

The Social Construction of Policy Reform: Economists and Trade Liberalization Around the World

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We argue that the global spread of ideas contributes to trade liberalization. Building on insights from a rich case-based literature, we suggest an explicit mechanism of trade policy diffusion: US-trained Ph.D. economists, who share a common belief in the benefits of free trade, and who operate with varying degrees of political influence around the world. We offer the first cross-national test of the impact of economists on trade liberalization using a unique dataset recording the country of residence of all 6,493 foreign-based, US-trained American Economic Association (AEA) members over the period 1981–1997. Specifically, we measure the influence of economists on the timing and extent of trade liberalization. First, we endogenize the date of trade liberalization using hazard and probit models. Controlling for alternative diffusion mechanisms and other confounding variables, our results suggest that economists significantly speed up the reform process. Second, we find that countries with greater numbers of economists are more open to trade at the end of the period. All of our results are robust to an instrumental variables strategy that employs the number of Fulbright grants allocated by the United States as an instrument for the number of US-trained economists.

KEYWORDS *constructivism, diffusion, international political economy, trade*

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“The ideas of economists . . . are more powerful than is commonly understood. Indeed the world is ruled by little else.” –John Maynard Keynes

Many countries opened their economies to international trade over the past three decades. According to the definition of trade liberalization developed by Sachs and Warner (1995), less than 30% of all countries, representing less than 30% of the world population, had open trade policies in 1980. By 2000, 73% of countries were open to trade (Wacziarg and Welch 2008). A substantial literature in economics studies the effects of trade reform on economic growth, but less is known about the fundamental causes of these recent liberalization episodes. While there is little doubt that the spread of ideas around the globe influences economic policy decisions, with the notable exception of Chwioroth (2007), progress in testing the explicit mechanisms of ideational diffusion has been slow.

By contrast, a large literature in international and comparative political economy identifies the domestic political determinants of trade policy (see, for example, Alt et al. 1996; Baker 2003; Frieden 1991; Hiscox 2002; Milner and Kubota 2005; Milner and Mukherjee 2009; Rogowski 1989). This work explains the trade preferences of social coalitions and interest groups, and the ways in which political institutions filter their interests into policy. While fundamental to our understanding of how the distributional consequences of policy shape domestic coalitions, the emphasis on relatively static interest group alignments and rigid political institutions implies that these theories can only partially explain the recent diffusion of trade liberalization around the world (Meseguer and Gilardi 2009; Oatley 2011).¹

While we do not dispute the influence of domestic interest groups and political institutions on trade policy, we follow a growing literature arguing that international factors also play an important role in explaining the diffusion of economic policy reform across countries and over time (see, for example, Brooks 2007; Cao 2009; Dobbin, Simmons, and Garrett 2007; Doyle 2010; Elkins, Guzman, and Simmons 2006; Lee and Strang 2006; Simmons et al. 2007; Simmons and Elkins 2004; Swank 2006). Specifically, we contribute to the research highlighting how the global spread of ideas influences economic policy reform (Chwioroth 2007; Quinn and Toyoda 2007). We examine how individual actors with commonly held beliefs about the benefits of free trade contribute to the recent episodes of trade liberalization around the globe.

Specifically, we build on insights from a rich case-based research program to argue that US-trained Ph.D. economists represent a mechanism of

¹For an important exception see Milner and Kubota (2005), who link trade liberalization to recent patterns of democratization.

policy diffusion. Economists influence policy through the dissemination of ideas, leading to changes in the preferences of voters and policymakers. The main hypothesis we test is that the timing and extent of trade liberalization is in part driven by the presence of US-trained economists in positions of social and political influence. To our knowledge, our paper is the first to systemically test this proposition using data from a large sample of countries.

Our empirical analysis relies on a unique dataset capturing the location and education of every economist listed in the American Economic Association (AEA) membership directory from 1981 through 1997. Using these data, we estimate two independent sets of empirical models. Our main tests endogenize the year of trade liberalization identified by Wacziarg and Welch (2008) using survival and probit analysis. In addition to our own unique constructivist indicator, we incorporate variables to capture alternative diffusion mechanisms explaining the *timing of* reform. Second, we measure the influence of economists on the *degree of* liberalization using an index of trade openness at the end of the sample period. Our findings suggest that economists significantly speed up the reform process, and that countries with greater numbers of economists are more open to trade. The results are robust to an instrumental variables strategy that employs the number of Fulbright grants allocated by the United States to each country in our sample as an instrument for the number of US-trained economists.

THE DIFFUSION OF ECONOMIC LIBERALIZATION

Our paper contributes to a large literature highlighting the contribution of economic ideas to variation in economic policies around the world. Gourevitch (1986) lead the way with his thorough exploration of policy responses to economic crises. In related work, Hall (1989) explains the diffusion of Keynesian economic ideas across the world, and Dobbins (1993) charts the impact of the Great Depression on macroeconomic orthodoxy. These important contributions stress how the degree of social acceptance of differing policy prescriptions depends on political institutions, economic shocks, and the specific configuration of social interests. What these studies share is the notion that policy innovations emerge from the ideas of professional economists.

Empirical studies in the constructivist tradition attempt to quantify the impact of economic ideas on policy outcomes. Kogut and Macpherson (2008) document the influence of the American economists on the diffusion of privatization. Valdes (1995) demonstrates the role of University of Chicago economists in the liberalization of the Chilean economy during the rule of Pinochet. Montecinos and Markoff (2010) trace economic policies to the

flow of economic ideas throughout professional networks of economists in the Americas. Our paper draws considerable inspiration from the contribution of Chwieroth (2007), the first study to provide systematic large-sample evidence that neoliberal economists serving in government contribute to capital account liberalization.

While we follow the constructivist emphasis on the role of ideas in driving the diffusion of policy, we recognize at least three alternative approaches, as outlined by Dobbin et al. (2007). Learning models share similarities with constructivist accounts in that liberalization follows changes in policymakers' perceptions about the efficacy of particular reforms. However, learning models emphasize how the accumulation of evidence, rather than the ideas of influential individuals or epistemic communities, shapes policymakers' views (Elkins and Simmons 2005; Gilardi 2010; Lee and Strang 2006; Meseguer 2004). In models of policy diffusion through learning, the observed success of early policy reformers induces a wave of similar reforms.

Another approach in the diffusion literature downplays the role of agency among political leaders, focusing instead on the coercive influence of powerful states and international organizations, which shape the policies of weaker states through physical and economic channels (Owen 2002). Coercion leads to a pattern of similar policy reforms across developing countries. One form, economic coercion, characterizes the influence of the international financial institutions, which often require a set of policy reforms in exchange for lending or financial assistance (Mosley, Harrigan, and Teye 1995; Vreeland 2003). Closer to our line of reasoning, related research emphasizes the coercive role of hegemonic ideas, whereby the influence of powerful states operates through ideational channels (Haas 1992).

A third mechanism of diffusion emphasizes competition among states, and the ways in which this competition alters policymakers' incentives to reform. This approach often highlights competition among nations for fixed quantities of investment (Dobbin et al. 2007), where the countries with the most investor-friendly policies attract the most capital from international sources (Elkins et al. 2006). The empirical implication of this approach is that policymakers are more likely to liberalize once direct competitors have done so (Meissner 2005; Simmons and Elkins 2004).

While the large and growing diffusion literature sheds important insights on the spread of economic ideas and their impact on various policy outcomes, with the notable exception of Simmons and Elkins (2004), the diffusion of trade liberalization has received surprisingly little attention. This is particularly puzzling given the evidence of a clear pattern of reform in the second half of the 20th century (see Figure 1). In the next section we develop a hypothesis relating the diffusion of trade liberalization to the spread of liberal economic ideas. We propose that the main transmitters of these ideas are US-trained economists, who operate around the world with varying degrees of political influence.

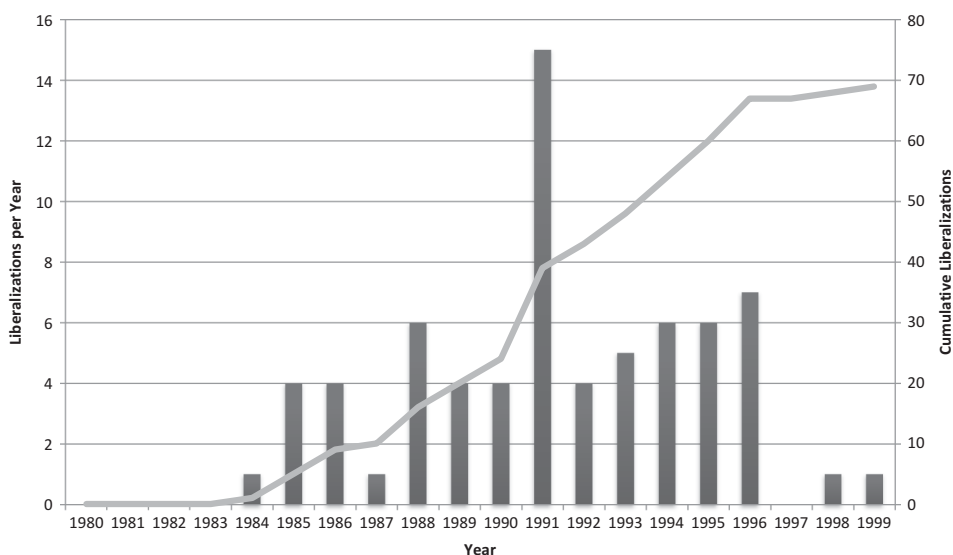


FIGURE 1 Trade liberalization, 1980–2000. The bar chart displays the number of countries that liberalized trade policy in each year, using the left axis. The line graph displays the cumulative number of liberalizations that occurred during this time period, using the right axis.

THE EFFECT OF US-TRAINED ECONOMISTS ON TRADE LIBERALIZATION

Our argument stresses the role of epistemic communities in shaping economic policy norms. We define an epistemic community as a group of subject experts who apply a shared understanding of what is warranted knowledge to the analysis of public policy. Our account of the diffusion of trade liberalization relies on the shared knowledge and beliefs among one particular epistemic community: US-trained Ph.D. economists (UTES). We conceive of UTES as an epistemic community not because economists share a particular monopoly on what is “true” or “correct,” but because they represent a group of experts with a specialization in shared models and techniques, which contribute to shared beliefs about the normative impact of certain policies. We argue that UTES influence the policy environment by changing social norms regarding the welfare benefits of trade openness. Through the transmission of liberal ideas regarding the benefits of free trade, UTES contribute to the diffusion of trade liberalization across countries.

We argue that a common graduate training in economics establishes shared norms and beliefs among UTES. There is considerable evidence of the transformative nature of doctoral training in economics that creates strong professional identities and shared norms (Caplan 2002). All UTES must learn a common set of models based on formal, deductive logic. It is through the process of learning shared models that economists develop a

common set of beliefs about human behavior (Klamer and Colander 1990). Carter and Irons (1991) cite numerous experimental studies suggesting that economists come to share a similar set of beliefs that often differ from those of noneconomists. These authors suggest that economists' shared beliefs about individual incentives and their implications for human behavior are reinforced and augmented during the course of graduate training. We focus in particular on training at American Ph.D. granting institutions, since the American tradition of economics has established itself as the dominant economics paradigm around the world (Dezalay and Garth 2002; Montecinos and Markoff 2010).

The prevailing models taught in the subdiscipline of international economics, the epistemic home of trade theory, lead to a strong consensus on the benefits of trade liberalization, especially among UTEs.² Harvard economics professor Greg Mankiw writes, "Few propositions command as much consensus among professional economists as that open world trade increases economic growth and raises living standards. Smith's insights are now standard fare in Econ 101" (Mankiw 2006). Indeed, numerous empirical studies confirm the free trade consensus. Analyzing the results of a recent survey of a random sample of members of the American Economic Association, Whaples (2006) notes, "economists overwhelmingly favor free trade—apparently, the freer the better." In particular, Whaples finds that the overwhelming majority of economists (87.5%) agree that the United States should eliminate remaining tariffs and other barriers to trade; 90% oppose restrictions on outsourcing.³ While we recognize that their views could evolve or become more nuanced over time, this robust evidence showing economists' near universal support for free trade leaves us reasonably comfortable with the assumption that they remain supportive upon return to their home countries.

Our work fits squarely with the constructivist literature linking economic liberalization to changing economic ideas (Quinn and Toyoda 2007; Simmons and Elkins 2004). Regarding the liberalization of trade policy specifically, Simmons and Elkins (2004:173) note, "The spread of liberalization both reflects and buttresses the power of a neoliberal ideational consensus." While most existing studies on the diffusion of economic ideas around the globe do not test the specific transmission mechanism, we identify and test the impact of economists as the carriers of ideas to policy. That is, individual

²One reason for the concurrence of beliefs among UTEs may be that the training in economics generally, and in the field of international economics specifically, is nearly identical among US Ph.D. granting institutions. In the field of international economics, there are no more than three graduate-level textbooks, and they share the same set of models. The result of graduate training in the field of international economics is a shared understanding among the epistemic culture about the benefits of trade liberalization. By contrast, the fields of macroeconomic, labor, and environmental economics yield much lower levels of agreement (Fuller and Geide-Stevenson 2003), perhaps because the welfare implications of prevailing models are less explicit.

³For more evidence of the free trade consensus, see Caplan (2002) and Fuller and Geide-Stevenson (2003).

UTES engage society with varying degrees of influence; and this engagement results in the diffusion of trade liberalization around the world.

Our constructivist account of trade reform argues that trade liberalization is the result of an evolving social consensus, shaped in part by economists, regarding the welfare benefits of free trade. In contrast to theories of coercion, we acknowledge that policymakers exercise a degree of policymaking discretion: decisions to liberalize are not coerced, but instead follow changes in social norms regarding the welfare impact of trade reform. We trace the transmission of norms to the presence of UTEs acting within society, either as informal opinion-makers or as formal advisers and policymakers.

Our theoretical framework borrows insights from political economy models of economic policy, in which officials maximize the probability of gaining and maintaining political power, which generally depends on some combination of votes or campaign contributions (in democracies), coercion, and/or macroeconomic performance. In these models, policymakers are constrained by some exogenous set of political institutions, electoral competition, budgetary limitations, or the threat of uprising. Subject to these constraints, policymakers choose policies that best reflect the interests of key constituents (for example, the median voter or influential interest groups) in order to gain or maintain political office. Under this framework, to better understand the impact of economists, we need to explain how economists change the preferences of citizens, or how economists change policymakers' perceptions about how trade liberalization affects aggregate economic performance.

We conceive of the body of UTEs operating in a country as an institutional parameter that shapes policymakers' incentives through a number of formal and informal channels. UTEs operate in various capacities and with various degrees of influence within countries throughout the world. We highlight two main categories, or channels, of influence. One, economists influence policy through the dissemination of ideas that lead to changes in citizens' preferences. We refer to this channel as informal influence. Two, UTEs affect policy by providing information about the macroeconomic impact of reform to key decision makers, or even more directly while serving as policymakers themselves—channels we collectively call formal influence.

The informal influence of UTEs results from the dissemination of trade theory throughout the public domain (Colander and Coats, 1989). One forum by which UTEs educate the public is through the classroom. Indeed, numerous studies find that education is strongly associated with favorable attitudes toward free trade (Hainmueller and Hiscox 2006; Mayda and Rodrik 2005; Scheve and Slaughter 2004). Thus, economists' informal influence over trade policy operates through the preferences of educated citizens. The greater their exposure to UTEs in the classroom, the more likely are citizens to favor trade liberalization (Hainmueller and Hiscox 2006). To the extent that policy

reflects the preferences of the public, the dissemination of trade theory by UTEs will contribute to trade liberalization.

While the informal influence on the preferences and beliefs of private citizens is perhaps most pronounced in educational settings, the influence of UTEs extends well beyond the classroom. Fourcade (2009:1) notes:

Economists are everywhere . . . From their vantage point in the media they comment authoritatively on economic ups and downs, housing booms and dot-com busts, global competition and exchange rate movements. And they can be found on best-seller lists, too, arguing that the subject matter of economics and the applicability of its analytical tool kit reach much further into everyday life than we ever imagined.

In this sense, economists have become leading opinion-makers in society. Part of the tool kit that they impart includes the ability to analyze the welfare effects of trade liberalization. The more economists gain and exert informal influence, the more likely citizens accept and internalize economists' view of free trade.

In terms of formal influence, economists directly shape policy while serving in government. Policymakers with incomplete information about the effects of certain economic policies are likely to rely on experts to select policies that maximize macroeconomic—and thereby political—success (Geddes 1994; Simmons and Elkins 2004). A large body of research, beginning with Coats (1981), documents the formal influence of economists on economic policy around the world. For instance, several important case studies illustrate how UTEs shape economic policies as advisors and policymakers in Latin America, with the Chilean example representing the canonical case. During the period between 1975 and 1983, economists trained at the University of Chicago accounted for the vast majority of economic policy-making positions in the government of Augusto Pinochet (Biglaiser 2002; Valdes 1995); these “Chicago Boys” are credited with the neoliberal policies implemented during the dictatorial regime. Other work documents the influence of economists and other highly-trained specialists in the highest levels of government throughout Latin America, highlighting their role as advisors and policymakers (Dominguez 1997). Examples include the MIT-educated Pedro Aspe, who led Mexico's privatization (Babb 2001), and the Harvard-trained former finance minister of Argentina, Domingo Cavallo.

Beyond Latin America, several studies demonstrate how the ideas of economists shape policies as diverse as privatization and fiscal policy. Kogut and Spicer (2004) document the influence of US economists in the transition economies of Eastern Europe in the 1990s by way of the IMF and other international institutions, and also in their role as direct advisers to governments. They argue that the disproportionate influence of UTEs, who share a

common belief in private enterprise, accounts for the rapid privatization in these economies following the disintegration of the Soviet Union. Extending the analysis to a global sample, Kogut and Macpherson (2008) found that UTEs play an important role in promoting the adoption of privatization policies in a large sample of countries. Examining fiscal policy in the United States, recent research by Goff (2010) studies the educational background of presidential economic advisors in the US government over the period 1952–2005. The study presents convincing evidence that the level of government spending correlates with the presence of economic advisors with Ivy League credentials, suggesting a common set of ideas among this particular community of scholars. These studies demonstrate how economists influence a wide range of policies through formal channels.

With the exception of Chwioroth (2007) and Kogut and Macpherson (2008), the analysis of the impact of US-trained economists on economic policy outside the United States relies on case-based accounts. While case studies are useful and informative in exploring the specific mechanisms of policy influence (Frey 2006), we seek to test whether the central insight of these studies—that economists with shared ideas influence economic policy according to those views—finds systematic support in data from a large sample of countries across multiple regions. Indeed, as Goff (2010) notes, absent broader and more rigorous evidence, there is a possibility that case studies overstate the impact of economists on policy.

The remainder of the paper provides the first cross-national quantitative investigation of the influence of economists on trade policy. The specific proposition that we investigate is that the presence of UTEs contributes to trade liberalization. We provide two independent tests. First, we examine the relationship between economists and the timing of reform. Specifically, we endogenize the decision to liberalize trade and use survival and probit analysis to model the year of liberalization as a function of the number of UTEs, controlling for alternative diffusion mechanisms. Second, we model the degree of trade openness at the end of the 20th century to test whether countries with more UTEs have more liberal trade policies.

DATA SOURCES AND DEFINITIONS

Our dataset is unique in describing the location and education of every economist listed in any edition of the American Economic Association (AEA) membership directory from 1981 through 1997. Every four years the AEA surveyed its members and published the results as a membership directory. The survey asked respondents for their name, address, phone number, institutional affiliation, the degrees they had received, and the institutions that granted them. These archival directories were not available in machine readable form and had to be converted to electronic format from the printed

directories themselves.⁴ After creating the electronic database, we coded economists for the highest degree they had received. We further classified economists based on whether their degree came from a US institution. This effort resulted in observations of 13,442 economists living outside the United States, of which 6,493 had US degrees.

While the AEA's membership survey is comprehensive it is not a complete census of all economists, US-trained or otherwise. Participation in the directory is entirely optional and undoubtedly some economists chose not to join. The survey was not sent to economists who for whatever reason were not current members of the AEA. Economists who had left academia for business or government might have been less likely to keep their memberships current or participate in the directory.⁵

The distribution of UTEs around the world is uneven, and we observe a high concentration in upper-income countries (see Table 1). We also note that the number of UTEs in the countries in our sample increased over time. The sample includes a total of 841 UTEs in 1981 and 1,811 by 1997. The mean UTEs per million population rose from .30 to .47 over the sample period. The country with the highest UTEs per million was Israel, with 10.9. We observe 15 countries without UTEs. From a regional perspective, the Americas had the highest mean UTEs per million. All regions, except Africa, showed sharp increases in UTEs during the sample period. This is consistent with the rising share of foreign students in US economics Ph.D. programs during this period (Aslanbeigui and Montecinos 1998).

TABLE 1 Distribution of American-Trained Economists

Country	Mean	S.D.
All country-years	8.01	31.66
High income: OECD	26.18	63.54
High income: non-OECD	6.40	11.47
Upper middle income	4.96	8.79
Lower middle income	2.36	3.13
Low income	1.42	2.90

Note: The table reports the mean and standard deviation of the raw counts of US-trained economists.

⁴To create the database, we scanned each page of the directory and converted the image to text using optical character recognition software. This effort resulted in over 10,500 pages of raw text which then had to be parsed into the appropriate data fields to construct the economist database. Algorithms were written to do the text processing and each of the output records was manually checked by one of the authors and at least one research assistant to ensure accuracy. Approximately 94% of the entries were parsed correctly but the remaining 6% had to be entered by hand due to poor image quality or other errors.

⁵For these reasons, the counts of economists presented here are best thought of as indicators of the relative number of UTEs in various countries rather than as a census of the absolute number of UTEs in each country.

Dependent Variables

We conduct two independent tests of the theory. The first set of tests relies on a dichotomous indicator of trade liberalization created by Sachs and Warner (1995) and extended by Wacziarg and Welch (2008).⁶ According to these indicators, in 1980 there were 104 countries considered to have “closed” or non-liberalized trade policies. By 2000, 68 of them had liberalized, leaving 36 non-liberalized countries. Table 2 reports the year of liberalization for each country opening to trade during our sample period; it also includes the list of countries that remained closed. Figure 1 displays liberalizations per year and cumulative trade liberalizations for 1981–2000.

Second, to test the robustness of our main models of trade policy reform, we measure the extent of trade liberalization using the Heritage Foundation’s “Index of Trade Freedom” (ITF), a subcomponent of the broader “Index of

TABLE 2 Year of Trade Liberalization

Year of Liberalization	Country
1984	Morocco
1985	Bolivia, Gambia, Ghana, Israel
1986	Costa Rica, Guinea, Mexico, New Zealand
1987	Guinea-Bissau
1988	Guatemala, Guyana, Jamaica, Mali, Philippines, Uganda
1989	El Salvador, Paraguay, Tunisia, Turkey
1990	Benin, Hungary, Poland, Uruguay
1991	Argentina, Brazil, Bulgaria, Cape Verde, Colombia, Czech Republic, Ecuador, Honduras, Nepal, Nicaragua, Peru, Slovak Republic, Slovenia, South Africa, Sri Lanka
1992	Albania, Dominican Republic, Romania, Trinidad & Tobago
1993	Cameroon, Kenya, Latvia, Lithuania, Zambia
1994	Cote d'Ivoire, Kyrgyz Republic, India, Macedonia, Moldova, Niger
1995	Armenia, Azerbaijan, Egypt, Mauritania, Mozambique, Tanzania
1996	Bangladesh, Ethiopia, Madagascar, Panama, Tajikistan, Venezuela
1998	Burkina Faso
1999	Burundi
Non-Liberalizers as of 2000	Algeria, Angola, Belarus, Central African Republic, Chad, China, Democratic Republic of Congo, Republic of Congo, Croatia, Estonia, Gabon, Haiti, Iran, Iraq, Kazakhstan, Lesotho, Liberia, Malawi, Malta, Myanmar, Nigeria, Pakistan, Papua New Guinea, Russia, Rwanda, Senegal, Sierra Leone, Somalia, Swaziland, Syria, Togo, Turkmenistan, Ukraine, Uzbekistan, Yugoslavia, Zimbabwe

Note: The data are from Wacziarg and Welch (2008).

⁶Countries are classified as having liberalized trade policies on the year in which the following conditions hold: (1) average tariff rates of less than 40 percent; (2) nontariff barriers and quotas cover less than 40 percent of trade; (3) the black market exchange rate is within 20 percent of the official exchange rate; (4) there are no state monopolies on major exports; (5) a non-socialist economic system.

Economic Freedom.” The ITF is a composite measure of (the absence of) tariff and non-tariff barriers to trade. In 2000, the index ranged from North Korea, at 0, to Hong Kong, at 90. Unfortunately, since the ITF begins in 1995, we cannot use these data to construct a panel across our entire sample period. Instead, as a test of the robustness of our main results, we rely on the value of the ITF at the end of the period (2000) to test the relationship between economists and the extent of trade liberalization.

Diffusion Variables

We capture the formal and informal influence of UTEs on trade liberalization using the log of one plus the ratio of the number UTEs in country i to million people in the population in year t .

We first examine the impact of UTEs on trade liberalization using the nonparametric Kaplan-Meier estimator. Without imposing covariates or a model structure on the data, we can see how likely countries were to have liberalized their trade policy by a given year, conditional on the number of UTEs in the country. Figure 2 shows the Kaplan-Meier estimates of the cumulative probability of trade liberalization. Countries with UTEs one standard deviation greater than the mean are most likely to liberalize while those one standard deviation below the mean are least likely to liberalize.

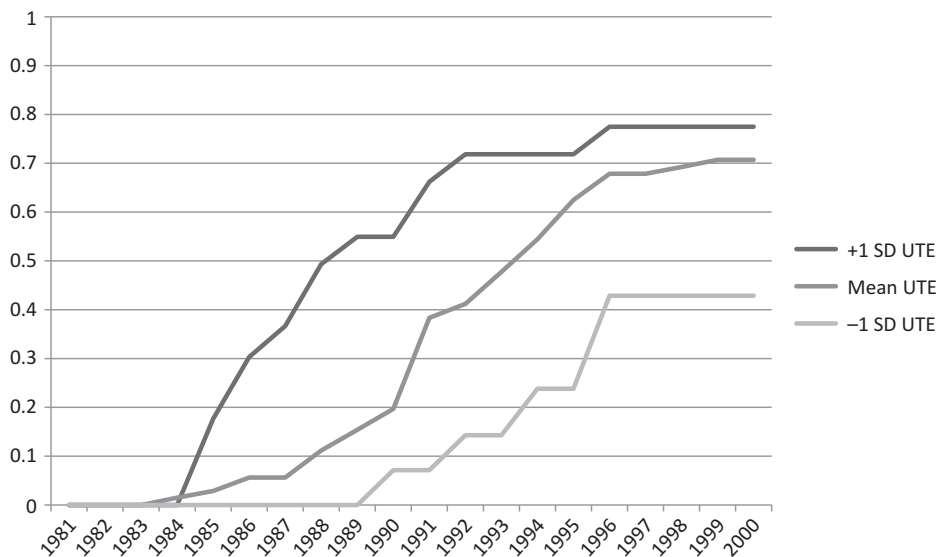


FIGURE 2 Non-parametric Kaplan-Meier estimates of trade liberalization. Countries are grouped according to the number of US-trained economists as a share of population. Countries with UTEs one standard deviation greater than the mean are shown to be the most likely to liberalize while those one standard deviation below the mean are shown to be the least likely to liberalize.

In addition to our constructivist argument that UTEs are instrumental in the diffusion of trade liberalization, we also consider the central hypotheses from the learning, coercion, and competition models of diffusion; we construct variables to capture the underlying mechanisms in each of these alternative approaches. Following Lee and Strang (2006), we measure the learning effect with differences in economic growth rates between adopters and non-adopters of trade liberalization. In particular, we use the ratio of per-capita GDP growth in adopters relative to non-adopters to proxy for the observable success of trade liberalization. To capture coercion, we follow the literature by measuring the influence of the IMF with an indicator variable set to one in any year that a country accepts IMF funds, and zero otherwise (Simmons and Elkins 2004; Henisz, Zelner, and Guillen 2005).

Countries that compete in the same export industries as liberalizers may experience competitive pressure to liberalize themselves. Our measure of the competition mechanism sums the effect of competitive pressure on each country across each of 1,250 industries (Forbes and Chinn 2004). In particular, the effect of competition in export markets on the diffusion of liberalization is measured by each country's exports in a given industry as a share of its GDP, weighted by the share of total global exports in this industry accounted for by countries that have already liberalized, and summing across all other countries and industries.⁷ Specifically,

$$C_i = \sum_j \sum_k \frac{E_{ik}}{G_i} * \frac{E_{jk}}{\sum_l E_{lk}} * L_j \quad (1)$$

where C_i is the competitive pressure to liberalize in country i ; E_{ik} is the value of exports by country i in industry k ; G_i is the GDP of country i ; E_{jk} is the value of exports by country j in industry k ; E_{lk} is the value of exports by country l in industry k ; and L_j is an indicator variable that is 1 when country j has liberalized, and 0 otherwise.⁸ This measure was then logged and z-transformed for each year in order to eliminate time trends and overdispersion. Industry is classified at the 4-digit SITC level and trade data are taken from the World Trade Flows Database (Feenstra, Lipsey, Deng, Ma, and Mo 2005).

⁷Prior studies rely on correlational measures of trade competition. Simmons and Elkins (2004) construct a matrix of bilateral trade flows between each of 182 partner countries and uses the correlation coefficient between any pair of countries in this matrix as their measure of trade competition. Cao (2009) also uses a correlational measure but one based on a matrix of each country's trade across industries instead of across trade partners. Our measure takes into account the relative size of countries and the relative importance of trade to them. Correlational measures predict that large and small countries will be just as influential on their trade competitors.

⁸This equation can be considered an example of the general class of "spatial lags" or "spatial weights" models (Anselin 1988; Simmons and Elkins 2004).

TABLE 3 Summary Statistics

Variable	N	Mean	SD	Min	Max
GDP growth	819	0.020	0.058	−0.502	0.344
GDP per capita	819	6.569	1.108	4.687	9.663
Inflation	819	2.735	1.624	−4.412	10.195
Exchange Rate Change	819	4.997	93.466	−0.229	2626.766
Polity 2	819	−1.513	6.498	−9.000	10.000
Learning	819	1.367	1.602	−2.860	4.464
Competition	819	−0.386	0.375	−2.158	0.926
Coercion	819	0.790	0.408	0.000	1.000
Education	734	2.127	2.720	0.014	19.307
US Economists	819	−1.692	1.316	−7.048	2.359
Fulbrights	819	0.591	0.608	0.000	3.830

Note: The table presents summary statistics for the sample of countries included in our hazard models of trade liberalization. The variables definitions and sources are described in the text.

Control Variables

Each of our models controls for a standard set of political and economic variables. We capture the effect of democracy using the Polity 2 variable. To control for the macroeconomic performance and size of the countries in our sample we include GDP growth and GDP per capita. We also control for inflation and exchange rate changes, measured as the year over year percentage change in the local currency to US dollar exchange rate.⁹ Table 3 reports summary statistics; Table 4 is a correlation matrix.

EMPIRICAL MODELS OF TRADE POLICY

We model the influence of UTEs on trade policy in two ways. First, we test the relationship between UTEs and the timing of trade liberalization using a Weibull survival model. We expect that countries with more UTEs will be more likely to liberalize and will do so sooner than those countries with fewer UTEs. Second, we fit an OLS model to test whether the degree of liberalization increases with UTEs. The survival and OLS models allow us to identify the effects of UTEs on the timing and the extent of trade policy liberalization, respectively.¹⁰

Survival models (sometimes called hazard models or event history models) are useful in estimating the timing of discrete events. In this case, we are estimating the decision to liberalize trade policy, measured by Sachs

⁹Economic controls are from the World Development Indicators.

¹⁰The hazard and OLS samples differ due to the nature of the analysis and data availability. The hazard models exclude countries that had liberalized trade by 1980. Furthermore, to compare among the diffusion mechanism using a consistent sample, our hazard models excluded countries if any of the diffusion variables were missing. We note that our main results are robust to an unrestricted sample (available upon request). We list the samples of countries in Tables A1 and A2 of the online appendix.

TABLE 4 Correlation Matrix

	GDP growth	GDP per capita	Inflation	Exchange Rate Change	Polity 2	Learning	Competition	Coercion	Education	Economists	US Fulbrights
GDP growth	1										
GDP per capita	-0.0169	1									
Inflation	-0.2356*	0.1008*	1								
Exchange Rate	-0.1003*	-0.0196	0.2071*	1							
Change											
Polity 2	-0.0032	0.3854*	0.1807*	0.0128	1						
Learning	-0.0242	-0.0464	0.1625*	0.0160	0.0077	1					
Competition	-0.1363*	0.2638*	0.1047*	-0.0211	0.0809	0.1354*	1				
Coercion	-0.0162	-0.2719*	-0.0939*	-0.0669	0.0216	0.0291	0.0117	1			
Education	-0.0316	0.6249*	0.2145*	0.0387	0.3823*	-0.0273	0.0594	-0.2100*	1		
US	-0.1258*	0.3614*	-0.0250	0.0253	0.1942*	-0.0619	0.3173*	0.0564	0.1232*	1	
Economists											
Fulbrights	-0.0581	0.4583*	0.0149	0.0984*	0.3542*	0.0192	0.2816*	-0.0156	0.3593*	0.5542*	1

Note: The table presents the correlation coefficients among variables included in our hazard models of trade liberalization. The variable definitions and sources are described in the text.

*Indicates significance at 99%.

and Warner (1995) and Wacziarg and Welch (2008) as a dichotomous policy choice. We utilize a model with a Weibull-distributed hazard function because it allows the baseline hazard of adoption to vary over time. This changing baseline hazard captures unmeasured factors that may increase the propensity to liberalize over time. The continuous-time Weibull model is specified as follows:

$$b(t) = e^{\beta X_t} p t^{p-1} \quad (2)$$

where $b(t)$ is the hazard of liberalizing at year t , X_t is a vector of independent variables at year t with coefficients β , and p is the parameter which determines the dependence of the baseline hazard function on the particular year. If p is less than one, then the baseline hazard is declining with time, if it is greater than one it is increasing with time, and if it is equal to one then the hazard is constant over time and the Weibull simplifies to an exponential distribution (Allison 1995).

Our data are interval censored, meaning that we only observe the year in which trade liberalization occurs rather than the precise date within each year. We correct for this feature of our data using the complementary log-log transformation of the hazard (Allison 1984). Thus (2) becomes:

$$\ln(-\ln(1 - b(t))) = \beta X_t + p \ln t \quad (3)$$

Log of t produces the discrete-time analog of the Weibull distribution; other transformations of t produce different distributions. We cluster the standard errors at the country level to account for non-independence across the repeated observations within countries.

Each observation in our survival models is a country-year, and all independent variables are lagged on year, except for our measure of economists. As discussed above, the AEA membership directory during this period was only updated once every four years. As such, we construct as measure that incorporates the most recent data available for each country-year observation. Specifically, the variable US Economists captures the natural log of the total number of US-trained Ph.D. economists per million people in the population; it varies yearly with changes in population.

Table 5 reports the results of the survival analysis on the timing of trade liberalization. The models in columns 1–4 include each diffusion variable in isolation. The results from column 1 suggest that US-trained economists are strongly associated with earlier liberalization. That is, countries with high concentrations of UTEs have a much greater hazard of liberalizing during the period under study. Not only is this effect highly statistically significant, but it substantively increases the probability that a country liberalizes in a given year. In particular, the results in column 1 indicate that increasing the

TABLE 5 Survival Models of Trade Liberalization (Complementary Log-Log)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
GDP growth	1.963 (1.921)	1.755 (1.674)	1.770 (1.935)	1.963 (1.923)	2.662 (2.075)	2.450 (2.101)	3.170* (1.901)	2.968 (1.886)
GDP per capita	0.014 (0.145)	0.132 (0.127)	0.105 (0.133)	0.158 (0.136)	-0.070 (0.171)	-0.054 (0.172)	-0.002 (0.178)	0.028 (0.200)
Inflation	0.223*** (0.072)	0.159** (0.071)	0.179** (0.071)	0.196*** (0.074)	0.221*** (0.067)	0.213*** (0.066)	0.279*** (0.082)	0.291*** (0.088)
Exchange Rate Change	-0.005 (0.010)	-0.003 (0.006)	-0.003 (0.006)	-0.003 (0.005)	-0.004 (0.008)	-0.004 (0.008)	-0.005 (0.012)	-0.005 (0.007)
Polity 2	0.098** (0.029)	0.106*** (0.026)	0.109*** (0.028)	0.098*** (0.029)	0.099*** (0.031)	0.100*** (0.031)	0.092*** (0.032)	0.086*** (0.031)
Time	1.361*** (0.225)	1.188*** (0.247)	1.195*** (0.241)	1.150*** (0.234)	1.352*** (0.230)	1.412*** (0.250)	1.588*** (0.292)	1.516*** (0.310)
Education					0.053 (0.044)	0.091** (0.042)		
US Economists	0.328*** (0.117)				0.291*** (0.108)	0.129 (0.150)	0.580*** (0.136)	0.594*** (0.152)
Learning		0.160* (0.087)						0.121 (0.087)
Competition			0.181 (0.458)					-0.090 (0.478)
Coercion				0.852* (0.459)				0.994 (0.636)
US Economists *Education						0.026* (0.015)		
Regional fixed effects?	No	No	No	No	No	No	Yes	Yes
Observations	819	819	819	819	734	734	819	819
Countries	72	72	72	72	65	65	72	72
Log-likelihood	-159.920	-160.987	-163.136	-161.327	-144.828	-144.060	-153.934	-150.641
Chi-squared	86.280	65.724	58.944	78.802	88.274	102.339	124.463	154.930

Note: Robust standard errors, adjusted for county-level clustering, in parentheses. A constant is estimated but not reported. Variable definitions and data sources are provided in the text.

*** $p < .01$; ** $p < .05$; * $p < .1$.

influence of UTEs in a country from the mean level to one standard deviation above the mean increases the probability of liberalizing in a given year from .044 to .094. In other words, a one standard deviation increase in the measured number of UTEs more than doubles the probability of liberalizing. This is comparable to the impact of increases in democracy: again based on the estimates from model 1, a one standard deviation increase in Polity 2 increases the probability of liberalizing from .044 to .076.

We note that a couple of the control variables also appear robustly correlated with the speed of trade liberalization. First, we find that democratic countries are more likely to liberalize, a result consistent with the findings of Milner and Kubota (2005). Second, countries suffering from inflation liberalize sooner, perhaps because policymakers believe that lowering the cost of imported goods may help ameliorate inflationary pressures.

We introduce the proxies for learning, competition, and coercion in models 2–4, and we find some weak support for two of these alternative channels. In particular the variables Learning (column 2) and Coercion (column 4) enter at the 90% level of confidence.

Models 5 and 6 of Table 5 consider the impact of the level of human capital using new data on educational attainment from Barro and Lee (2010). First, we were interested in whether the share of the population completing tertiary education influences the level of trade openness. While this education variable enters positively in column 5, it does not achieve statistical significance. We note that the variable US Economists remains strongly significant to the inclusion this control.

Second, we use the measure of education to test one of the informal channels of economists' influence. Specifically, our theoretical framework suggests that economists influence over policy should grow with the share of the population that receives training in economics. Though no direct measure of economics education is available, we interact US Economists with the share of the population completing tertiary education and report the results in column 6.¹¹ Indeed, the interaction term enters positive and weakly significant, consistent with the hypothesis that ideas about the benefits of trade are spread by economists in the classroom.¹²

Finally, models 7 and 8 introduce regional fixed effects. One concern is that US trained economists may concentrate in certain regions of the world, and that particular neighborhood factors may also drive trade liberalization. Since our analysis runs from 1980–2000, we were especially concerned about the simultaneous increase in both trade liberalization and economists' influence in many formerly Communist regimes during this period. As such, we include a full set of regional dummies, including a dummy for former-Soviet

¹¹We thank an anonymous reviewer for suggesting this strategy.

¹²We also tested the hypothesis that economists' influence is conditional on the degree of democracy using an interaction term. The interaction term was not statistically significant.

countries.¹³ Our main findings hold, and indeed increase in magnitude, to the inclusion of regional fixed effects (column 7). Along with the regional dummies, we include all of the alternative diffusion variables in column 8, and of these only US Economists enters with statistical significance.¹⁴

To illustrate our main results, we replicate Figure 2 on the cumulative probability of trade liberalization using the parameter estimates from the discrete time Weibull model reported in column 8 of Table 5. Using the model estimates allows us to control for the alternative diffusion mechanisms (Learning, Competition, and Coercion) as well as the additional right-hand side variables. Holding the control variables at their means; we plot the cumulative probability of liberalizing for three groups of countries: those with UTEs one standard deviation above the mean; those with the mean number of UTEs; and those with UTEs one standard deviation below the mean. Figure 3 shows that countries with greater numbers of UTEs are more likely to liberalize and those with fewer UTEs are less likely to liberalize.

Robustness

We explore the robustness of our findings to alternative specifications, and we also control for the potential endogeneity of UTEs using instrumental variables.

Table 6 reports the results of our first set of robustness tests. First, we show that the results from a probit specification are consistent with those from the complementary log-log models. Specifically, we find evidence that UTEs are significantly associated with the probability of trade liberalization, controlling for country heterogeneity (column 1). We also find that the impact of economists appears to increase with education (column 2). Model 3 introduces regional fixed effects, and model 4 incorporates the alternative mechanisms of diffusion. In all specifications, we find that economists increase the probability of reform, and in column 4 we also find some support for the Learning and Coercion channels. Figure 4 plots the

¹³The regional dummies correspond to Africa, Americas, Asia, Europe, Middle East, Oceania, and former Soviet Union. Along with regional fixed effects, we assess the robustness of the results to the inclusion of a simple spatial lag. Following Quinn and Toyoda (2007), we include the share of regional neighbors that liberalized trade during our sample period, lagged one year. When we include this simple spatial control variable, the estimated coefficient corresponding to US Economists is .399, significant at the 99% level of confidence.

¹⁴The findings suggest that the impact of the particular mechanism of diffusion depends on the policy in question. That is, it may be the case that the nature of trade liberalization makes it less susceptible to influence via the alternative diffusion mechanisms. For instance, with regard to policy learning, we find that that liberalizers tend, on average, to grow faster than non-liberalizers. However, the growth benefits of trade liberalization may not be large enough or consistent enough to provide a clear “learning” opportunity for policymakers. Trade liberalization refers primarily to the elimination of barriers to imports and may therefore be less affected by pressure from export competition in third-party markets, making import competition a less important channel of diffusion.

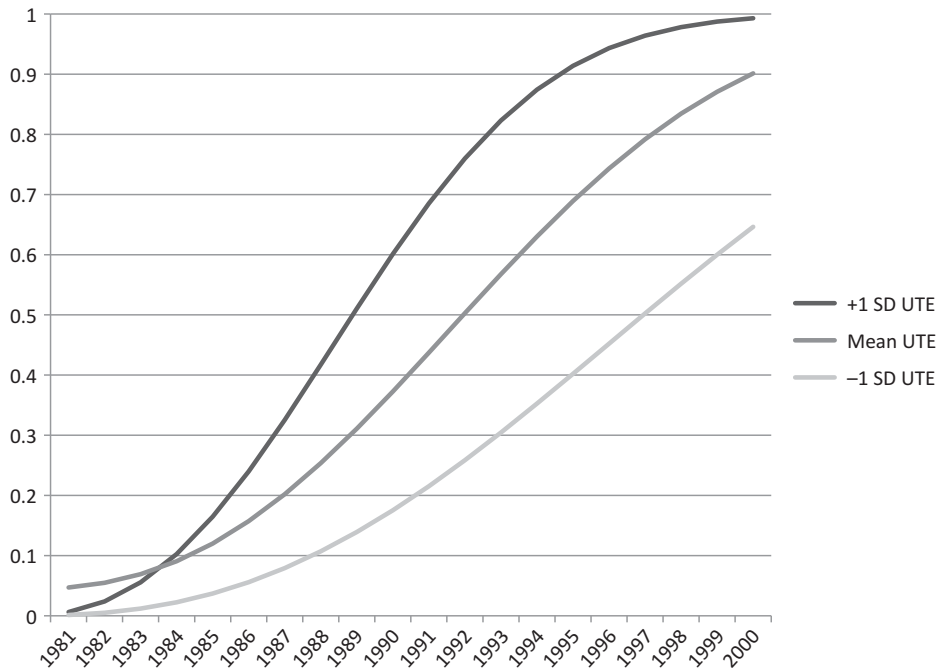


FIGURE 3 Survival model estimates of trade liberalization. The figure displays the cumulative probability of trade liberalization estimated by the discrete time Weibull model reported in column 8 of Table 5. Countries are grouped according to the number of US-trained economists as a share of population. Consistent with the Kaplan-Meier results shown in Figure 2, countries with UTEs one standard deviation greater than the mean are shown to be the most likely to liberalize while those one standard deviation below the mean are shown to be the least likely to liberalize.

marginal effects of the main diffusion mechanisms and democracy based on the coefficient estimates from model 4.

As with most cross-national tests in social science, endogeneity bias poses a serious threat to identification in our study. The particular form of endogeneity with which we are most concerned is that some unobserved factor is contributing to the number of economists as well as the propensity of a country to liberalize trade policy. Endogeneity bias could lead to spurious inferences despite our best efforts to control for such factors, especially if the confounding variable is not easily measured.

To further address the potential endogeneity of UTEs, we employ instrumental variables models using novel data. In particular, we recorded the number of yearly recipients of Fulbright grants to foreign nationals for study in the United States for each country in our sample over the period 1980–2000.¹⁵ We introduce the (logged) number of Fulbright grants per

¹⁵We are grateful to Dennis Quinn for suggesting the instrument. We obtained the data from the United States Department of State. We thank Benedict Duffy for providing access to the data.

TABLE 6 Robustness: Models of Trade Liberalization (Probit and Instrumental Variables)

	(1)	(2)	(3)	(4)	(5) IV probit	(6) IV probit	(7) IV probit
GDP growth	1.149 (1.068)	1.256 (1.182)	1.726 (1.156)	1.663 (1.165)	1.744 (1.185)	1.753 (1.167)	1.906 (1.210)
GDP per capita	0.008 (0.081)	-0.021 (0.099)	0.024 (0.105)	0.070 (0.116)	-0.058 (0.095)	-0.014 (0.101)	0.022 (0.136)
Inflation	0.124*** (0.043)	0.123*** (0.043)	0.147*** (0.047)	0.148*** (0.051)	0.139*** (0.046)	0.139*** (0.047)	0.190*** (0.053)
Exchange Rate Change	-0.002 (0.004)	-0.002 (0.003)	-0.003 (0.004)	-0.003 (0.003)	-0.003 (0.004)	-0.003 (0.003)	-0.003 (0.003)
Polity 2	0.047*** (0.014)	0.047*** (0.015)	0.044*** (0.015)	0.042*** (0.015)	0.040** (0.016)	0.037** (0.016)	0.033* (0.019)
Time	0.712*** (0.140)	0.733*** (0.150)	0.792*** (0.171)	0.764*** (0.176)	0.787*** (0.145)	0.759*** (0.152)	0.831*** (0.177)
Education		0.044* (0.024)					
US Economists	0.176*** (0.062)	0.081 (0.076)	0.300*** (0.078)	0.306*** (0.085)	0.350*** (0.105)	0.366*** (0.130)	0.625*** (0.193)
US Economists *Education Learning		0.015* (0.009)					
Competition							
Coercion							
Regional fixed effects?	No	No	Yes	Yes	No	No	Yes
Observations	819	734	819	819	819	819	819
Countries	72	65	72	72	72	72	72
Pseudo R-squared	0.174	0.185	0.199	0.219	—	—	—

Log-likelihood	-159.877	-144.525	-155.156	-151.167	-1361.015	-1338.369	-1163.830
Chi-squared	64.356	74.003	79.756	92.979	79.366	100.115	105.503
First stage							
GDP growth							
GDP per capita							
Inflation							
Exchange Rate							
Change							
Polity 2							
Time							
Fulbrights							
Learning							
Competition							
Coercion							

Note: Robust standard errors, adjusting for country-level clustering, in parentheses. A constant is estimated but not reported. Variable definitions and data sources are provided in the text.

*** $p < .01$, ** $p < .05$, * $p < .1$.

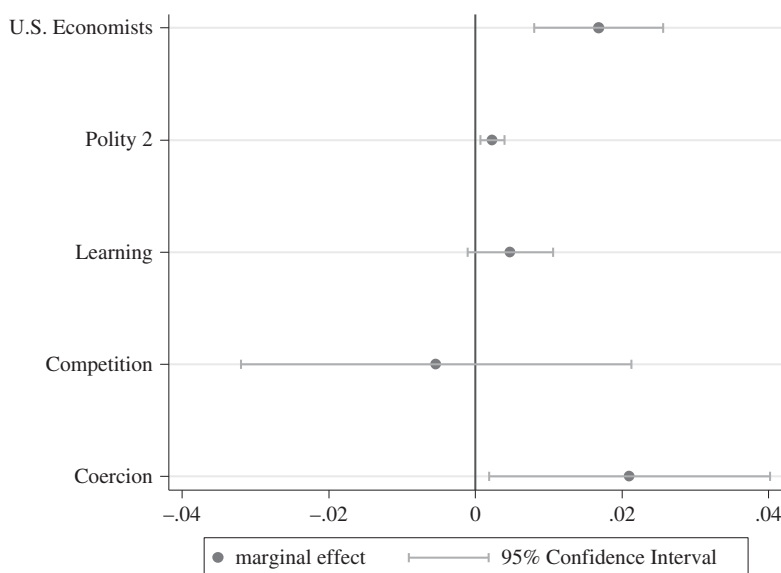


FIGURE 4 Marginal effects of main diffusion variables on trade liberalization. The figure shows the marginal effects and the corresponding 95% confidence intervals of a one-unit change in the diffusion variables, based on the results from column 4 of Table 6.

million residents for country i in year t as an instrument for the number of US-trained Ph.D. economists during the corresponding year. The instrument is strongly correlated with the number of Ph.D. economists,¹⁶ while also plausibly satisfying the exclusion restriction, which requires that Fulbright grants for study in the United States not be related to trade liberalization except through our theoretical channel.¹⁷

The results of our instrumental variables probit models of trade liberalization appear in columns 5–6 of Table 6, along with the first-stage estimates. We note from the first-stage results that the number of Fulbright grants is strongly associated with UTEs.¹⁸ We find that the variable US Economists

¹⁶The correlation coefficient is .55, significant at the 99% level of confidence.

¹⁷To our knowledge, no existing theory predicts that the decision by the US government to grant Fulbrights to a particular country has a direct impact on a country's decision to liberalize trade, though we grant that plausible conjectures can be made.

¹⁸Additional diagnostic tests based on a two-stage least squares specification (not reported) strongly support the validity of the instrument. In the first stage, the Kleibergen-Paap (2006) LM statistic (the appropriate transformation under the assumption of non-i.i.d errors) is equal to 14.83, significant at the 99% level of confidence, and so we can reject the null that the equation is underidentified. We also performed a weak-identification test. Weak identification occurs when the excluded instrument (Fulbrights) is only weakly correlated with the endogenous regressor (US Economists). The Kleibergen-Paap Wald F-statistic is 32.15, far exceeding the rule of thumb cutoff of 10, and also surpassing the Stock and Yogo critical value for a 10% Wald test (see Stock and Yogo 2005), confirming the strength of the instrument.

remains positive and significant at the 99% level of confidence (column 5); this result holds to the inclusion of the alternative diffusion mechanisms (column 6), and regional dummies (column 7). The results from instrumental variables probit models that control for the potential endogeneity of UTEs confirm our previous findings and lend strong support to our argument that economists contribute to the diffusion of trade liberalization.

Whereas the dependent variable in the survival analysis reported in Table 5 and 6 was the *timing* of liberalization, we propose a second set of robustness tests to examine the impact of UTEs on the *extent* of liberalization at the end of our time period. To measure the extent of liberalization, we use the Heritage Foundation's "Index of Trade Freedom" (ITF). The ITF captures tariff and nontariff barriers to trade and therefore is appropriate for comparing the degree of openness to trade across countries. The dependent variable, the ITF score, is measured in 2000.

Figure 5 displays the relationship between trade openness and the number of US-trained economists. We observe a positive, and statistically significant, relationship between the ITF and the number of economists. These raw data provide evidence consistent with our hypothesis.

We estimate an OLS regression to further probe this relationship, controlling for factors related to the number of economists as well as known

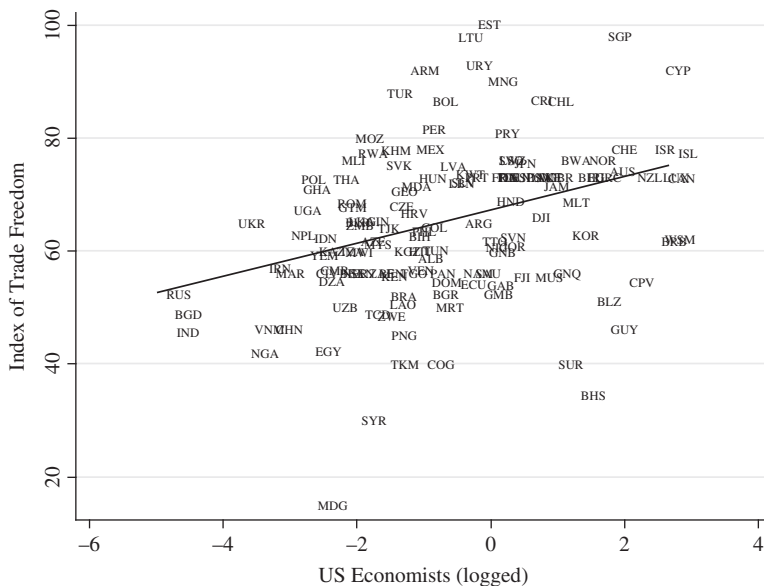


FIGURE 5 Relationship between US economists and trade openness. The figure displays the bivariate relationship between the logged number of US-trained Ph.D. economists per million inhabitants and the Index of Trade Freedom, measured in 2000: coef = 2.950; (robust)se = .608; $t = 4.85$.

determinants of trade openness.¹⁹ In particular, we estimate the following equation:

$$Y = \alpha + \delta UTEs + X'\beta + \varepsilon \quad (4)$$

where Y is the ITF score in 2000, X is a vector of control variables corresponding to 1999, and ε is the error term. The coefficient of interest is δ , which represents the estimated relationship between the number of economists in a particular country and the degree of openness to international trade.

Table 7 reports the results of the OLS models of trade openness. Our primary finding is that UTEs are significantly correlated with the extent of trade liberalization. We find no evidence that the marginal effect of economists on the degree of liberalization depends on the level of education of the population (column 2). In column 3, we note that the results from the fully specified model, including regional fixed effects, are consistent prior estimates.

We attempted to address additional factors that could lead to spurious results. First, it is possible that our estimates are driven by a small number of outliers. To investigate this concern, we generated a partial correlation plot based on the results from column 3. The plot, reported in Figure 6, shows that the relationship is quite general and does not appear driven by outliers.

Another source of concern is that an omitted variable explains the number of US-trained economists and the degree of trade liberalization. To further address the potential endogeneity of UTEs, we estimate two-stage least squares models using the number of Fulbrights as an instrument for UTEs and report the results in columns 4 and 5 of Table 7. Specifically, the instrumental variable represents the logged value of the total number of Fulbrights over the period 1980–2000 per million residents. Identification relies on the assumption that, holding constant the level of democracy, economic development, and the other economic variables for which we control, the number of Fulbrights granted by the United States for study in the United States affects the degree of liberalization only through economists. In the first stage, the Kleibergen-Paap (2006) LM statistic (which represents the appropriate transformation under the assumption of non-i.i.d errors) is equal to 14.12, significant at the 99% level of confidence, and so we can reject the null that the equation is underidentified. We also performed a weak-identification test. Weak identification occurs when the excluded instrument (Fulbrights) is only weakly correlated with the potentially endogenous regressor (US Economists). The Kleibergen-Paap Wald F-statistic is 28.59, far exceeding the rule of thumb cutoff of 10, and also surpassing the Stock and Yogo critical

¹⁹Results from a tobit specification were nearly identical. We prefer the OLS specification because it allows us to more easily conduct a series of diagnostic tests to probe the relevance of our instrumental variable.

TABLE 7 Robustness: Models of Trade Openness in 2000 (OLS and Instrumental Variables)

	(1)	(2)	(3)	(4) IV-2SLS	(5) IV-2SLS
GDP growth	25.637 (37.385)	46.208 (47.036)	−41.533 (35.258)	29.100 (37.705)	−43.352 (35.003)
GDP per capita	0.943 (1.045)	−0.383 (1.213)	1.719 (1.270)	0.473 (1.324)	0.496 (1.801)
Inflation	−0.551 (1.026)	−0.472 (1.262)	−0.682 (1.103)	−0.549 (0.999)	−0.603 (1.031)
Exchange Rate Change	5.018* (2.790)	3.968 (8.165)	3.561 (3.583)	5.299* (2.911)	3.867 (3.546)
Polity 2	0.661*** (0.248)	0.731*** (0.259)	0.746*** (0.280)	0.652*** (0.242)	0.728*** (0.265)
US Economists	2.748*** (0.824)	3.228* (1.648)	3.472*** (0.968)	3.478** (1.710)	5.103*** (1.953)
Education		0.193 (0.266)			
US Economists *Education		−0.034 (0.102)			
Regional fixed effects?	No	No	Yes	No	Yes
Observations	119	107	119	119	119
R-squared	0.335	0.353	0.430	—	—
First stage					
GDP growth				0.144 (4.349)	3.548 (4.520)
GDP per capita				0.407*** (0.091)	0.532*** (0.119)
Inflation				0.049 (0.107)	0.013 (0.109)
Exchange Rate Change				−0.437* (0.246)	−0.261 (0.307)
Polity 2				−0.033 (0.022)	−0.018 (0.024)
Fullbrights				0.683*** (0.128)	0.607*** (0.138)
Kleibergen-Paap LM statistic				14.116	11.489
K-P LM statistic				0.0001	0.0007
Chi-squared <i>p</i> value					
Kleibergen-Paap Wald <i>F</i> statistic				28.585	19.465

Note: Robust standard errors in parentheses. A constant is estimated but not reported. Variable definitions and data sources are provided in the text.

*** $p < .01$; ** $p < .05$; * $p < .1$.

value for a 10% Wald test (see Stock and Yogo 2005), confirming the strength of the instrument.

We report the results of the IV regression in column 4 of Table 7, and we find that the variable US Economists retains significance at the 99% level of confidence. US Economists also enters significant at the 99% level of confidence when we include regional dummies in column 5. Consistent

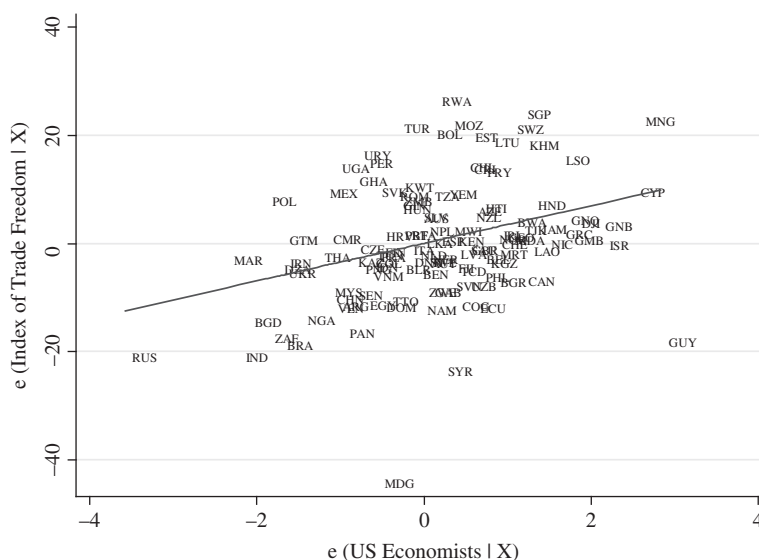


FIGURE 6 Partial correlation plot: US economists and trade openness. The figure represents the partial correlation plot showing the relationship between the logged number of US-trained Ph.D. economists per million inhabitants and the Index of Trade Freedom, measured in 2000: $\text{coef} = 3.472$; $(\text{robust})\text{se} = .968$; $t = 3.59$.

with prior estimates, our results indicate that the extent of liberalization is positively associated with the level of democracy.

Taken together, the results reported in this section are consistent with the view that US-trained economists contribute to the diffusion of trade liberalization. The findings retain their robustness to the inclusion of alternative diffusion mechanisms, multiple specifications, and to a novel instrumental variables strategy that employs the number of Fulbright grants as an instrument for economists. We find that economists speed up trade liberalization and positively impact the extent of trade openness around the world.

CONCLUSION

The purpose of this study was to systematically test the influence of ideas in shaping trade policy in a large sample of countries. Economists—and in particular, US-trained Ph.D. economists—share a common view about the benefits of free trade. We argue that members of this particular epistemic community transmit ideas across national borders. The testable empirical implication is that trade liberalization is more likely, and will be more profound, in countries with greater numbers of economists.

To test our claims, we developed a unique dataset capturing the location and education of every economist listed in the American Economic

Association (AEA) membership directory from 1981 through 1997. Based on the observations of 13,442 economists living outside the United States, we recorded the country of residence of the 6,493 economists with US degrees. We use these data to develop a unique variable to capture an ideational mechanism of trade policy reform. Following Dobbin et al. (2007), we attempt to distinguish our constructivist hypothesis from other diffusion models by introducing proxies for alternative mechanisms. In addition to retaining their robustness to these alternative explanations, our results hold to instrumental variables specifications that employ the number of Fulbright grants to the country as an instrument for the number of US-trained economists.

The results reported in this paper complement and confirm the insights of a rich case-based literature documenting the influence of economists on trade and other policy reforms. Consistent with the findings of Chwieroth (2007), our study provides strong support for a constructivist account of the recent wave of economic liberalization around the world. We show that economists speed up the process of trade liberalization, and that countries with greater numbers of economists have more open trade policies. We find very little robust support for alternative diffusion theories, to the extent that our indicators correctly capture the underlying mechanisms of these models. Consistent with previous research, we also find evidence that democracy contributes to trade policy liberalization. Our main result is that ideas are at least as important as democracy in shaping trade policy around the world.

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APPENDIX

TABLE A1 Sample of Countries included in Models of Trade Liberalization (see Tables 5 and 6)

Algeria	Gambia, The
Angola	Ghana
Argentina	Guatemala
Azerbaijan	Guinea-Bissau
Bangladesh	Guyana
Benin	Haiti
Bolivia	Honduras
Brazil	Hungary
Bulgaria	India
Burkina Faso	Iran, Islamic Rep.
Burundi	Israel
Cameroon	Jamaica
Central African Republic	Kenya
Chad	Madagascar
China	Malawi
Colombia	Mali
Congo, Dem. Rep.	Mauritania
Costa Rica	Mexico
Cote d'Ivoire	Morocco
Dominican Republic	Mozambique
Ecuador	Nepal
Egypt, Arab Rep.	New Zealand
El Salvador	Nicaragua
Gabon	Niger

TABLE A2 Sample of Countries included in Models of Trade Openness (see Table 7)

Algeria	Cyprus	Hungary	Mozambique	South Africa
Argentina	Czech Republic	India	Namibia	Spain
Australia	Denmark	Indonesia	Nepal	Sri Lanka
Austria	Djibouti	Iran, Islamic Rep.	Netherlands	Swaziland
Azerbaijan	Dominican Republic	Ireland	New Zealand	Sweden
Bangladesh	Ecuador	Israel	Nicaragua	Switzerland
Belarus	Egypt, Arab Rep.	Italy	Niger	Syrian Arab Republic
Belgium	El Salvador	Jamaica	Nigeria	Tajikistan
Benin	Equatorial Guinea	Kazakhstan	Norway	Tanzania
Bolivia	Estonia	Kenya	Panama	Thailand
Botswana	Fiji	Kuwait	Papua New Guinea	Trinidad and Tobago
Brazil	Finland	Kyrgyz Republic	Paraguay	Tunisia
Bulgaria	France	Lao PDR	Peru	Turkey
Burkina Faso	Gabon	Latvia	Philippines	Uganda
Cambodia	Gambia, The	Lesotho	Poland	Ukraine
Cameroon	Georgia	Lithuania	Portugal	United Kingdom
Canada	Ghana	Madagascar	Romania	Uruguay
Chad	Greece	Malawi	Russian Federation	Uzbekistan
Chile	Guatemala	Malaysia	Rwanda	Venezuela, RB
China	Guinea	Mauritania	Saudi Arabia	Vietnam
Colombia	Guinea-Bissau	Mexico	Senegal	Yemen, Rep.
Congo, Rep.	Guyana	Moldova	Singapore	Zambia
Costa Rica	Haiti	Mongolia	Slovak Republic	Zimbabwe
Croatia	Honduras	Morocco	Slovenia	

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