the common illiquidity and weakness of those markets in developing nations, or simply the lack of collateral (i.e., poverty itself), makes it difficult for many low-income households to borrow as a means to smooth consumption in bad times. As a result, many individuals in developing countries are obliged to rely on the "second-best" risk-coping strategies mentioned above, such as building up precautionary savings or by avoiding risky but more profitable economic opportunities such as investment in new technology or retraining (Deaton 1992; Morduch 1994; Skoufias and Quisumbing 2005). In the absence of formal social insurance or effective credit markets, many households thus are left to borrow from neighbors or relatives, to buy and sell durable assets (livestock, property). The result, according to development research, is that consumption-smoothing efforts in the absence of effective social risk protection often perpetuate poverty rather than alleviate it (e.g., Barrientos and Shepherd 2003; Dercon 2001; Morduch 1994).

These features of risk protection systems in developing countries also may have a significant bearing upon the dynamics of economic liberalization. In particular, a society's movements toward economic integration may be undermined by individuals' efforts to cope with

income risk outside of broad risk-pooling systems. This may be true to the extent that risk protection systems impede the willingness and/or ability to take advantages of new opportunities or to invest in human capital, more productive technology or movements into higher-yield crops. The result may be that consumption-smoothing systems do not promote greater trade and investment, even where barriers to integration fall. And where efforts to cope with the costs and risks of economic integration remain inadequate, distributional conflicts may threaten to undermine political support for globalization. The institutional foundations of economic interdependence in the developing thus may differ starkly from the embedded liberal compromise of the advanced industrialized nations where inadequate or 'second-best' income protection systems are dominant.

A second reason to expect a less favorable link between risk protection systems and globalization in the developing world arises from the more regressive and narrow reach of those systems. Research of welfare state development in the developing world suggests that social insurance mechanisms developed in few instances around the universal and redistributive objectives of the European postwar designs (Kim 2006; Mares 2005; Mesa-Lago 1978; Rudra 2004). Rather, formal social insurance programs more often emerged in close association with the development goals of import substitution and state-building, and thus targeted the more powerful public sector, urban and industrial workforces. Rural populations and workers in the informal sector were largely left outside of formal insurance programs, having been incorporated in most developing countries only through limited and narrowly-targeted social investment funds. As a result, households that face the greatest increase in risk arising from economic integration may be precisely those without access to adequate insurance, even where state involvement in social protection has entailed significant financial outlays. In these cases,

pressures for cost-cutting of social budgets may run against both the political challenges of privileged formal sector workers, and the incentives to target vulnerable populations in the rural sectors in order to sustain public support for globalization. Through both political and economic mechanisms, therefore, risk protection in low-income nations may have the paradoxical effect of inhibiting, rather than promoting, deeper economic integration.

Measuring Risk Protection

In order to test this conjecture, it is important first to measure the cross-national differences in consumption-smoothing systems. Doing so presents a thorny empirical dilemma to the extent that risk-coping strategies operate outside the realm of the state and may simply entail risk-avoidance or the purchase/sale of durable assets. Analysis of government spending, or even of participation in private capital markets, may underestimate the dimensions of private risk protection behavior in the developing world. To accommodate the diverse array of risk-coping behaviors, therefore, I look instead for evidence of *ex post* consumption smoothing capacity as a way to approximate cross-national differences in effective risk protection. Emphasis on consumption-smoothing outcomes rather than on the formal institutional contours of social insurance policies is justified by the ultimate theoretical concern of this paper, which is with the ways that societies *cope* with economic risk. Indeed, as Rodrik as argued, in order to understand the consequences of globalization, "It is not openness per se that matters; it is how well you handle it." (1998: 144). To the extent that inefficient or perverse risk-coping strategies result in the widening of social divisions rather than their amelioration, then halting growth and broader conflict may be more likely consequences of globalization than growth and narrowing income disparities in developing counties. And to the extent that these systems reside outside the realm

of state institutions, we may have weaker grounds to expect compensatory demands to result in an expanded risk-pooling function for the state in the developing world.

Consumption Smoothing as Risk Protection. The effectiveness of efforts to cope with income risk may be measured in the degree to which household consumption covaries with the growth in household income. If consumption risk is perfectly insured, then the growth rate of consumption should be independent of changes in household income (Skoufias and Quisumbing 2005). Where these measures covary, in turn, households may be said to bear alone the cost of income loss through changes in consumption. For the reasons stated above, there is good reason to expect consumption trends to provide a better approximation of risk-coping institutions in developing countries than state spending would. Not only are the poor more likely to spend the marginal rise in income, as Keynes argued, but negative shocks also tend to be transmitted more directly into consumption in lower-income household (Jalan and Ravallion 2005). I thus follow Skoufias and Quisumbing (2005) by measuring consumption insurance by estimating the covariation between the growth rate of per capita consumption and change in household per capita income. To do so I estimate for each country a coefficient linking growth in household consumption to changes in household income using the following equation:

$$\Delta \ln(c_h) = \beta \Delta \ln(y_h) + \varepsilon$$

Where c_h is annual per capita household consumption, and y_h is annual per capita income. Lower estimates of β indicate greater pooling of risk such that $\beta = 0$ would indicate complete risk sharing and $\beta = 1$ would suggest autarky, as each household must bear alone the costs of income loss through commensurate declines in consumption. This measure is not perfect, as it may underestimate the extent of vulnerability to poverty for individual households that cope with insecurity through risk-averting activities. By staying in less risky but potentially lower-income

economic activity, consumption and income may be stable, though such protection from loss would come at the cost of forgone income or productivity and even persistent poverty (Morduch 1994). Nevertheless, a measure of the capacity of households to insulate consumption from income loss may offer a better approximation of risk-coping systems than alternatives such as a measure of the volatility of income (whether at the national or household level). For if what matters are the institutional means to cope with risk, rather than the incidence of risk itself, then the outcome of such efforts should offer a better gauge of the array of formal and informal institutions that exist to smooth consumption in developing societies. This approach also offers advantages over conventional measures of government consumption in the developing world, since informal and private (family and community) mechanisms tend to play a considerably larger role than state institutions in risk pooling processes.

I estimate a coefficient to proxy for consumption risk pooling across countries in data from 106 countries covering the years 1970-2006. Since annual household panel data on income and consumption are not available for such a wide range of countries and years, I rely on annual measures of change in per capita household final consumption expenditure (measured in constant local currency units) and GDP per capita (also measured in constant local currency units). Table 1 summarizes the consumption insurance coefficients that were estimated with these data.

Table 1.						
Coefficient (β) on estimation of Δln(per capita household consumption) and Δln(per capita income)						
	Variable	**Obs. (N)**	**Mean**	**Std. Dev.**	**Min**	**Max**
Advanced Industrial Nations	β	888	0.76	0.25	0.18	1.39
Developing World	β	2960	0.90	0.30	0.31	1.65

Coefficients estimated separately for each country; see the Appendix for country list.
Data source: World Development Indicators 2008 for all available years from 1970-2006

The higher average and maximum coefficient on betas estimated in the developing world indicate that households in these nations indeed have access to less effective means of smoothing

consumption in the presence of income risk. Although these coefficients are likely to underestimate the magnitude of consumption risk borne by individuals in developing countries, the coefficients suggest that vulnerability to more frequent and potentially longer spells of poverty is much greater in the risky environment of developing economies compared to the advanced industrial nations. The next step is to understand how these differences relate to the movement toward economic integration, and in turn how risk protection efforts have mediated globalization's effect on the state in domestic economies. In the next section I test the basic expectation that broader risk protection systems in the developing world may inhibit, rather than promote, movements toward globalization.

Dependent Variable. To compare movements toward economic integration across rich and poor nations, I employ a measure of globalization developed by Dreher and colleagues (2005). This measure goes beyond the conventional proxies for openness based on imports plus exports as a percent of GDP. There are good reasons for doing so, particularly for the purpose of this analysis. For one thing, trade flows do not capture the extent of protections that may be employed in small or export-oriented economies such as barriers to imports or capital controls. It also may not measure the more theoretically-important dimension of exposure to economic risk (e.g., Kim 2007). Finally, to the extent that risk protection in developing countries has implications for the capacity of a society to take advantage of openness, then measures of a decline in barriers alone will also underestimate the potential lack of effective integration even in putatively open economies. Dreher's measure of globalization combines indicators of actual economic flows of trade and investment across borders with measures of restrictions on such exchange (see Dreher et al. 2005). This measure has an important advantage of capturing different mixes of protections measured in restrictions on trade and capital movements, as well

as the effective exposure to global capital and trade flows. In this way it is quite appropriate for the task of capturing the economic consequences of risk protection strategies across a diverse range of nations. This measure of globalization is available for the years 1970-2006 in 122 developing and advanced industrial nations; of these, sixteen countries were dropped from the set due to lack of data on the risk pooling measure. The countries included in the analysis are listed in the Appendix.

Independent Variables. The principal independent variable of interest is the measure of risk pooling for each country, which was described above. Because higher values on the consumption insurance coefficient represent *less* robust systems of risk pooling, the measure is reversed to ease interpretation through a simple transformation: $(V_{max} - V_i)$. The resulting variable (*Risk Pooling*) ranges from 0 to 1.47, such that higher scores indicate more effective risk protection systems in a given country.

Along with the measure of risk pooling, I include a set of controls in the analysis for variables that are likely to explain cross-national variations in movements toward economic integration. The first is country wealth, measured as the natural log of GDP per capita (*Ln(GDP/cap)*). More affluent countries should be those that take deeper steps toward economic integration, all else being equal. I also include a measure of government consumption, which should be supportive of economic liberalization not only in the advanced industrial nations, but also has been found to be consistent with economic liberalization in the developing world (e.g., Kurtz and Brooks 2008). In the latter countries, however, state interventions in more open economies often take the form of export promotion, rather than progressive risk-pooling programs, and thus do not proxy well for social insurance systems. The size of the public sector (*Government Consumption*) is measured as central government final consumption expenditure

(as a percent of GDP) for each country year. Government outlays thus should be positively

correlated with globalization in the developed and developing nations.

I include three domestic political variables in the analysis to control for the institutional

means through which domestic conflicts over globalization are mediated. The first is democratic

freedom, which is measured using the Freedom House indicator of political rights (*Democracy*).

This is a 1-7 index in which lower scores represent more democratic freedom; for ease of

interpretation I reverse this scale so that higher scores indicate broader political liberty. The next

political variable is an indicator of the political system design (*Pres-Parliamentary*). This is

scored 0 for directly-elected presidents, 1 for indirectly-elected presidentialism, and 2 for

parliamentary government. Finally, I include a measure of legislative fragmentation, which is the

Herfindahl index, or the sum of the squared seat shares of all parties in the legislature

(*Legislative Fragmentation*). A higher score on the index indicates greater concentration of

legislative authority. A greater concentration of authority should promote economic

liberalization as the losers from globalization have fewer opportunities to voice objections in

legislative arenas. The political system and fragmentation measures are taken from the Database

of Political Institutions (Keefer 2007).

Empirical Model. I examine the relationship between domestic risk protection and

economic integration with a cross-sectional, time-series analysis of data covering 106 countries

over the period 1970-2006. These are all cases for which estimates of both the dependent

variable (*Globalization*) and key independent variable (*Risk Pooling*) are available. Temporal

dependence in the errors is modeled as an AR-1 process while cross-sectional correlation of the

disturbances is controlled through the use of panel corrected standard errors with pairwise

selection in the computation of the Σ matrix. I do not employ a fixed-effects specification

because the critical risk pooling variable is time-invariant, and thus should capture the array of country-specific features associated with the concept of interest. In order to avoid a unit root problem associated with the lagged dependent variable specification, I lag all right-hand side variables one time period (Achen 2000).

The empirical model is estimated first in the global sample, which captures the widest range of variation possible on the critical variables of interest. To directly capture differences in the effect of risk pooling systems on economic integration across levels of economic development, I then divide the countries into the basic categories of 'developing' and 'advanced industrial' nations and compare the results across these groups. Drawing the line between these categories is fraught with peril, since the differences between countries at the top of the developing income scale and bottom of the advanced industrial grouping are murky. Indeed, many of the putative 'developing' nations have achieved tremendous gains in wealth in recent decades and even bypassed their industrialized peers in per capita income. Nevertheless, the concern here is not with the size of the economy or even per capita income; rather, it is the institutional landscape of social risk protection that divides the advanced industrial from the developing nations. Thus, even though Mexico and Turkey have been admitted into the Organization of Economic Cooperation and Development, the relatively narrow reach of state-sponsored social insurance institutions indicates that these countries should be more appropriately categorized among the developing nations. Most nations that were members of the OECD prior to 1990, however, are likely to possess the set of social, economic and political

institutions that make this an appropriate proxy for membership in the advanced industrial countries.[2] The Appendix includes a list of countries included in each development category.

Estimating Risk Pooling and Globalization

Table 3 reports a preliminary analysis of the role of risk protection in movements toward economic integration. The first specification examines the correlates of economic interdependence in the global sample. Because the nations examined in this study represent an extremely heterogeneous lot, with per capita income ranging from $81 to over $54 thousand (in constant 2000 U.S. dollars), I interact risk pooling with GDP per capita to capture possible nonlinearities in this relationship. The significance of the coefficients on the constituent terms of this interaction lends prima facie support to the expectation that risk protection systems have different impacts on the movement toward economic liberalization at high and low levels of development. Among lower-income nations, which are heavily represented in this analysis, more robust forms of consumption insurance are associated with lower levels of economic integration, while among high income nations, broader risk pooling is consistent with deeper integration. Figure 1 illustrates the marginal effects of variation in risk pooling at different levels of development as modeled in the first specification. We see that at the lower end of the per capita income scale, insuring against the risk of income loss in poorer countries has been associated with less economic integration, whereas risk protection efforts in advanced industrial nations have been strongly supportive of economic liberalization. The latter is consistent with the findings of the established literature on postwar Europe.

The second and third specifications in Table 3 probe this question further by examining the role of consumption insurance in the advanced industrial (specification 2) and developing

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[2] Turkey, which signed the Convention on the Organisation for Economic Co-operation and Development in 1961 is excluded, however. Current OECD member countries that are also excluded include recent entrants Czech Republic, Hungary, Mexico, Poland and the Slovak Republic.

(specification 3) nations. The sign and significance of the risk pooling variable across these estimations provides additional support for my expectation. Among the advanced industrial nations, the positive sign and significance of the risk pooling variable indicates that the strategies through which households insure consumption in the event of income loss have accommodated deeper movements toward openness. Among developing countries, the negative and significant sign on risk pooling in specification three indicates an opposing logic: consumption-smoothing efforts in the developing world have been associated with more diffident movements toward economic integration.

What can we make of this? Two implications of this result warrant further investigation. The first bears directly upon the plausibility of the 'compensation' hypothesis for the developing world. To the extent that risk pooling in developing countries has not been carried out through the institutions of the state, then economic integration may not spur demands for the state to step in to buffer citizens from income loss or to smooth over distributional conflicts, even if rising insecurity would make such efforts productive. Nevertheless, even if globalization has advanced where consumption smoothing is less complete, it remains possible that the deeper distributional conflicts arising from economic integration in these countries would spur demands for the state to intervene with some forms of social protection. I explore this possibility next.

Risk Pooling and State Spending in Open Economies

The divergent effects of risk pooling systems on economic integration in rich and poor countries suggest a rich agenda for future research on the role of the state in the context of globalization. Indeed, for if risk protection systems have not provided the same foundation for public support for globalization in the developing world the way they have in the advanced industrial nations, then we might also expect states to be called upon in different ways and

degrees to compensate the losers of globalization across levels of development. The next step

therefore is to examine the reciprocal effect of globalization on the size of the public sector, and

to examine how, if at all, risk pooling systems have mediated the effects of integration on

government spending. To examine globalization's effect on the state, however, demands that we

account for the endogeneity of levels of economic integration. As the analysis above revealed,

both government consumption and risk pooling efforts have been closely associated with the

movement toward global economic integration. Accordingly, we must account for the

endogeneity of globalization before examining its reciprocal effects on the public economy.

The dependent variable is now taken as the broadest measure of the size of the public

economy – government final consumption expenditure as a share of GDP (Government

Consumption). In order to disentangle the exogenous impact of globalization on the public

sector size, I begin by orthogonalizing the measure of economic integration to strip out the level

of openness that is explained by state spending, among other right-hand side variables above.

The residuals of the estimations for advanced industrial and developing countries in Table 3 thus

are used as an instrument for globalization in the next part of the analysis. This instrument

(*Globalization*[§]) should, as well as possible, separate the level of government spending that led to

greater openness in order to isolate the subsequent impact of globalization on the public

economy.

In addition to the instrument for globalization, I include the measure of consumption

insurance (*Risk Pooling*) described above, along with controls for wealth (*Ln(GDP/cap)*) and the

political variables defined earlier. I also include a measure of the demographic structure of the

society, the share of the population over age 65 (*Age 65*), to account for what is often a

significant share of government spending that is dedicated to supporting the retired population.

To account for state social spending that is allocated to support of export industries rather than social protection, I include a measure of the manufacturing share of exports (*Manufacturing Exports*). As in the analysis above, these estimations employ a panel-corrected time series analysis modeled as a first-order autocorrelation AR(1) process. Table 4 reports the results of the estimates of government consumption using the instrument for globalization and risk pooling on the right hand side.

The analysis of government spending levels offers some preliminary insights into the potential role of risk protection in shaping the role of the state in open economies. In particular, the results reported below offer further reason to believe that the ways in which societies cope with risk in the context of economic integration will imply significantly different roles for the state in rich and poor countries. The analysis utilizes the same sets of countries and development categories described earlier. For each country grouping, I examine first the direct effects of the instrumental variable for globalization (*Globalization§*), and the country-specific consumption insurance variable (*Risk Pooling*) on government consumption. The second and fourth model specifications also interact these variables in order to test the possible mediating role of risk protection on demands for broader state intervention.

Examining the coefficients on the risk pooling variable over the four models estimated in Table 4, striking difference in the effects of consumption insurance are apparent across the levels of development. More effective consumption insurance in the advanced industrial nations is associated with lower levels of government spending, all else being equal. The interaction between risk pooling and globalization in the second specification suggests that these effects are not conditional. The third specification examines this link in the developing world and finds the opposite result: that more effective consumption insurance systems are associated with higher

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levels of government spending in the context of globalization. The interaction of risk pooling and the globalization instrument in the developing countries, however, suggests that among the more open economies, more effective consumption insurance has been associated with lower levels of government intervention. Interestingly, among the developing countries, neither globalization nor the risk protection variable is significant as a predictor of government consumption when entered in the spending equation alone (without controlling for the other variable). These results call for further inquiry, and in particular may require a more refined measure of state intervention in order to better understand the causal processes lying behind the observed empirical trends. As a preliminary step, however, we may discern clear differences in the nature and consequences of risk protection efforts in the advanced industrial and developing countries. Not only have efforts to smooth household consumption from the consequences of income loss been associated with lower levels of economic integration, but in those states as well we can observe a broader public sector role for a given level of economic integration.

Conclusion

This paper is the beginning of an exploration into the nature and consequences of the ways in which societies cope with the risk. In the context of economic integration, considerable attention has been paid to the dislocations and distributional conflicts arising from the expansion of market forces, and the implications of those processes for democracy, violence, distribution and growth. In research on the advanced industrial world, the state has often sponsored broad and effective social protection systems, and efforts to cope with risk have been supportive of deeper economic integration. Where rising insecurity has followed globalization, in many cases state social protections are said to be expanded even further in order to compensate the losers of market processes. As scholars begin to ask whether a similar logic may will obtain in

developing nations it is important to begin our theoretical and empirical inquiry with recognition of the distinct and often sub-optimal nature and implications of risk-coping systems in the developing world. This paper offers preliminary evidence of these differences, and begins to explore their implications for the process of economic integration. The findings, though preliminary, urge caution in the extension of predictions about globalization's effects from rich to poor economies. The analysis, however, is suggestive of a broad agenda for research. For if less effective consumption-smoothing systems are found in lower-income countries that are more open to globalization, then what are the likely political and economic consequences of the exposure to the broader array of economic risks in those countries? How, if at all, the distributional conflicts arising from this process will be expressed in domestic politics of those nations remains an important subject of inquiry. Future research thus may productively explore the consequences of exposure to enhanced economic risks for effective participation in both political and economic processes of open, developing countries.

Table 2.
Summary of Transformed Risk Pooling Index

Risk Pooling	Obs. (N)	Mean	Std. Dev.	Min	Max
Advanced Industrial Nations	888	0.89	0.25	0.26	1.47
Developing World	2960	0.75	0.30	0	1.34
All	3848	0.78	0.29	0	1.47

Table 3.

Risk Pooling and Globalization: Panel Corrected Cross-Sectional Time Series Analysis

1970-2006

	All		Adv. Industrial		Developing	
DV: Globalization	Coeff.	Std. Err.	Coeff.	Std. Err.	Coeff.	Std. Err.
Risk Pooling $_{t-1}$	-45.56	8.84 ***	16.66	3.94 ***	-6.53	1.71 ***
Ln(GDP/cap) $_{t-1}$	3.57	1.23 ***	10.68	2.24 ***	7.45	0.62 ***
Risk Pooling * ln(GDP/cap) $_{t-1}$	5.65	1.13 ***				
Democracy $_{t-1}$	0.37	0.17 **	1.23	0.60 **	0.33	0.18 *
Leg.Fragmentation $_{t-1}$	-2.26	1.12 **	-7.07	3.37 **	-2.59	1.16 **
Gov. Consumption $_{t-1}$	0.09	0.05 *	0.48	0.19 ***	0.09	0.05 *
Pres-Parliamentary $_{t-1}$	0.99	0.41 **	2.24	0.93 **	0.66	0.47
Constant	20.58	9.22 **	-68.75	18.98 ***	-5.73	4.86
rho	0.92		0.93		0.91	
N	2374		678		1696	
R-sq	0.56		0.75		0.46	
Wald Chi2	582.9		153.0		231.9	
Prob > chi2	0		0		0	

*** $p < .01$; ** $p < .05$; * $p < .10$

Figure 1.

Marginal Effect of Risk Pooling on Globalization as Wealth Changes
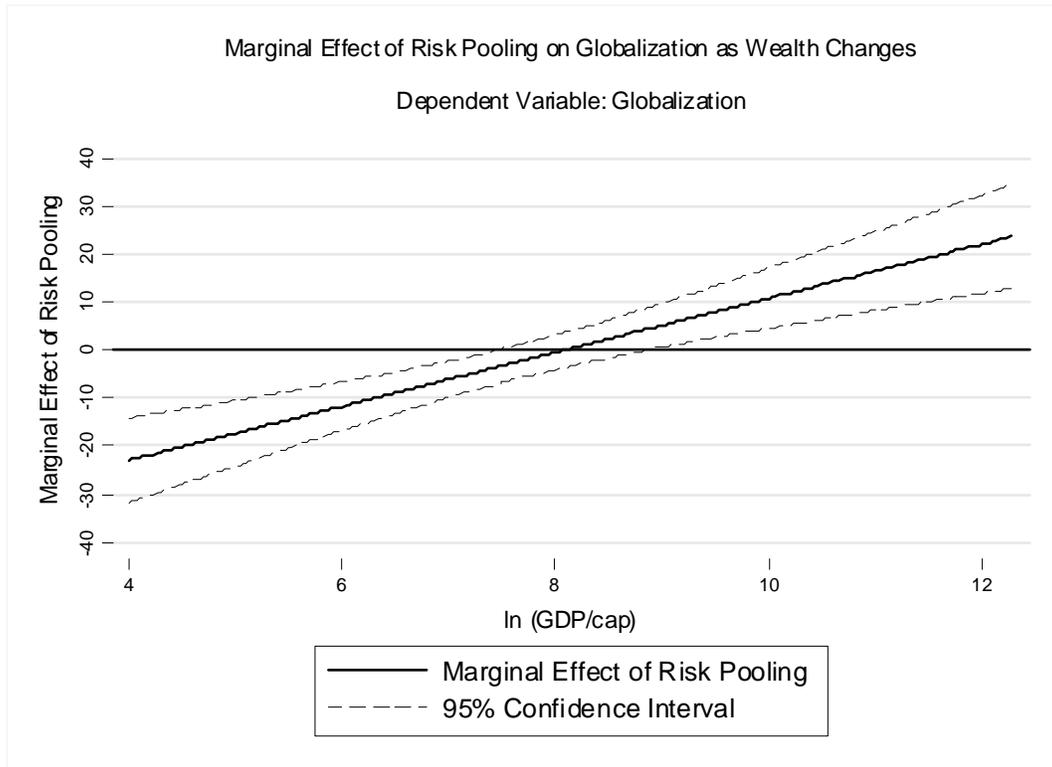
Dependent Variable: Globalization

Table 4.

Risk Protection and the State with Endogenous Globalization

Panel-Corrected Time Series analysis of Public Sector Consumption 1970-2006

DV: Government Final Consumption Expenditure (%GDP)	Advanced Industrial				Developing			
	Coef.	Std. Err.	Coef.	Std. Err.	Coef.	Std. Err.	Coef.	Std. Err.
	1		**2**		**3**		**4**	
Risk Pooling $_{(t-1)}$	**-5.02**	1.00 ***	**-5.13**	0.88 ***	**1.59**	0.89 *	**1.74**	0.86 **
Globalization§ $_{(t-1)}$	**-0.03**	0.01 **	0.02	0.04	0.02	0.01	**0.07**	0.03 **
Risk Pooling*Globalization§ $_{(t-1)}$			-0.05	0.04			**-0.07**	0.04 *
Ln(GDP/cap) $_{(t-1)}$	0.75	0.63	0.74	0.56	**0.86**	0.29 ***	**0.90**	0.29 ***
Democracy $_{(t-1)}$	0.11	0.12	0.11	0.13	-0.10	0.08	-0.10	0.08
Legislative Fragmentation $_{(t-1)}$	-0.73	0.78	-0.97	0.81	0.36	0.48	0.38	0.48
Presidential $_{(t-1)}$	0.09	0.21	0.20	0.21	**0.66**	0.26 ***	**0.67**	0.26 ***
Age-65 $_{(t-1)}$	**0.58**	0.08 ***	**0.59**	0.08 ***	**0.26**	0.09 ***	**0.25**	0.09 ***
Manufacturing Exports $_{(t-1)}$	**-0.04**	0.01 ***	**-0.04**	0.01 ***	**-0.02**	0.01 ***	**-0.02**	0.01 ***
Const.	**10.02**	5.30 *	**10.06**	4.69 **	**5.93**	2.01 ***	**5.51**	2.00 ***
rho	0.94		0.92		0.90		0.91	
N	602		602		1335		1335	
R-sq	0.828		0.838		0.5187		0.519	
Wald Chi-2	93.09		121.8		49.42		52.52	
Prob> Chi2	0		0		0		0	

*** p < .01; ** p < .05; * p < .10

Appendix.

Countries in the Analysis

Advanced Industrial Nations	Developing Nations		
Australia	Albania	El Salvador	Pakistan
Austria	Algeria	Estonia	Panama
Belgium	Argentina	Ghana	Papua New Guinea
Canada	Bahamas, The	Guatemala	Paraguay
Denmark	Bangladesh	Guinea-Bissau	Peru
Finland	Barbados	Guyana	Philippines
France	Belize	Haiti	Romania
Germany	Benin	Honduras	Russian Federation
Greece	Bolivia	Hungary	Rwanda
Iceland	Brazil	India	Senegal
Ireland	Bulgaria	Indonesia	Sierra Leone
Italy	Burundi	Iran, Islamic Rep.	Slovak Republic
Japan	Cameroon	Israel	Slovenia
Korea, Rep.	Chad	Jordan	South Africa
Luxembourg	Chile	Kenya	Sri Lanka
Netherlands	China	Latvia	Syrian Arab Republic
New Zealand	Colombia	Madagascar	Thailand
Norway	Congo, Dem. Rep.	Malawi	Togo
Portugal	Congo, Rep.	Malaysia	Trinidad and Tobago
Spain	Costa Rica	Mali	Tunisia
Sweden	Cote d'Ivoire	Malta	Turkey
Switzerland	Croatia	Mauritius	Uganda
United Kingdom	Cyprus	Mexico	Ukraine
United States	Czech Republic	Morocco	Uruguay
	Dominican Republic	Myanmar	Venezuela, RB
	Ecuador	Nicaragua	Zimbabwe
	Egypt, Arab Rep.	Niger	

Variable	Definition	Data Source
Risk Pooling	Measure of consumption insurance based on estimated coefficient β in equation: $\Delta\ln(ch) = \beta\Delta\ln(yh) + \varepsilon$. Ch is household final consumption expenditure in local currency, while yh is per capita gross domestic product. The coeffient is reversed so that higher values indicate more effective risk protection.	Data for household consumption and per capita income from the World Bank 2008.
Globalization	Index of economic globalization that combines two sub-indices based on 1) economic flows of capital and goods; and 2) restrictions on cross-border economic transactions including tariffs and capital controls.	Dreher et al. 2005.
Ln(GDP/cap)	Natural log of GDP per capita is gross domestic product divided by midyear population. GDP is the sum of gross value added by all resident producers in the economy plus any product taxes and minus any subsidies not included in the value of the products.	World Bank 2008.
Manufactures Exports	Manufactures are taken as a share of exports, defined as commodities in SITC sections 5 (chemicals), 6 (basic manufactures), 7 (machinery and transport equipment), and 8 (miscellaneous manufactured goods)	World Bank 2008.
Age 65	Population ages 65 and above is the percentage of the total population that is 65 or older.	World Bank 2008.
Democracy	Freedom House index of political rights based on 1-7 score, where lower values indicate broader freedom. The index is reversed ($8-V_i$) so that higher values indicate higher levels of democracy.	Freedom House, various years. (freedomhouse.org)
Legislative Fragmentation	This is the Herfindahl Index of Total Government Fragmentation. It is calculated as he sum of the squared seat shares of all parties in the legislature.	Keefer 2006.
Presidential-Parliamentary	This is the variable "system" in the Database of Political Institutions, where each country is scored in the following way: Parliamentary (2), Assembly-elected President (1), Presidential (0).	Keefer 2006.

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