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Abstract

Over the past half-century we have witnessed a gradual trend towards increased globalization. This phenomenon includes such diverse processes as the greater mobility of capital, goods, and services, as well as increasing diffusion of ideas, technology, and norms. Given the ubiquitous and multi-faceted nature of globalization, we evaluate the effect of economic, social, and political global integration on a particularly important outcome – human well-being. Theoretically, we argue that globalization has a large number of different effects on human well-being, including multiple positive effects and multiple negative effects. Empirically, we analyze the impact of globalization on well-being using a pooled data set, including 132 countries over the time period 1970–2007. We find that, on balance, all three forms of globalization positively affect well-being.

Keywords

globalization, health outcomes, human well-being, human development, international political economy

Introduction

The quest for human well-being[1] is a primary concern of states and the international community. Well-being is increasingly recognized as essential for long-run economic development, which is arguably the most important goal of nation-states. Sen (1999) goes further, arguing that well-being is the *sine qua non* of development, given that economic growth has little value unless it is translated into falling child mortality and greater life expectancies. Indeed, human well-being is significant because it refers to the physical well-being of everyday people, and is hence a central goal of citizens everywhere.

While most of the political science literature analyzes domestic determinants of human well-being, we argue that globalization deserves attention.[2] Globalization refers to diverse processes, including greater mobility of capital, goods, and services as well as the diffusion of ideas, norms, and faster and easier modes of communication and transport. Thus, globalization is a multi-dimensional concept that has economic, social, cultural, political, and environmental dimensions, among others (Keohane and Nye, 2000; Leidner, 2010; Martens et al., 2010). To do justice to globalization's

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multi-faceted nature, and yet obtain analytic tractability, we aggregate these various components into three general aspects of globalization: economic, social, and political.

Whether globalization is a positive or negative force in the world has long been a major point of contention among scholars. Critics argue that globalization leads to long-run economic stagnation (Frank, 1967; Chase-Dunn, 1975), greater vulnerability to economic shocks (Stallings, 1992), diminished sovereignty (Stallings, 1992; Mahon, 1996), and higher income inequality (Milanovic, 2005; Wade, 2003; Williamson, 1997). Critics further argue that globalization is a threat to social identity (Appadurai, 1998). Moreover, institutions propagating greater openness, such as the International Monetary Fund (IMF) and the World Bank, are criticized for magnifying the debt problems of the developing world (Payer, 1991) and exacerbating internationally induced recessions (Stiglitz, 2002).

Optimists, on the other hand, argue that despite its many flaws globalization nonetheless leads to long-run prosperity (Bhagwati, 2004; Collier and Dollar, 2002; Wolf, 2004) as well as a more equitable income distribution between countries (Dollar, 2005; Dollar and Kraay, 2002). Globalization has also led to the emergence of transnational networks, such as the Third World Network, which draw attention to the concerns of developing countries in international forums (Caouette, 2006). From an information perspective, the transmission of medical knowledge across national boundaries creates awareness about ways and means to enhance health conditions (Deaton, 2004). Finally, international organizations such as the WHO, UNDP, and UNICEF are important global actors seeking to enhance human well-being of citizens across the globe.

Our own position is that while globalization has many negative effects, as discussed below, on balance the powerful positive effects predominate and that human well-being is enhanced as countries become more and more deeply incorporated into the global system. In this sense our position is closest to that of prominent skeptics such as Stiglitz, who may be extremely critical of globalization, but ultimately concludes that 'because of globalization, many people in the world now live longer than before and their standard of living is far better' (2002: 4).

Our analysis proceeds in four stages. Section 1 discusses the concepts of 'globalization' and 'human well-being,' followed by a discussion of how economic, social, and political globalization both positively and negatively influence human welfare. Section 2 describes our operationalization of these concepts as well as our methodology, namely time-series cross-sectional analyses of the impact of economic, social, and political globalization on three alternative measures of human well-being – infant mortality, child mortality, and life expectancy. Section 3 reports the principal findings, namely that all three dimensions of globalization have a positive effect on human well-being. We also provide various sensitivity analyses to check the robustness of our findings. Section 4 discusses implications for social science and public policy.

Section 1: globalization and human well-being

Globalization has long been at the center of major intellectual movements in social science. Dependency theory provided a powerful critique of globalization in the 1970s, arguing that international trade and foreign direct investment were impoverishing the developing world, causing substantial inequality and undermining democratic governance.[3] The neoliberal movement of the 1980s articulated the counter-thesis, namely that free markets are the fundamental basis of human prosperity.[4] While neoliberalism emphasizes the virtues of markets in general, pride of place is given to globalization, including free international trade and liberalized capital markets.[5]

While the costs and benefits of globalization have been debated for centuries, we focus specifically on globalization since 1970, following a variety of theorists who note that globalization in

recent decades differs from that of earlier periods. Bhagwati (2004), for instance, notes that the initial period of globalization (in the 1800s) was driven by improvements in technology, transportation, and communication while globalization today is driven more by policy changes initiated by governments. Collier and Dollar (2002) similarly emphasize that recent globalization, starting around 1980, is more characterized by self-conscious participation in the global economy.

From a different perspective, Pries (2005) distinguishes between 'internationalization' (referring to inter-state interactions) versus 'globalization' (referring to a more recent process in which states are embedded in a worldwide increase in interactions, communications, transactions, etc.). While these authors emphasize different distinctions, all agree that the recent period differs markedly from earlier periods and we therefore focus our theoretical and empirical analysis on the recent globalization wave rather than earlier historical periods.

The critical dependent variable in most of this debate has been per capita GDP. Early tests of dependency theory, for instance, yielded conflicting findings as to whether globalization has a negative or positive effect on changes in per capita incomes (Chase-Dunn, 1975; Kaufman et al., 1975). The literature on contemporary globalization has maintained this emphasis on per capita GDP, with most economists arguing that globalization leads to higher incomes (e.g. Dreher, 2006; Frankel and Romer, 1999; Sachs and Warner, 1995), although dissenters make a plausible case that globalization might damage income levels (e.g. Milanovic, 2005; Reuveny and Thompson, 2008).

Recently, the literature has taken a new turn with the growing realization that per capita GDP is merely a means to an end. Sen has been particularly influential in arguing that 'an adequate conception of development must go much beyond the accumulation of wealth and the growth of gross national product and other income-related variables' (1999: 14). Per capita GDP is valuable not in itself but because it brings with it protection from famine and malnourishment as well as access to affordable housing, medicine, and education. The UNDP has long incorporated this perspective in its annual Human Development Reports and political scientists now increasingly realize that development is a broader concept than GDP alone.

This new emphasis has led to something of a revolution in development studies, with much of the prominent work focusing on human well-being rather than per capita GDP. In the most general terms, human well-being refers to the physical well-being of human beings, and hence includes such diverse aspects as caloric intake, physical health, child mortality, life expectancy, etc. From these, three measures have become the new standard in the field, namely infant mortality, child mortality, and life expectancy. Indeed, all three have been heavily utilized in a wide range of high-profile publications over the last decade (Baldacci et al., 2004; Boone, 1996; Dasgupta, 1993; Gerring et al., 2009; Gupta et al., 1999; Lake and Baum, 2001; McGuire, 2006; Moon and Dixon, 1985; Przeworski et al., 2000; Ross, 2006).[6] These three measures are widely used not only because they reflect the physical quality of human life, but also because they are standardized measures of human welfare that can be compared across a global sample of countries.[7]

While GDP per capita obviously correlates with human well-being, the two phenomena can be surprisingly divergent. In India, for example, the state of Kerela has an extremely low per capita income of below US$300, and yet human well-being is above world averages, with life expectancy of 72 years, an infant mortality rate of 13 per 1000, and illiteracy of only 9 percent (Kenny, 2005). More generally, in a global sample, GDP per capita explains only 69 percent of the variance in child mortality, 68 percent of the variance in infant mortality, and 60 percent of the variance in life expectancy. The fact that these correlations are far from 100 percent confirms that it is necessary to examine globalization's effect on human welfare outcomes per se rather than focus on the imprecise proxy that is GDP per capita.[8]

For these reasons, there is now a large and growing literature on human well-being, with almost all of it focusing on the domestic determinants of well-being. Some studies analyze the effect of democratic governance on human welfare (Boone, 1996; Dasgupta, 1993; Lake and Baum, 2001; Moon and Dixon, 1985; Przeworski et al., 2000). Others analyze the relationship between social spending and human welfare (Baldacci et al., 2004; Gupta et al., 1999). More recently, scholars are exploring the institutional determinants of welfare outcomes, such as the difference between presidential and parliamentary systems (Gerring et al., 2009).

Without denying the importance of these domestic processes, we seek to draw attention to the role of international forces in determining human well-being. To date, there have been only two studies to address this question (Bergh and Nilsson, 2010; Tsai, 2007). Tsai (2007) demonstrates that globalization positively influences the Human Development Index (HDI). This is a useful finding, but as Bergh and Nilsson (2010) note, the HDI conflates very different concepts.[9]

The second study, by Bergh and Nilsson (2010), shows that globalization positively influences life expectancy. Our study tests the sensitivity of this finding in light of different control variables and statistical techniques, but more importantly, we extend this research agenda by exploring globalization's effects on the full set of standard human welfare measures, including infant and child mortality.

Given that globalization is multi-faceted, it should be no surprise that it influences human well-being through a wide variety of mechanisms. We now articulate these mechanisms.

Economic globalization

Economic globalization refers to increased flows of capital, goods, and services across international boundaries. Dependency theorists such as Frank (1967) criticized the effect of an earlier period of globalization, arguing that advanced countries extract resources from developing countries and condemn them to long-run stagnation.[10] As noted above, however, most recent studies find that proxies of economic globalization correlate positively with income, so this line of reasoning is less prevalent today.

A more influential version of dependency theory concedes that growth can occur under globalization, but argues that such development takes an inequitable form. Evans (1979), for instance, argued that foreign direct investment leads to economic growth but that an alliance between the state and international capital will exclude the mass of the population, resulting in higher inequality and greater poverty.

Modern critics also emphasize the distributional consequences of economic globalization. Greater trade may increase inequality in developing countries because its benefits may accrue primarily to the well-off, the well-educated, and those with control over trade-related services (Foellmi and Oechslin, 2010; Wade, 2003).[11]

Critics of globalization also note that participating in international commodity markets and capital markets leaves developing countries highly vulnerable to international shocks, such as during the late 1970s and early 1980s, when rising oil prices, rising international interest rates, and falling commodity prices led to severe economic crisis in Latin America (e.g. Bacha, 1986). Globalization also increases the risk of financial contagion, contributing to capital flight in Latin America in the 1980s (Mahon, 1996) and East Asia in 1998 (Radelet and Sachs, 1998; Wade, 2000).

Yet while economic globalization certainly has serious negative consequences and risks, a large body of literature suggests that on balance globalization has had a positive effect on human well-being. Greater trade, for instance, enhances welfare outcomes through various channels (Levine and Rothman, 2006; Owen and Wu, 2007). Particularly prominent are arguments that international

trade enhances economic growth both directly (Barro and Sala-i-Martin, 1997; Dollar and Kraay, 2003; Frankel and Romer, 1999) and indirectly, by improving property rights and rule of law (Rodrik et al., 2004). Greater prosperity, in turn, provides the resources for better nutrition, clean water, and basic health care services.

From a political science perspective, economic globalization also has another important indirect effect on human well-being. Seminal work by Katzenstein (1985) and Cameron (1978) demonstrated that rising levels of international trade lead to greater public pressure for social welfare policies to ameliorate the risks that come with free trade, and this finding has been confirmed by subsequent work (Garrett, 1998; Pierson, 1994).

Capital flows also affect human well-being. Foreign direct investment (FDI), for instance, is a primary source of technological transfer and know-how to developing countries, generates employment opportunities, facilitates access to foreign resources, and improves economic efficiency more generally through spill-over effects to local firms (Blomström et al., 2000; Dunning, 2001; Reddy, 2006).

Economic globalization also entails greater trade in agricultural flows, with greater availability of corn hybrids and rice seeds, low cost nitrogen fertilizer, and better productive techniques to the developing countries. Countries in Latin America and Asia, for instance, have more than doubled their yields of staple crops since the 1950s (World Bank, 1998), while breakthroughs in agricultural technology ended famine in South Asia while reducing undernutrition from 40% in the 1970s to 23% in 1997 (UNDP, 2001).

Of course, here too globalization has double-edged effects. Greater agricultural trade led to monopolistic control of trade by countries in the West (Shiva, 2000), monocultures of high-yielding varieties of crops that adversely affect the environment (Aggarwal, 2006), and greater sensitivity to variations in agricultural prices (Dorward et al., 2002). Yet despite these problems, it is hard to gainsay that improvements in agricultural technology have had a large positive effect on food production and food supply in most developing countries.

Trade also entails trade in essential drugs, which tend to be in short supply and overly expensive, due to faulty domestic distribution and procurement strategies (Foster, 1991) as well as major pharmaceutical firms' resistance to producing generic drugs (Shadlen, 2007; Turshen, 2001). Given these high prices, greater incorporation into the international economic system is an important means of obtaining the scarce foreign exchange needed to buy essential drugs. More generally, breakthroughs in medical technology have led to the development of vaccines and essential medicines, which enhanced welfare outcomes, leading to declining mortality rates in Asia, Africa, and Latin America (UNDP, 2001).

Lastly, Burnside and Dollar's (2000) influential study argues that foreign aid only works if it is given to countries with liberalized economic systems. The World Bank (1998a) strongly endorses this perspective as well. While such conditionality raises troubling normative questions about policy autonomy in developing countries, it nevertheless suggests that nations adopting economic globalization will receive greater foreign aid, much of which is targeted at improving human health.

Social globalization

Globalization also has a social aspect. Social globalization primarily refers to the extent of informal interaction among the states, such as international tourism, media, and other forms of information exchange. Social globalization leads to greater exposure to the prevailing conditions, ideas, norms, and cultures of other states.

Many argue that globalizing culture leads to xenophobia and domestic cultural conflict. Western culture, at its worst, glorifies lust, greed, sex, and power (Schapiro, 1991). Just as conservatives view these trends, exemplified by Hollywood, as morally corrosive within America, so do developing countries, who react negatively to a vulgar and homogenizing 'McWorld' ideology.[12]

A particularly important line of criticism is that this cultural invasion threatens traditional sources of social identity, leading not only to anomie but even intra-group violence as social groups attempt to reestablish and reaffirm their sense of identity (Appadurai, 1998). While there is probably some truth to these criticisms, however, empirical research shows little evidence of a systematic link between globalization and conflict in developing countries (Ishiyama, 2004; Sadowski, 1998).

Moreover, social globalization has clear beneficial consequences. First, social globalization increases awareness about welfare conditions in other states. Huntington (1993) notes that a powerful force for democratization in the 20th century was a 'demonstration effect,' in which societies saw democratic freedoms in other countries and began to demand them locally. In much the same fashion, improvements in public health, when internationally publicized, let local citizens know that a better world is possible, particularly if they advocate for better government policy responses to poverty.

A good example is the recent mushrooming of transnational networks empowering citizens in Southeast Asia, such as ARENA (Asian Regional Exchange for New Alternatives), TWN (Third World Network), and APRN (Asia Pacific Research Network). These networks nurture local organizations, advocate for the interests of developing countries in forums like the WTO, and articulate alternative means of bringing to the attention of governments the problems of poverty and the marginalization of the poor (Caouette, 2006).

Second, social globalization not only enables states and citizens to see discrepancies in welfare conditions but also educates them in ways that can help improve human welfare. The role of the media is especially significant since it strongly facilitates the transmission of information about the latest developments in health-related medicines and services, such as knowledge about vaccines, antibiotics, and other related research (Deaton, 2004). A particularly striking example is the way that Pasteur's discovery of germs in 1873 led to a 20th-century revolution in health as states and societies increasingly understood the importance of clean water (Johnson, 2002). More recently, diffusion of knowledge about oral rehydration therapy (ORT) since 1979 has particularly been beneficial for improving health outcomes (Deaton, 2004). For instance, ORT treatments have reduced the number of child deaths due to diarrhea from 4.6 million in 1980 to 1.5 million as of 2000 (Victoria et al., 2000).[13]

Political globalization

Globalization also has a political dimension. This occurs when countries involve themselves in international political relationships, such as establishing embassies in foreign countries, joining international organizations, participating in UN missions, and entering into international treaties. These myriad forms of political globalization have complex and often contradictory effects, but countries presumably join these political organizations because they provide some kind of national benefit and this benefit sometimes takes forms which enhance human welfare.

For instance, when a developing country opens an embassy with another country this presumably enhances its ability to ask for foreign aid, emergency assistance, and even military protection, all of which can provide protection against physical hardship. Embassies also facilitate social globalization by increasing tourism and cultural exchanges.

International treaties also bring concrete benefits to countries. For instance, security treaties may deter third party aggression and ward against the negative effects of conflict on human well-being while economic treaties may facilitate trade and capital flows that undergird economic globalization. In short, countries presumably participate in the international system because they believe they will gain some benefit, and these benefits may be diffuse and range widely across military, economic, and social dimensions.

To illustrate the multi-faceted nature of political globalization, and its mixed effects, we briefly discuss in more detail one of the four sub-indices which constitute political globalization, namely 'membership in international organizations' (see Appendix A). Even within this sub-component globalization exhibits substantial diversity, including, among others, the WTO (World Trade Organization), the IMF (International Monetary Fund), the World Health Organization (WHO), the United Nations and its subsidiary organizational bodies such as the UNDP (United Nations Development Programme), UNICEF (United Nations Children's Fund), and the World Food Program.

As with other dimensions of globalization, there is ongoing controversy over whether these international bodies are a positive or negative force. Some agencies, such as the IMF and World Bank, are frequently seen as reflecting developed countries' interests, and are specifically critiqued for encouraging excessive international debt in the 1970s (Payer, 1991), exacerbating the East Asian crisis of 2008 (Stiglitz, 2002), and overly intruding in the domestic policies of developing countries (Wolf, 2004).

While we find these criticisms plausible, it is important to note that countries which go to the IMF and World Bank are usually already in considerable economic distress, such that the unfortunate correlation between IMF assistance and poor economic performance is largely spurious (Kahler, 1992). Moreover, these organizations have taken initiatives to reduce the debt burden of the poorer countries, such as the Heavily Indebted Poor Countries (HIPC) initiative in 1996, as well as the Multilateral Debt Relief Initiative (MDRI) in 2005.

Other international organizations are more unequivocally a positive force for human well-being, namely the United Nations and its subsidiary organizational bodies such as the UNDP, UNICEF, the World Food Program, and many others that primarily focus on the promotion of human welfare. To the extent to which states interact with and participate in these transnational organizations, they are more likely to adopt international norms and best practices propagated by these organizations (Cortell and Davis, 1996; Eckstein, 1988; Finnemore, 1993). In addition to their direct efforts, it is noteworthy that these international organizations also play a high profile role advocating on behalf of developing countries. The UNDP's MDGs (Millennium Development Goals) is an obvious example, in which the organization actively beseeches governments to invest in human welfare. This is not to say that membership in any of these organizations automatically enables a country to receive aid flows, but to the extent that countries belong to humanitarian agencies there presumably is a somewhat higher chance that such countries will receive aid.

Clearly there exists a rather bewildering array of arguments in favor and in opposition to globalization, as indicated by our (necessarily limited) literature review. It is therefore surprising that existing analyses of human well-being overwhelmingly focus on domestic determinants. We seek to correct this current imbalance through a rigorous and multi-faceted test of globalization's effects on human well-being.

While our own reading of the literature suggests that globalization's positive effects will predominate, there are obviously reasonable arguments to be made on both sides so we do not posit unidirectional hypotheses but rather 'let the evidence speak for itself' to resolve these

controversies. To maximize the validity of our conclusions we provide an extensive set of empirical tests. First, we evaluate three different dimensions of globalization, namely economic, social, and political. Second, we examine the effect of each of these three processes on all three of the measures commonly used to measure human well-being, namely infant mortality, child mortality, and life expectancy. This yields nine different baseline analyses, providing a reasonably disaggregated analysis of both the independent variables and the dependent variables. Third, we utilize a variety of statistical techniques to assess the overall robustness of our findings.

Section 2: empirical methods and data description

We test the impact of globalization on human welfare in a sample of 132 countries over a 38-year period (1970–2007). We exclude years before 1970 for two reasons: first, our measure of globalization simply does not extend to previous periods, and second, as noted above, many scholars argue that contemporary globalization is substantially different in character from that of earlier periods.

As was also previously noted, we disaggregate globalization into three different dimensions: economic, social, and political. This disaggregation is rooted in Keohane and Nye's (2000) observation that globalization has many dimensions, including an economic, social, and political dimension, as well as an environmental and military dimension. Dreher (2006) draws upon this typology to justify and construct novel measures of three of these dimensions, namely economic, social, and political. Illustrating the extremely multi-faceted nature of globalization, his three indices are themselves drawn upon 24 different sub-indices, each capturing some distinct element of globalization. Dreher's dataset is the best existing measure of different dimensions of globalization, not only because it disaggregates globalization but because it also takes into account the diverse components of each dimension and measures these across a broad sample of countries and years.[14] Our use of this dataset also mirrors our conception of globalization as a continuous variable, examining variations in globalization across time and across countries. We evaluate whether these variations in globalization explain differences in well-being.

Economic globalization refers to an aggregate measure of trade flows and capital flows, as well as the absence of tariffs and import barriers, thereby providing a multi-faceted measure of economic globalization.

Social globalization is a measure of the extent of informal interaction and information flows, and aggregates data on the extent of personal contact (telephone traffic, tourism, size of foreign populations, and international letters); information flows (internet users, televisions per capita, trade in newspapers) and cultural proximity (number of books, Ikea and McDonald's).

Political globalization is a measure of the extent of participation in international organizations, includes the number of embassies in a country, participation in U Security Council Missions, and number of International Treaties. This measure captures the extent to which states interact with other states and are politically active in international organizations, which provides a multi-faceted measure of political globalization.

Some aspects of the index appear problematic to us, such as the idea that the number of McDonald's is an appropriate measure of cultural proximity, but in the absence of other comprehensive measures of globalization we rely on Dreher's measure as by far the best existing measure of globalization, and one which does do justice to the multi-dimensional nature of globalization.[15]

Finally, we should emphasize that although all three measures of globalization are correlated, the correlations are fairly weak. Economic and political globalization explain only 13 percent of the variance in each other, confirming that these two phenomena are more different than they are

the same. Social and political globalization explain 16 percent of the variation in each other. The R^2 between economic and social globalization is higher, around 68 percent, but in general these three variables are tapping different components of globalization. We therefore interpret a pattern of significant findings as confirming a multi-faceted effect of globalization on human well-being rather than a redundant set of measures of a single dimension.

Our three measures of globalization range from an index of 1 to 100, where higher values indicate higher levels of globalization. We also examine the overall level of globalization, which is an aggregate of all three dimensions. A full list of all components, and the percentage role of each in the index, is provided in Appendix A. Further details can be found in Dreher (2006). Appendix B includes detailed information on the data used in this paper and Appendix C includes summary statistics.

The primary dependent variable in our analyses is human well-being. Following the bulk of previous research, we operationalize this concept with three measures, namely infant mortality, child mortality, and life expectancy. *Infant mortality* refers to the number of deaths of infants (of one year or less) per 1000 live births. *Child mortality* refers to the number of deaths per 1000 inhabitants of children under 5 years of age. *Life expectancy* refers to the number of years a newborn infant would live if prevailing patterns of mortality at the time of his/her birth were to remain the same for the rest of his/her life. We use log values of these variables to normalize their distribution, given that each is skewed. The data for all dependent variables come from *World Development Indicators* (WDI) (World Bank, 2009).

We utilize time-series cross-sectional (TSCS) analyses to examine variations both across countries and across time.[16] Since the data on the human welfare indicators (infant mortality, child mortality, life expectancy) are only available every five years for a large number of countries, we create five-year averages of all variables such that we are limited to eight different periods from 1970 to 2007.[17] Pooled data of this sort is notorious for numerous potential problems that can bias results, namely non-stationarity and correlated error terms across time. Tests indicate that the dependent variables are stationary, which removes one source of bias.[18]

The data exhibits some auto-correlation, so we include a lagged dependent variable in all analyses.[19] Given that the literature has not yet provided a rich set of control variables for human well-being, an added advantage of the lagged dependent variable is that it serves as a proxy for any omitted variables, essentially controlling for unseen factors which influence human well-being in two subsequent periods (Wooldridge, 2009).[20]

The comparative political economy literature has increasingly come to realize that country-specific effects might bias findings, given that a country-specific effect might be replicated throughout all time periods, which invalidates the important OLS (ordinary least squares) assumption of independent errors. Hausman tests confirm the existence of country-specific effects within our analyses, so we utilize a fixed-effects specification throughout. All independent variables are lagged by five years to address the potential of reverse causality.

To ward against omitted variable bias, we control for some prominent alternative explanations of human well-being. The most obvious alternative explanation is level of economic development, which provides greater private and public resources for food and health. We measure economic development with *per capita GDP*, taken from the *World Development Indicators* (World Bank, 2009).

Another common control variable is the *total population* of a country (Enikolopov and Zhuravskaya, 2007; Gerring et al., 2009; Lake and Baum, 2001; Zweifel and Navia, 2000). The logic is that governments may have difficulty effectively distributing human services throughout large populations. We utilize data for population size from the *World Development Indicators* (World Bank, 2009).

Table 1. Impact of Economic Globalization on Human Well-Being

	Model 1	Model 2	Model 3
	(log) Child Mortality	(log) Infant Mortality	(log) Life Expectancy
L.Economic Globalization	–0.00259***	–0.00211***	0.000962***
	(0.000682)	(0.000639)	(0.000184)
L.(log) GDP per capita	–0.0410*	–0.0442**	–0.0174***
	(0.0223)	(0.0203)	(0.00590)
L.Democracy	–0.00377***	–0.00364***	0.000572
	(0.00113)	(0.00105)	(0.000348)
L.(log) Total Population	–0.00429	–0.0183	–0.0461***
	(0.0262)	(0.0237)	(0.00837)
L.(log) Child Mortality	0.895***		
	(0.0191)		
L.(log) Infant Mortality		0.883***	
		(0.0184)	
L.(log) Life Expectancy			0.838***
			(0.0260)
Constant	0.744	0.995**	1.513***
	(0.519)	(0.462)	(0.123)
Observations	775	787	801
R-squared	0.940	0.942	0.750
Number of countries	132	132	132

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1
Note: LDV with Fixed Effects

Finally, a number of scholars have argued that democracies are more likely to have higher levels of human welfare because the government is responsible to the people (Boone, 1996; Dasgupta, 1993; Lake and Baum, 2001; Moon and Dixon, 1985; Przeworski et al., 2000). We measure level of democracy with the Polity IV data (2008), which provides a scale of +10 to −10 where positive values indicate a higher level of democracy.

Section 3: the positive effect of globalization on human well-being

We begin our analyses with the effect of economic globalization (Table 1). Concerning control variables, GDP per capita has the expected negative effect on child mortality and infant mortality (models 1 and 2), reflecting rich countries' ability to reduce mortality through a wide array of mechanisms, including improved capacity to purchase food and health care, increased government welfare policies, and higher levels of educational attainment, presumably leading to better personal health behavior.

Democracy also reduces infant and child mortality, again in conformance with theory, which suggests that a democratic government reflects the will of the majority of citizens, and hence will have some redistributive tendency as well as more responsive public policies in general.

The lagged dependent variables also have significant effects, suggesting (intuitively) that levels of human well-being exhibit considerable inertia, with this year's well-being highly correlated with that prevailing in earlier years.

Table 2. Impact of Social Globalization on Human Well-Being

	Model 1	Model 2	Model 3
	(log) Child Mortality	(log) Infant Mortality	(log) Life Expectancy
L.Social Globalization	–0.00337***	–0.00283***	0.000898***
	(0.000720)	(0.000688)	(0.000190)
L.(log) GDP per capita	–0.0416**	–0.0399**	–0.0197***
	(0.0200)	(0.0183)	(0.00585)
L.Democracy	–0.00392***	–0.00370***	0.000509
	(0.00104)	(0.000968)	(0.000328)
L.(log) Total Population	–0.0188	–0.0335	–0.0358***
	(0.0237)	(0.0212)	(0.00721)
L.(log) Child Mortality	0.877***		
	(0.0192)		
L.(log) Infant Mortality		0.867***	
		(0.0187)	
L.(log) Life Expectancy			0.844***
			(0.0252)
Constant	1.070**	1.284***	1.346***
	(0.496)	(0.441)	(0.106)
Observations	805	817	832
R-squared	0.943	0.944	0.754
Number of countries	138	138	139

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1
Note: LDV with Fixed Effects

Total population does not have a significant effect on infant and child mortality, which is perhaps not surprising given that strong theoretical cases have been made for the positive effects of GDP per capita and democracy, whereas the theory that large countries cannot provide effective public services is somewhat more speculative.

Interestingly, democracy does not have a significant effect on life expectancy (model 3). Upon reflection, this may not be overly surprising, given that life expectancy is determined not only by current events but also by decades of prior events, such as public policy and previous levels of globalization.

Turning to our variables of theoretical interest, we first analyze the impact of economic globalization on all three measures of human well-being. The results indicate that greater economic globalization leads to significantly lower child mortality (model 1), lower infant mortality (model 2), and higher levels of life expectancy (model 3).

Turning to our other measures of globalization, the first point to note is that the control variables and lagged dependent variables perform about the same as in Table 1, so we do not explicitly discuss these. Table 2 provides results for our second variable of theoretic interest, namely social globalization. We emphasize that the components of this measure are mostly independent of our measure of economic globalization, and hence Table 2 tests the effect of a completely different *dimension* of globalization rather than merely testing a different *measure* of economic globalization.

Social globalization does positively influence human well-being. Model 1 shows that social globalization leads to significantly lower levels of child mortality. Model 2 shows that social globalization leads to significantly lower levels of infant mortality. Model 3 shows that social globalization

Table 3. Impact of Political Globalization on Human Well-Being

	Model 1	Model 2	Model 3
	(log) Child Mortality	(log) Infant Mortality	(log) Life Expectancy
L.Political Globalization	–0.00267***	–0.00161***	0.0000589
	(0.000494)	(0.000463)	(0.000152)
L.(log) GDP per capita	–0.0248	–0.0281*	–0.00940**
	(0.0169)	(0.0156)	(0.00474)
L.Democracy	–0.00405***	–0.00389***	0.000785**
	(0.00100)	(0.000939)	(0.000315)
L.(log) Total Population	0.0405*	0.00474	–0.0254***
	(0.0243)	(0.0220)	(0.00765)
L.(log) Child Mortality	0.922***		
	(0.0150)		
L.(log) Infant Mortality		0.911***	
		(0.0144)	
L.(log) Life Expectancy			0.857***
			(0.0242)
Constant	–0.169	0.395	1.083***
	(0.470)	(0.422)	(0.107)
Observations	867	879	896
R-squared	0.944	0.944	0.761
Number of countries	152	152	153

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1
Note: LDV with Fixed Effects

leads to significantly higher levels of life expectancy. Globalization's positive effects are clearly not restricted to just those generated by economic integration. Higher levels of media, tourism, and cultural integration also have a positive effect on all three dimensions of human welfare.

Table 3 examines the effect of political globalization on human well-being. Once again, we find a pattern of positive effects. Increasing political contacts with the outside world, through embassies, international organizations, and international treaties, lead to reductions in both child mortality and infant mortality (models 1 and 2). Political globalization is also correlated with higher levels of life expectancy, although this effect is not significant at conventional levels. Note that these results are consistent with the findings of Bergh and Nilsson (2010), who found that economic globalization significantly correlates with life expectancy whereas the effect of political globalization was not robust.[21] As noted above, this is perhaps not surprising given that life expectancy is driven not only by contemporary events but also by all past events in a given country.

Finally in Table 4 we integrate all three components of globalization into a single measure. Given the significant effect of all three independent components, it is no surprise that overall globalization has a significant effect on all three dimensions of human welfare.

Sensitivity analyses

We subject our findings to three sensitivity analyses.[22] First, our analyses discussed above include all the countries for which data are available. As a robustness check, we ran all the models excluding the OECD countries.[23] Second, we utilize another popular statistical method in comparative

Table 4. Impact of Overall Globalization Index on Human Well-Being

	Model 1	Model 2	Model 3
	(log) Child Mortality	(log) Infant Mortality	(log) Life Expectancy
L.Overall Globalization	–0.00494***	–0.00373***	0.00108***
	(0.000809)	(0.000775)	(0.000221)
L.(log) GDP per capita	–0.0282	–0.0330*	–0.0213***
	(0.0201)	(0.0184)	(0.00581)
L.Democracy	–0.00363***	–0.00351***	0.000427
	(0.00104)	(0.000969)	(0.000327)
L.(log) Total Population	0.0171	–0.00401	–0.0416***
	(0.0236)	(0.0213)	(0.00767)
L.(log) Child Mortality	0.870***		
	(0.0183)		
L.(log) Infant Mortality		0.866***	
		(0.0179)	
L.(log) Life Expectancy			0.841***
			(0.0252)
Constant	0.517	0.823*	1.453***
	(0.485)	(0.434)	(0.117)
Observations	813	825	840
R-squared	0.944	0.944	0.756
Number of countries	138	138	139

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1
Note: LDV with Fixed Effects

political economy, namely panel corrected standard errors (PCSE). Third, given ongoing controversies over the appropriate way to address auto-correlation, we examine whether an AR(1) correction leads to different results than a lagged dependent variable.

First, our analyses presented in this paper include all the countries for which the data are available in order to explore the variation in welfare outcomes. However, human well-being is more of a concern for the non-OECD countries since the OECD countries have achieved relatively higher levels of human welfare. Thus, we analyze the impact of economic, social, and political globalization on a sample of non-OECD countries as well. Our results remain stable and similar to those presented in our baseline models, with the size of coefficients barely changing as well.

Second, as popularized by Beck and Katz (1995), many political economy scholars use panel corrected standard errors to investigate empirical relationships. While very common, this technique is often over utilized, and Beck (2001) notes that PCSEs are most accurate only when $T > 15$, which is not the case in our analyses ($T = 8$). Nonetheless, an advantage of PCSE is that it provides a correction for heteroskedasticity within units, so as a robustness test we re-ran all statistical models using this technique. In all nine analyses (the three measures of globalization affecting the three measures of human well-being), the results are the same as in the baseline models. Globalization always leads to significantly higher human well-being, with the single exception that political globalization does not influence overall life expectancy, as we also found in our baseline models.

Third, given the ongoing controversy as to whether one should correct for auto-correlation with a lagged dependent variable or an AR(1) process, we re-ran all nine analyses using an AR(1) correction process.[24] With respect to both infant mortality and child mortality, this alternative correction

was irrelevant. All three components of globalization continued to significantly decrease both measures of mortality.

This AR(1) correction, however, rendered insignificant globalization's effect on life expectancy. In the previous models, the political aspect of globalization did not have a significant effect in any event, but after using an AR(1) correction, neither economic nor social globalization reached conventional significance levels for life expectancy. Thus, though our baseline models show similar findings to that of Bergh and Nilsson (2010), our sensitivity analysis suggests that their result is not robust, unlike our findings for infant and child mortality, which are robust.

We do not try to adjudicate whether the lagged dependent variable or AR(1) correction is preferable, but merely underline two notable conclusions. First, the effect of globalization on mortality rates (both infant and child) is remarkably robust, having remained significant for all three aspects of globalization in all forms of robustness testing. Second, it is perhaps not surprising that life expectancy has a less robust correlation with globalization. As previously noted, life expectancy is driven by contemporary events and past events, so globalization's positive effects may be somewhat washed out by the 'noise' of past determinants of life expectancy.

Section 4: policy implications and future research

Globalization is increasingly prevalent in the modern world, and scholars have therefore rightly explored both its causes and consequences. Human well-being is also a heavily studied topic, given that citizens around the globe desire healthy children and longer lifespans. Surprisingly, however, there has been scant research on the myriad ways through which globalization might influence human well-being. We have argued that there are advantages and disadvantages to globalization, but that in spite of the shortcomings, on balance globalization has a positive effect on human welfare, due to its ability to bring increased development, technology, knowledge, and foreign support.

We tested three aspects of this argument, namely the effects of economic globalization, social globalization, and political globalization. We found that all three of these forms of globalization have enhanced human welfare, and that these positive effects are relatively robust to a wide range of statistical specifications.

These findings have significance for both social science and public policy. Concerning social science, we contribute to the longstanding debate as to whether the forces of globalization are a positive or negative force in the world. Although our results speak only to the issue of human physical well-being, we suggest that this is an important criterion for evaluating globalization. Given that we find that three different dimensions of globalization all have consistently positive effects on well-being, we provide new evidence in support of globalization.

Concerning public policy, our findings have clear implications for child welfare advocates. While organizations like the UNDP and UNICEF can, and should, continue to advocate for the interests of developing countries, they should also keep in mind that encouraging developing countries to incorporate themselves into the global system (economically, socially, and politically) will also encourage child welfare.

For these same reasons, our results should be of considerable interest to policymakers in the developing world, who often face difficult choices concerning the political costs and benefits of economic liberalization and decreased cultural autonomy. While we cannot provide here a full cost/benefit analysis of globalization, we do note that a new and important dimension must enter such calculations, namely globalization's positive effects on the well-being of children.

We qualify this conclusion, however, by reiterating that the vast theoretical literature reviewed above provides markedly mixed conclusions on the costs and benefits of globalization. We therefore suggest that there is substantial room for improving the net effects of globalization through determined efforts to minimize the negative effects. We find useful approaches such as that of Stiglitz (2007), who ultimately endorses globalization but argues that it could be much more beneficial, such as by creating a fairer trade regime, increasing foreign assistance, and providing greater debt relief to developing countries.

Given that this paper is one of the few analyses of globalization's effects on human welfare, it should be no surprise that there are a number of fruitful avenues for further research in this area. First, while we disaggregated globalization to a large extent, it will be important for future research to further disaggregate this concept and determine whether all components of globalization are important or whether certain aspects are key for enhancing human welfare. As just one example, does social globalization enhance welfare merely through increased access to information, such that increasing the raw number of radios and televisions will suffice? Or is it necessary that a global culture thoroughly pervade a country, such as the incorporation of foreign ideologies?

Second, though related, what are the primary causal mechanisms through which globalization matters? We noted a large number of reasons why globalization may help physical well-being, but in a first analysis such as this it is impossible to evaluate each mechanism separately. By gathering data on some of the intervening processes, such as personal health practices, public health spending, economic growth, etc., scholars can understand more precisely *why* globalization has such a positive effect on human well-being. Hopefully our findings will stimulate such research.

Notes

1. The terms human well-being, human welfare, and welfare outcomes will be used interchangeably to avoid redundancy.
2. We certainly do not argue that domestic factors play an insignificant role in influencing welfare outcomes, but we do argue that transnational processes have been unduly neglected.
3. Particularly influential statements of dependency theory are Frank (1967), Cardoso and Faletto (1979), Evans (1979), and Palma (1978).
4. The word 'neoliberalism' is more often used by its critics than advocates, but the term nicely captures the new ('neo') emphasis on liberal markets as the basis for long-run prosperity. See, for instance, Wade (1992).
5. Trade liberalization, for instance, was the most common condition for World Bank Structural Adjustment loans in the 1980s, and a poll of 1000 economists in five nations showed that of 27 different economic propositions, the one capturing the most support was a statement that 'tariffs and import controls lower economic welfare' (Wade, 1993: 147).
6. Some of these studies also include literacy or education while analyzing human well-being. However, we restrict our analyses in this paper to health outcomes, namely infant mortality, child mortality, and life expectancy.
7. Moreover, these indicators are indicative of poverty (Ross, 2006) and other important conditions like female education and literacy, access to clean water and sanitation, prenatal and neonatal health services, and caloric intake to name a few, that are difficult to measure because of limited data (Lipton and Ravallion, 1995; Sen, 1999; Victoria et al., 2003).
8. Correlations available from authors.
9. The HDI measures development by combining indicators of life expectancy, educational attainment, and GDP per capita. Following the recent literature, we seek to move beyond per capita GDP and focus instead on physical well-being itself. The other two HDI sub-indices are interesting dependent variables, but again, we seek to disaggregate the dimensions of well-being and evaluate how globalization affects

each. An alternative measure of human well-being is the Happy Planet Index, but one of the components of the index, life satisfaction, is subjective in nature, making it difficult to conduct comparisons across countries and over time.

10. For related arguments, see Palma (1978).
11. For related criticisms, see Goldberg and Pavcnik (2007) and Ukpere and Slabbert (2009).
12. The McWorld phrase comes from Barber (1996). For a good overview of western culture's global contaminating effects, see Sadowski (1998).
13. Of course, local conditions may diffuse or even negate the arrival of health innovations. As Appadurai notes (1996), globalizing forces meet domestic forces in a complex interaction, such that positive efforts can be derailed, such as in the case of the former President of South Africa, Thabo Mbeki, who denied access to antiretroviral drugs to the people of South Africa (Boseley, 2008).
14. The weightage given to economic, social, and political globalization and its specific sub-components are assigned by Dreher (2006). Kearny Globalization Index provides an alternative measure of various aspects of globalization as well (political engagement, technological connectivity, personal contact, and economic integration). However, the index has limited data both in terms of the countries as well as of the years covered. Dreher provides the most comprehensive data on globalization over time and across countries for three distinct dimensions of globalization.
15. Moreover, this data has also been used in previous research as well to analyze the impact of globalization on life expectancy (Bergh and Nilsson, 2010).
16. All analyses were run on Stata 10. Baseline TSCS analyses used the 'xtreg' command. Sensitivity analyses are described below.
17. Averages were created for years 1970–74, 1975–79, 1980–84, 1985–89, 1990–94, 1995–99, 2000–04 and 2005–07.
18. The xtfisher test was used to test for unit root.
19. The xtserial test confirmed the presence of auto-correlation. Sensitivity analyses, further below, investigate the effect of using an AR(1) process as an alternative correction for auto-correlation.
20. Burkhart and Lewis-Beck similarly note the advantages of a lagged dependent variable: 'with such a pervasive control in place, it is more difficult for spurious economic effects to be reported' (1994: 905).
21. They also find the impact of social globalization on life expectancy to be non-robust and even though our baseline models indicate a significant impact of social globalization, it fails to achieve statistical levels of significance under different robustness checks, as discussed below.
22. Results available from authors upon request.
23. We use the World Bank classification of the OECD countries that includes 27 high-income OECD states. The countries are Australia, Austria, Belgium, Canada, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Japan, Korea Rep., Luxembourg, Netherlands, New Zealand, Norway, Portugal, Slovak Rep., Spain, Sweden, Switzerland, United Kingdom, United States.
24. Achen (2000) argues that including a lagged dependent variable can inappropriately wash out an independent variable's significance. Keele and Kelly (2006) respond that it may be appropriate to use a lagged dependent variable for theoretical reasons, while both Wooldridge (2009) and Burkhart and Lewis-Beck (1994) note that including a lagged dependent variable ameliorates against omitted variable bias. We take an open-minded approach to this debate, and simply ask whether our results are robust to both techniques.

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Appendix A: KOF Index of Globalization

	Indices and variables	Weights
A.	Economic globalization	[38%]
	i) Actual Flows	(50%)
	Trade (percent of GDP)	(19%)
	Foreign Direct Investment, flows (percent of GDP)	(20%)
	Foreign Direct Investment, stocks (percent of GDP)	(23%)
	Portfolio Investment (percent of GDP)	(17%)
	Income Payments to Foreign Nationals (percent of GDP)	(21%)
	ii) Restrictions	(50%)
	Hidden Import Barriers	(21%)
	Mean Tariff Rate	(29%)
	Taxes on International Trade (percent of current revenue)	(25%)
	Capital Account Restrictions	(25%)
B.	Social globalization	[39%]
	i) Data on Personal Contact	(34%)
	Telephone Traffic	(26%)
	Transfers (percent of GDP)	(3%)
	International Tourism	(26%)
	Foreign Population (percent of total population)	(20%)
	International letters (per capita)	(26%)

Appendix A: (Continued)

	Indices and variables	Weights
	ii) Data on Information Flows	(34%)
	Internet Users (per 1000 people)	(36%)
	Television (per 1000 people)	(36%)
	Trade in Newspapers (percent of GDP)	(28%)
	iii) Data on Cultural Proximity	(32%)
	Number of McDonald's Restaurants (per capita)	(37%)
	Number of Ikea (per capita)	(39%)
	Trade in books (percent of GDP)	(24%)
C.	Political globalization	[23%]
	Embassies in Country	(25%)
	Membership in International Organizations	(28%)
	Participation in U.N. Security Council Missions	(22%)
	International Treaties	(25%)

Sources: Dreher (2006, 2008)

Appendix B: Data Information

Variables	Variable Label in Data Sources	Data Sources
(log) Infant Mortality	Mortality rate, infant (per 1,000 live births)	World Development Indicators (2009)
(log) Child Mortality	Mortality rate, under-5 (per 1,000)	World Development Indicators (2009)
(log) Life Expectancy	Life Expectancy at birth, total (years)	World Development Indicators (2009)
Economic Globalization	Economic globalization a	Dreher (2006), Dreher et al. (2008)
Social Globalization	Social globalization b	Dreher (2006), Dreher et al. (2008)
Political Globalization	Political globalization c	Dreher (2006), Dreher et al. (2008)
Overall Globalization Index	Overall globalization index	Dreher (2006), Dreher et al. (2008)
Democracy	Polity2	Polity IV
(log) GDP per capita	GDP per capita (constant 2000 US$)	World Development Indicators (2009)
(log) Total Population	Population, total	World Development Indicators (2009)

Appendix C: Summary Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
(log) Child Mortality	867	3.87207	1.194056	1.029619	5.838896
(log) Infant Mortality	879	3.550673	1.095544	0.8472978	5.295814
(log) Life Expectancy	896	4.12101	0.1819496	3.325988	4.401454
Economic Globalization	801	47.96573	18.6998	9.534515	95.31773
Social Globalization	832	43.07977	19.99608	8.41636	93.29947
Political Globalization	896	56.33808	21.28673	4.273285	97.65359
Overall Globalization Index	840	48.21645	16.94644	14.01402	91.90422
(log) GDP per capita	896	7.355226	1.575438	4.440333	10.8548
Democracy	896	0.9970796	7.308774	−10	10
(log) Total Population	896	15.96777	1.541387	12.23942	20.97004