

Uncovering and Explaining Strategies of Global Economic Engagement

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Abstract

One of the most fundamental economic policy choices a society makes is how to order its economic relations with the world. What models do states use to structure this multi-faceted decision, and how do they choose among these alternatives? We combine data on trade policies, foreign investment, the exchange rate, capital flows, and international treaties to discover states' strategies of global economic engagement. Dynamic clustering suggests five distinct strategies which describe coherent models that are *prima facie* valid across time and space. We examine the economic and political drivers of states' choices among these competing strategies, focusing on the tradeoffs between public and private goods activated by differing styles of openness. In particular, we uncover a production-focused and risk-heavy model of global integration favored by non-democracies, and cautious (or insular) models of semi-globalization favored by (large) democracies. Decisions over global economic engagement are more than a binary choice or a single issue dimension, but nonetheless can be systematically described and explained by fundamental features of states' political economies.

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Introduction

Scholars of international and comparative political economy have long focused on describing stylized models of how states engage with the global economy.¹ A history of the global economy could be structured as a succession of such models: mercantilism, *laissez faire*, colonialism, classical orthodoxy, autarky, and social democracy might comprise the early periods; socialist development, world systems, import-substitution industrialization, Washington consensus and neoliberalism, coordinated market economies, export-led growth, and the ‘developmental state’ the later ones.² In this paper, we follow this instinct to develop stylized models but apply contemporary methods of unsupervised learning to discover strategies of global economic engagement. We also focus on the contemporary era which merits continuing scrutiny amidst a proliferation of proposed models and dramatic developments in how both developed and developing countries interact with the world economy since the end of the Cold War. What models have states followed in the current era of globalization to structure their relationships with the global economy, and what explains their evolving choices among these competing approaches?

Governments are deluged with policy choice. They control a vast array of policy levers that determine their relationship to the global economy: trade barriers and agreements; the exchange rate regime, exchange rate level, and monetary policy; investment barriers and agreements on FDI; and limits on the movement of capital. Each can be applied differently across sectors, industries, groups, firms, and individuals, giving states infinite policy mixes. While each dimension might be determined (and so understood) separately, we follow much of the literature’s premise that states strategically choose from among a finite set of coherent clusters of policies that represent distinct strategies or models. This is so because policies interact with one another and so should be consonant; because models help states manage overwhelming choice; because states share similar background economic and political characteristics; and because states learn about strategies from one another. At the same time, distinct strategies should be evident and clustering would be particularly valuable if a single policy dimension (the ‘level of globalization’, e.g.) does *not* fully capture an underlying multidimensionality in globalization strategies. These two assumptions – coherent groups of policies arrayed in a multidimensional latent space – comprise a ‘cluster conjecture’.

To uncover strategies of global engagement, we assemble a large set of pre-existing data across the policy areas described above. Due to pervasive missingness, we prune the data to a manageable set of countries (107) and measures (20) that achieve good coverage, and then impute missing values. Because strategies are the object of discovery, we employ an unsupervised clustering approach via a

¹ Wallerstein (1982); Johnson (1982); Williamson (1990); Woo and Woo-Cumings (1991); Janoski and Hicks (1994); Hall and Soskice (2001); Holzinger and Knill (2005); Rodrik (2006); Riesco (2007).

² Katzenstein (1977); Haggard (1990); Frieden (2007); Rodrik (2000); Chang (2006); Brooks and Kurtz (2012).

Gaussian Hidden Markov model which directly models the dynamics of cluster evolution over time. After initial inspection, we post-process the clustering results and show that five clusters reasonably describe competing models of global economy integration. These clusters are coherent in the sense that countries in the same cluster are similar (in terms of policy, but also variation over time and space), and because countries' policy choices are clearly not orthogonal to one another. Clustering is also useful, however, because countries' economic policies do not fall neatly into a single group or map onto a single issue dimension. The value of clustering is borne out by evidence.

We devote considerable attention to describing these five clusters in the main text and summarize here only briefly. Our first cluster represents a set of exclusively developed countries that have adopted an open but orderly posture to the global economy. They are economically connected via global production networks to a second cluster of production-focused economies with extreme levels of trade exposure and that are located on the 'semi-periphery' of the developed world. A third cluster of developed and developing countries has cautiously pursued all facets of global integration but in studied moderation. A fourth cluster represents a set of insular non-traders that still engage with the elements of the global economy and ordering institutions in various ways, while the fifth cluster is countries with a uniformly autarkic pose toward the global economy.

In the final section of the paper, we examine the role of competitive elections and democracy in shaping choices over these institutions (Milner and Mukherjee, 2009). Building on the literature, we argue that globalization entails three fundamental tradeoffs for states: between state/domestic control of a smaller and less dynamic economy versus broad-based but less controllable growth unleashed by international exchange; between consumption and production; and between relative certainty and risk. We argue that non-democratic polities, owing to their need for private goods to target small winning coalitions, will favor either relative closure, to control allocation in the economy, or embrace risk and global production, to channel private goods to pro-integration elites. This leads them particularly to clusters 5 and 2. Democracies, on the other hand, will tend to favor broad-based growth, but one that tempers the excesses of global risk and focuses more on consumption than production. This leads to clusters 3 and 1.

We find that non-democracies have indeed adopted a bifurcated approach to globalization. Some non-democracies have relatively autarkic modes of global engagement (cluster 5), however, another group of non-democracies have embraced the excessive risks and harsh market disciplines of integration into global production networks (cluster 2). Rich democracies have primarily clustered into highly (but not excessively) open modes of integration (cluster 1) or have adopted cautious strategies of global engagement (cluster 3) to target growth, balanced consumption, and limited risk. Country size may also play a moderating role, as large economies have embraced the insularity of cluster 4 as they democratize while smaller economies have tended to exit cluster 4 (for clusters 3 and 1) as they democratize. We therefore illustrate how fundamental political institutions play a crucial in shaping the ensembles of policies adopted by states, and show that democratization has

no one-to-one mapping with the ‘level of globalization’ in a world of competing economic strategies.

In addition to the long-running interdisciplinary debates about the origins of developmental strategies and global order, our research contributes to three other literatures. First, we build on recent literature in International Political Economy examining how different policy domains interact (Tobin and Busch, 2010a; Singer, 2010; Copelovitch and Pevehouse, 2013; Peters, 2014, e.g.). Second, we follow recent work exploring latent variable models in IR data. (Kim, Liao and Imai, 2020; Fariss, 2014; Bailey, Strezhnev and Voeten, 2017, e.g.) Finally, we add to the vast literatures on democratic institutions, on one hand, and external economic policies and strategies of global economic integration, on the other hand (Mansfield, Milner and Rosendorff, 2002; Milner and Kubota, 2005a; Kono, 2008, e.g.). Our approach based on clusters of policies illustrates important non-linearities in the relationship between democracy and globalization. Only some strategies of globalization – emphasizing broad growth, consumption, and managed risk – are compatible with democracy, and this is truer for small countries than for large ones.

Discovering Clusters of External Economic Policies

Elements of global economic engagement and policy bundles

A strategy of global economic engagement is the consciously chosen set of policies a country employs to govern the interaction of its domestic economy with the economies of the rest of world and the world economy *in toto*. Governments primarily choose this policy mix strategically, to pursue chosen objectives within the opportunities and constraints defined by the country’s particular circumstances, its interactions with other strategically acting states, and in the structures determined by the world economy (Rodrik et al., 1999). Of course, even sovereign governments may have policies effectively forced on them, by powerful states, international organizations, or market forces. Governments may also inadvertently adopt policies through inaction or error. But global economic policy in a system of sovereign states is primarily the domain of self-consciously strategic national governments pursuing their economic, social, and political aims.

Economic objectives might include broad-based growth or economic development, or they may be narrowly construed, as with attempts to develop particular industries, tame inflation, or reverse trade deficits. Governments’ social objectives include poverty reduction and improving the facets of human development. Each of these aims may feed into governments’ political objectives. At the same time, governments know that altering foreign economic policy redistributes income in society and so creates winners and losers. These distributive consequences critically shape government’s interpretations of the political effects of different policy choices. Governments understand who their primary constituencies are and what are their interests over global economy policy. They also understood which interest groups are well-organized and are privileged by domestic political

institutions.

Our project begins by considering the breadth of global economic policies that are chosen by states. Most important among these are policies relating to international trade. Eliminating **trade barriers** such as tariffs, quotas, and regulatory impediments to trade has been the core focus of efforts to construct international order through **trade agreements** and institutions, like the GATT/WTO and the vast networks of bilateral and regional preferential trade agreements. Aggregate **trade outcomes**, like the share of production in the that is exported, also provide endogenous evidence of trade policies. Gross variation across sectors (e.g. **goods trade outcomes** versus **services trade outcomes**) can help in understanding countries' modes of global engagement, too.

A country's exchange rate is perhaps its most important price, and so we include in our set of core international economic policies the **exchange rate regime**, that is, whether the exchange is relatively fixed as a matter of policy or is permitted to float and so move in accordance with market forces. The **exchange rate level** – relatively appreciated or depreciated – is also a critical policy lever, shaping whether a country's exports will be relatively attractive to foreigners and whether importing will be easy or hard for domestic consumers. 'Domestic' **monetary policy**, usually measured as the level of inflation, is also closely related to trade competitiveness, the exchange rate, and flows of foreign money.

Countries also must choose their level of engagement with global capital. Foreign Direct Investment, longer-term capital with managerial control, is governed by a range of state-imposed barriers and inducements and also through the conclusion of **FDI agreements** (such as Bilateral Investment Treaties or Investment Framework Agreements) in the absence of a global regime. As with trade, **FDI outcomes**, like total inflows and outflows of FDI, provide clues to state's FDI policies. International portfolio flows, often shorter term investments in equities and bonds, are governed by short-term capital controls and other **capital account openness** policies. As with movements of capital, immigration policies that govern movements of people could also be included as facets of global engagement (though not one we will engage with in this paper due to data limitations).³ For the rest of our paper, we focus on the nine broad categories of economic policies that are bolded above.

One way of treating these different dimensions of global economic policy is to assume that they are mostly unrelated. States might vary on their level of trade openness, exchange rate regime, or capital account liberalization but choices on one element aren't related to, or don't strongly affect, choices on another element. If this were the case, then we would need a theory for each dimension

³ There are many important aspects of domestic policy that can interact importantly with global economic policies. Welfare state expenditures, industrial policy, and imports, on one hand, and the level of state involvement in the ownership of the means of production all interact importantly with, or are part of, global economic policymaking. We collected some of these policies in our early data collection stage, but ultimately could not employ them due to data availability constraints.

of foreign economy policy and we would analyze them separately. This is how much of the literature proceeds and there is an important element of truth to this approach. State's policies can be quite variable and do not always neatly cluster into obviously distinct policy bundles.

However, and even amidst this variety, our approach is founded on the idea that states are choosing elements across these policy dimensions in concert. This is likely so for several reasons. Choosing one particular policy is likely to affect the tradeoffs associated with choosing another policy. For example, some policies might work together synergistically. A PTA designed to increase trade might be more impactful in the presence of a BIT and other policies to encourage multinationals to relocate (Büthe and Milner, 2008; Tobin and Busch, 2010*b*). Other policies might be substitutes, for example, the liberalization of trade or factor movements, both of which can lead to similar distributive consequences due to factor price insensitivity (Helpman, 1984). Other policies in combination might have unavoidable consequences. The Mundell-Fleming trilemma, for example, suggests that a fixed exchange rate in combination with capital account liberalization necessarily forecloses monetary policy autonomy (Obstfeld, Shambaugh and Taylor, 2005; Aizenman, 2019).

It is also true that policy mixes are chosen as parts of coherent strategies. Indeed, the political economy of development has focused on describing these strategies, including autarky, socialist development, import-substituting industrialization, export-led growth, and neoliberalism (Eatwell, 1991; Fine, Lapavitsas and Pincus, 2003; Selwyn, 2018). When these different policy models are in play, distinct policies may end up being correlated. A country that liberalizes trade might also liberalize investment as part of a move toward greater competition and specialization. States that target exporting to fuel growth may also prefer fixed and somewhat depreciated exchange rates while seeking to contain inflation.

Finally, states might cluster into particular policy mixes because of the importance of models, learning, and emulation (Simmons and Elkins, 2004; Elkins, Guzman and Simmons, 2006). The dimensionality of global economic policymaking is almost limitless when one considers that any given policy can be narrowly targeted on specific sectors, industries, or products and can be operationalized globally, multilaterally, regionally or bilaterally. Amidst all this choice, states need to identify clear models of engagement to structure their thinking about optimal policies in light of their goals. States also learn about optimal policy mixes from other states that have been successful. Models that appear to succeed, like export-led growth or free-market capitalism, will spread as other states emulate their features (Elkins and Simmons, 2005).

Data collection, selection, and imputation

In this section, we describe the principles and techniques in compiling and organizing the dataset of government policies on globalization for our empirical analysis. We began by attempting to collect

Table 1: Policy variables included among global economic policies

Category	Variable	Source
Trade barriers	Mean wtd. MFN tariff, manftrs.	WDI
	Mean wtd. MFN tariff, primary prod.	WDI
Trade agreements	Total PTAs	DESTA
	Mean depth of PTAs	DESTA
Trade outcomes	Exports (% of GDP)	WDI
	Imports (% of GDP)	WDI
Goods trade outcomes	Goods exports (residuals)	WDI/constructed
	Goods imports (residuals)	WDI/constructed
Services trade outcomes	Trade in services (% of GDP)	WDI
	Service exports (residuals)	WDI/constructed
	Service imports (residuals)	WDI/constructed
Exchange rate regime	De facto ex rate regime	Rogoff et al (2017)
	De jure ex rate regime	Rogoff et al (2017)
Exchange rate level	PPP conversion to ex rate ratio	WDI
Monetary policy	% change consumer prices	WDI
	% change GDP deflator	WDI
FDI Agreements	# of BITs	
FDI outcomes	Net FDI inflows (% of GDP)	WDI
	Net FDI outflows (% of GDP)	WDI
Capital openness	Capital market openness	Chinn et al (2008)

measures and proxies for the policy outcomes identified in the 9 categories described above across as many countries and years as possible. We looked across a wide variety of single- and multi-use datasets. Casting as wide a net as possible, we ultimately attempted to collect data on 135 policy variables across 194 countries from 1940 to 2016.

While this initial data is large in size, it contains vast numbers of missing values which make it unusable as is. The problem of missingness is presented visually in the left hand side of Figure 1. Each cell in the figures represents a single country year (where countries fall along rows and years in columns). If the country-year's data is entirely missing across the 135 initial measures, then the cell is colored black. If the country-year's data is fully observed across those measures, it is colored very light gray. Varying levels of missingness are reflected in gradations between these poles. As can be seen on the left-hand side, missingness in the observations is overwhelming for nearly all countries before 1970, and still severe for many, particularly developing, countries up to 1990.

In response, we resorted to thresholding of years and measures followed by missing data imputation. We also did some iteration between these two steps, because in some cases imputation models did not converge or did not generate satisfactory imputations upon inspection. We also made some ad hoc choices about thresholding, retaining particular variables to preserve coverage across policy areas.

Our first major decision on thresholding was to focus on the years 1990-2016. Extending the analysis into the Cold War would only have been feasible on a much smaller set of variables and would have required pruning entire policy domains. Future scholars may wish to do so but we have opted for preserving country features across all policy domains. We then used a threshold of 50% missing values for countries. Countries with more than 50% of missing values throughout the given time span were removed.⁴ This results in 107 countries remaining in our data.

We then employed a hard threshold for eliminating variables with less than 60% coverage across the remaining data. This left us with 23 remaining variables. Four of these (exports and imports as a share of GDP growth and exports to high-income countries and exports to low-income countries) we felt were not well-suited to our question and were dropped. Dummies for membership in the IMF and GATT/WTO hardly varied across the dataset and were also dropped (as this impeded convergence of the clustering). A final variable (trade as a % of GDP) was dropped because of multicollinearity with imports as a % of GDP and exports as a % of GDP. Finally, we added in two pairs of variables that we felt were substantively important enough to justify the extra missingness: total goods exports and imports; and average MFN tariffs on both primary products

⁴ We made an *ad hoc* decision to preserve in the analysis the following countries that otherwise would have been pruned: Cambodia, DRC, Republic of Congo, Croatia, Estonia, Hong Kong, Iran, Latvia, Lebanon, Lithuania, Saudi Arabia, and Zimbabwe. We also were forced to eliminate two countries, Belize and Kyrgyzstan, that were completely missing one variable. We felt that imputations would be unreliable in these cases.

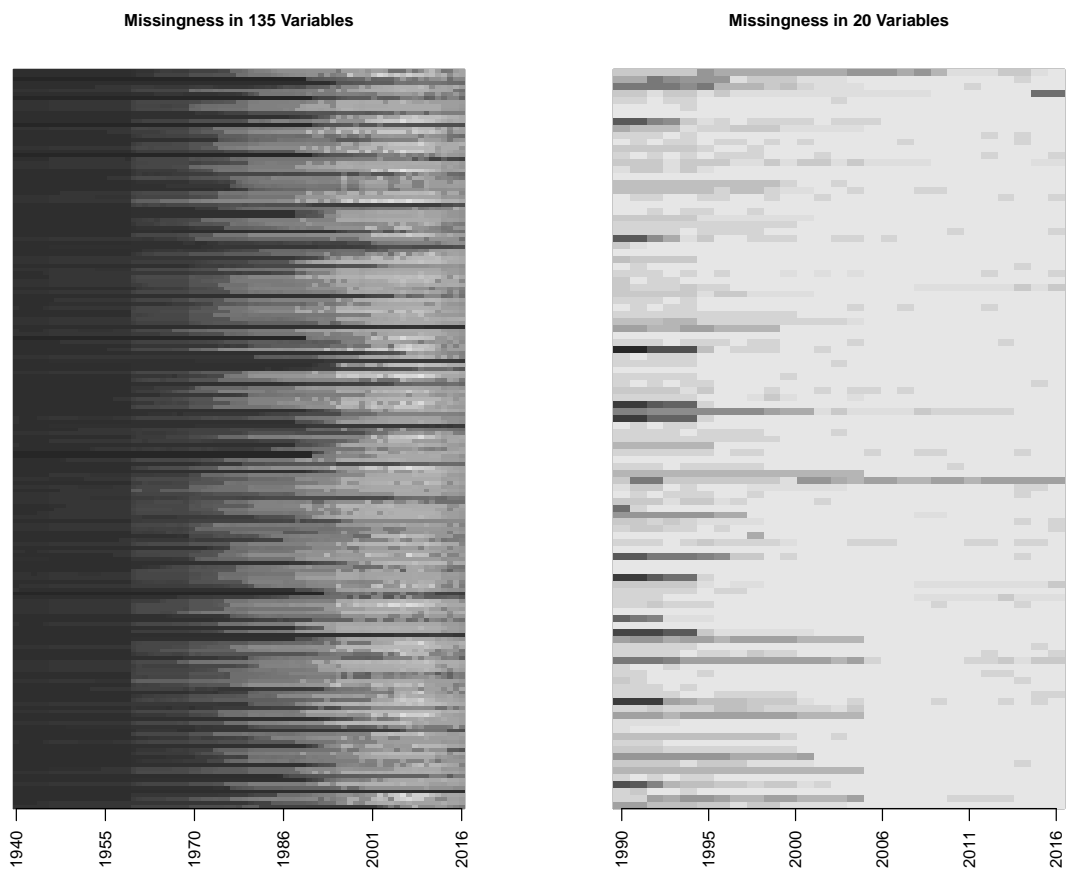


Figure 1: Missing values in variables by country and year. On the left is after thresholding for missings, on the right is the pre-threshold dataset.

and manufacturers. We ended up with 20 total variables covering all of our nine topic areas.⁵ The 20 variables that we use in our main analysis are presented along with their overarching policy categories in Table 1. The missingness in our remaining data is then shown on the right hand side of Figure 1.

We then employed multiple imputation proposed by Honaker, King and Blackwell (2011) to fill in the remaining missing values. Honaker, King and Blackwell (2011)'s multiple imputation fits a sequence of predictive models using one variable as outcome and the rest of the variables in the

⁵ Note that some of our trade variables (total imports and exports of both goods and services) are not represented as a share of GDP. For each of these, we regressed the outcome on a measure of current GDP and dummies for whether the country was landlocked or an island.

data as predictors. In fitting the chains of predictive models, it makes the assumption that the full dataset follows a multivariate normal distribution such that $\mathbf{X} \sim N(\boldsymbol{\mu}, \boldsymbol{\Sigma})$, in addition to the standard missing at random(MAR) assumption,. We apply logarithm and square-root functions to a subset of our variables to fit the distributional assumption of the multiple imputation. The strength of Honaker, King and Blackwell (2011)’s multiple imputation is that it allows researchers to model cross-sectional and time-series features of the target data. We introduce country-fixed effects in all sequences of predictive models since policy choices and policy outcomes correlate strongly with country-specific characteristics such as population, culture, and institutional features that we did not include in our data. To capture temporal dependence, we add one-year lagged dependent variables in all predictive models. We chose one-year lag over the other alternative of polynomial of degree d to avoid overflowing our predictive models with too many variables. Since each run of multiple imputation generates different prediction values for missingness due to uncertainty in the models, we run 20 different multiple imputations and use the average of the resulting 20 complete datasets for the clustering analysis.⁶

Clustering method

With an imputed data set in hand, we begin the search for coherent clusters of external economy policies. Because clusters are likely to exhibit significant temporal dependence and to evolve dynamically over time, we employ a Gaussian Mixture Hidden Markov model to uncover latent clustering of the policy matrix over time. We describe the model here in brief. N, P, T are the total number of countries, variables, and time indices in the data, respectively. Countries’ policies over time are an $N \times P \times T$ tensor called \mathbf{X} . \mathbf{X}_{it} denotes the policy vector of length P for country i at time t . Similarly, \mathbf{X}_t refers to an $N \times P$ policy matrix of countries at time t . All skewed variables were logged, and we then normalize all variables so that they follow an approximately normal distribution.

$Z_{it} = \{1, 2, \dots, K\}$ is the latent cluster membership for a country i at time t where K is the number clusters. We model the policy vectors with multivariate normal distributions such that

$$\mathbf{X}_{it}|Z_{it} = z \sim \mathcal{N}(\boldsymbol{\mu}_z, \boldsymbol{\Sigma}_z) \quad \text{for } i = 1, 2, \dots, N$$

$\boldsymbol{\mu}_z$ denotes the average policy vector for cluster z and $\boldsymbol{\Sigma}_z$ indicates the covariance for development policies within z . These, along with the latent cluster membership \mathbf{Z} , are our quantities of interest.

⁶ The authors’ recommendation is to run the imputation 5 times for a moderate level of missingness. The missingness in our pruned data is moderate in the conventional standard, but we chose to run 20 imputations to be safe. The resulting 20 imputed datasets did not vary much, suggesting that 20 was sufficient given the level of missingness in our data.

The cluster membership evolves through a process given by the Hidden Markov Model:

$$Z_{it}|Z_{i,t-1} = z \sim \text{Multinomial}(A_{z,1}, A_{z,2}, \dots, A_{z,K}) \quad \text{for } i = 1, 2, \dots, N$$

The transition probability matrix A characterizes the evolution of latent cluster memberships. The z th row and the z' th column of \mathbf{A} ($A_{z,z'}$) refers to the transition probability of cluster membership from z to z' . When the diagonal entries of \mathbf{A} are high, cluster memberships are relatively constant over time. If, on the other hand, the off-diagonal entries of \mathbf{A} are high, it indicates that countries frequently switch their cluster memberships. We use an EM algorithm to fit the above model. Detailed derivation and update steps are in Appendix B.

Fitting this model requires choosing a number of clusters K . To make this model selection choice, we fit models with $K \in 2, \dots, 10$ clusters and then examined the Akaike and Bayesian Information Criteria. The Akaike Information Criteria was maximized at $k = 9$ clusters but with a second local mode around the $k = 7$ cluster. The Bayesian Information Criteria was maximized at $k = 7$ clusters, while $k = 9$ was clearly rejected in favor of several alternatives with lower numbers of clusters. In light of these results, and with a view toward parsimony, we opted to set $k = 7$.

Initial clustering results and post-processing

We then began an intensive examination of our clustering results. To facilitate this, we ordered the clusters in terms of their Mahalanobis distance from a hypothetical ‘most orderly’ cluster which features the lowest trade barriers, highest number of trade agreements, most fixed currency, lowest capital controls etc. Clusters are then named in terms of their ranking, with cluster 1 the most orderly/open and cluster 7 the least orderly/open. We looked across each of the clusters and attempted to construct verbal descriptions, summary statistics, and emblematic countries that lie closest to the cluster’s mean policy vector. We find that 5 of the clusters were easily described in words and *prima facie* represented coherent groups of countries.

Two of the clusters (numbers 4 and 7, representing a moderately orderly/open group and a closed off group) were much harder to describe. Examining the mean Mahalanobis distance for these clusters, we noticed a striking pattern. The average Mahalanobis distance from the cluster mean for the country-years in clusters 1, 2, 3, 5 and 6 were all between 12 and 17. The same figures for clusters 4 and 7 were 30 and 24, respectively. In a similar fashion, less than 5% of the observations in clusters 1/2/3/5/6 had a Mahalanobis distance of more than 40 from the cluster mean. The same figures for clusters 4 and 7 were 21% and 11%. We conclude from this (and after inspection of specific example) that clusters 4 and 7 represent clusters of outlying countries. For example, Ireland, with its outsized FDI inflows owing to its status as a tax haven, and Zimbabwe, with its hyperinflation, were both included in the moderate cluster 4. The algorithm resisted placing them in clusters 1/2 or cluster 5/6, respectively, because their outlying features would

sharply destabilize the cluster mean.

Because our descriptive goal is a parsimonious set of external economic policies that represent coherent policy bundles, we then examined different strategies of cluster reassignment including reassigning only extreme outliers (Mahalanobis distance ≥ 40) and moderate outliers (Mahalanobis distance ≥ 20). Ultimately, we chose to eliminate clusters 4 and 7 completely, and reassign countries in those clusters to their next most likely clusters among 1/2/3/5/6. Most of the Ireland years were reassigned to clusters 1 and 6, for example, while nearly all of the Zimbabwe years were reassigned to cluster 6. Note that our cluster reassignments preserve the dynamic coherence of the cluster assignments from our clustering model.

We thus ended up with 5 remaining clusters, which we relabeled as clusters 1,2,3,4 and 5 (preserving the order from the original labels described above). We found that the resulting clusters have several good properties after reassignment. First, the average distance of clusters observations from the mean increased by less than 6% for clusters 1,2,3 and by less around 20% for clusters 4 and 5 (formerly, 5 and 6). Second, the number of observations with distance greater than 40 from the cluster mean remained below 5% for two clusters, below 10% for two other clusters, and just exceeded 10% for the new cluster 4. Our reassigned clusters therefore remain highly coherent, a point reinforced in our investigation of these clusters in the next section.

Strategies of Global Economic Engagement

Coherent policy clusters in a multidimensional policy space

Our clustering and post-processing of 107 countries and 20 economic policies from 1990-2016 have yielded us distinct and coherent clusters. Our first descriptive finding is that strategies of global engagement in the post-Cold War world are reasonably summarized by five (or perhaps up to seven) economic strategies. While of course some countries are outliers or lie on boundaries between clusters, it is striking that the optimal number of clusters is not smaller (e.g. two competing models) and not significantly larger (there aren't a dozen or more competing models, and each country is not unique model unto itself). This finding validates our initial inclination that countries choose from among a modest set of coherent policy bundles, and are not simply varying in unrelated ways across all of the many dimensions of economic policy.

A second core finding is that these clusters represent a multidimensional latent space. Recall that our cluster labels have been assigned in accordance with the level of 'openness' or 'order', so clusters 1 and 2 represent the most globally open countries (or country-years, more properly) with highly ordered relations with the rest of the world. Cluster 5 represents countries that are relatively closed off to the global economy and not participating in policies to facilitate that economic integration, like trade agreements, investment agreements, fixed exchange rates and lower barriers

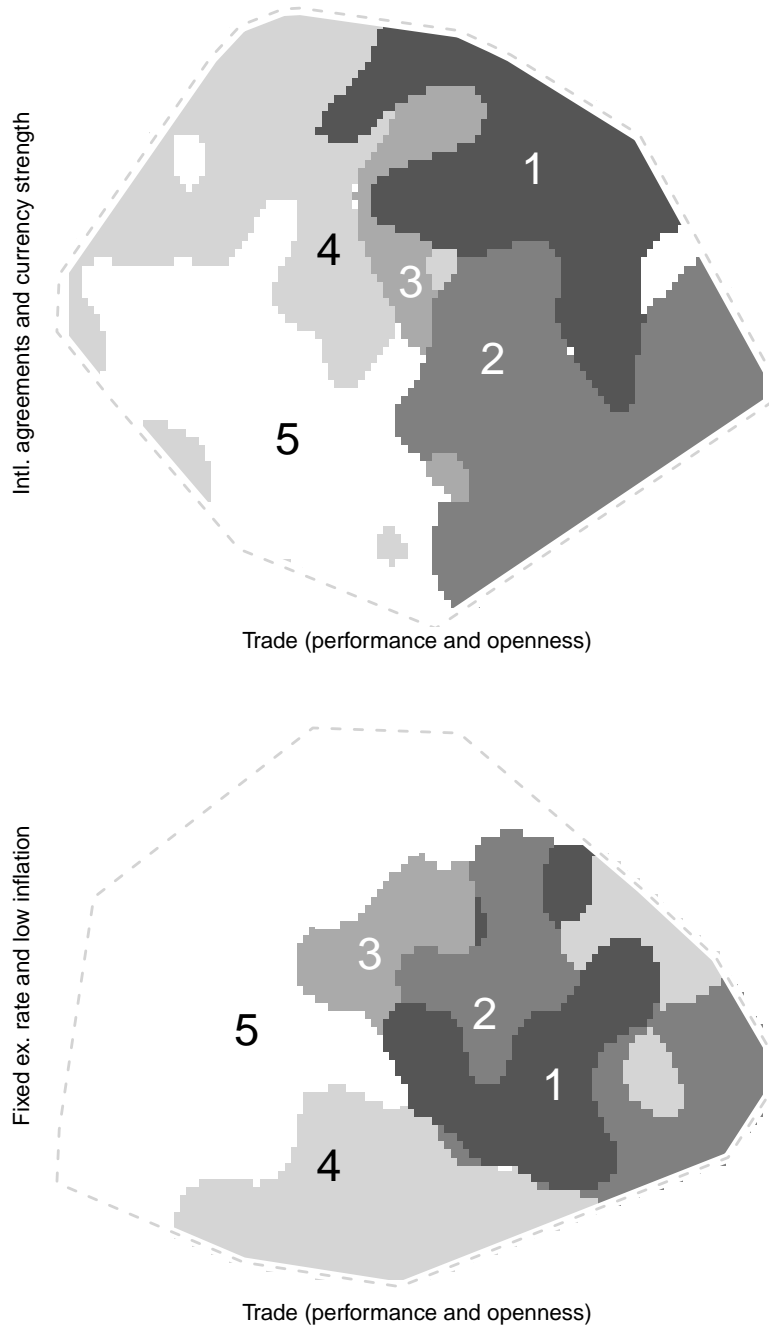


Figure 2: Principal components representation of the policy clusters

to trade and capital. While this reordering is helpful for understanding one summary dimension of variation in country policies, it is clearly the case that economic policies are multidimensional.

To show this, we employ a principal components analysis of the economic policies. Using stan-

standard diagnostics, our policies suggest 3 axes of latent variation. Looking at factor loadings, these dimensions roughly correspond to 1) a dimension reflecting trade performance and openness; 2) a dimension associated with signing PTAs and BITs, and also correlated with currency appreciation; and, 3) a monetary dimension correlated with exchange rate pegs and low inflation. These dimensions are illustrated in Figure 2, which maps our five clusters onto the 1st and 2nd principal axes of variation (top) and the 1st and 3rd principal axes of variation (bottom) using the predicted outcomes using support vector machines.

Multidimensionality is also apparent in the cluster averages in policy categories as displayed in Figure 3. Note in the figure that cluster means have been normalized to fall on the unit interval, and that all variables have been structured so the lefthand side represents disorder or closedness while the righthand side represents order or openness. The dots on the far-right hand side represent the ordinal rankings of the cluster averages. Figure 3 clearly shows that while cluster number is correlated with the amount of order/openness, this correlation is not extreme. For example, the ranked cluster means on the right hand side often do not follow the order 5, 4, 3, 2, and 1. Specific clusters that are consistently orderly on many dimensions stick out on other dimensions, for example, cluster 1’s floating exchange rates or cluster 4’s exchange rate pegs. Cluster 2 also sticks out for being quite orderly but having few trade agreements, while cluster 3 has very few BITs. Overall, the fact that policies (and clusters) are not well-summarized by a single issue dimension further validates our approach to focus on distinct strategy bundles rather than, for example, a single latent policy dimension.

Describing five strategies of global economic engagement

So what are the distinct strategies of global economic engagement uncovered by our clustering? To answer this, we build off of the cluster means and principal components analysis in Figures 3 and 2. We also look at a series of other summary statistics about the clusters, as well as lists of members and countries that ‘exemplify’ clusters in the sense that they are close to the cluster means. These statistics and qualitative descriptions are given in Table 2.

Cluster 1 is a group of states that have embraced formal markers of global economic integration and who have attempted to smooth international transactions with a consistent commitment to economic order. They have the lowest trade barriers and the most/deepest trade agreements and BITs of any group though, interestingly, their trade and FDI performance is distinctly second-best compared to cluster 2. Their currencies are exceptionally strong, and reflect a heterogeneous mixture of floats and pegs (tilting toward the latter with the creation of the Euro). They are the most open cluster to global capital. We call these countries’ strategy “open and orderly”, reflecting their deep focus on international agreements, moderate/high trade flows, increasing currency discipline, and capital account liberalization.

Table 2: Qualitative summary of clusters with summary statistics

Short des.	Description	Geography
1 Open and orderly developed core	Most open to trade, and good trade performance and manf. surpluses. Very strong, lean floating ex rate and very low inflation. Extremely open to foreign capital. FDI net-exporters.	N. Europe/Canada/Isr/RofK.
Percent: 14.7%; Percent among developing: 0%; Avg. Dist from Cluster Mean: 19.5; Pr(change): 0.025; Change to: 4,2; Exemplar: Sweden; Pop max: Germany; GDP pc max: Norway; GDP pc min: UK.		
2 Semi-peripheral production hubs and trade superstars	Not a major signer of agreements, but top trade and FDI performer. Trade/FDI are balanced. Fixed (and depreciated) exchange rate.	Eastern Europe/SE Asia.
Percent: 17.4%; Percent among developing: 18.8%; Avg. Dist from Cluster Mean: 17.6; Pr(change): 0.027; Change to: 1,5 Exemplar: Croatia; Pop max: Vietnam; GDP pc max: Singapore; GDP pc min: Cambodia.		
3 Half-hearted globalizers	Moderate trade openness, and weak trade performance. Fixed/depreciated exchange rate. Services surpluses. Moderate openness to global capital. So-so FDI performance.	S. and E. Africa/ Central America and Andes/ Northern Med.
Percent: 15.9%; Percent among developing: 15.2%; Avg. Dist from Cluster Mean: 12.2; Pr(change): 0.025; Change to: 5,4 Exemplar: Costa Rica; Pop max: Italy; GDP pc max: Italy; GDP pc min: Tanzania.		
4 Insular non-traders	Weak performance on trade barriers/ deals, worst performance on trade outcomes. Trade and FDI deficits. Often fixed ex rates with mod. inflation. Very weak openness to and attraction of foreign capital.	West Africa and South Africa/S. Asia and Phillipines, Indonesia/ Oceania, Japan, and US. Quite diffuse.
Percent: 26.2%; Percent among developing: 29.4%; Avg. Dist from Cluster Mean: 20.1; Pr(change): 0.054; Change to: 5,1 Exemplar: South Africa; Pop max: United States; GDP pc max: Australia; GDP pc min: Niger.		
5 Estranged autarkies	Most protectionist with bad trade outcomes. Depreciated floats with high inflation. Very closed off to foreign capital.	Latin America/Central and South Asia/ Eq. Africa
Percent: 25.8%; Percent among developing: 36.6%; Avg. Dist from Cluster Mean: 20.2; Pr(change): 0.081; Change to: 4,3 Exemplar: Bangladesh; Pop max: Bangladesh; GDP pc max: Mexico; GDP pc min: Congo Dem. Rep. of.		

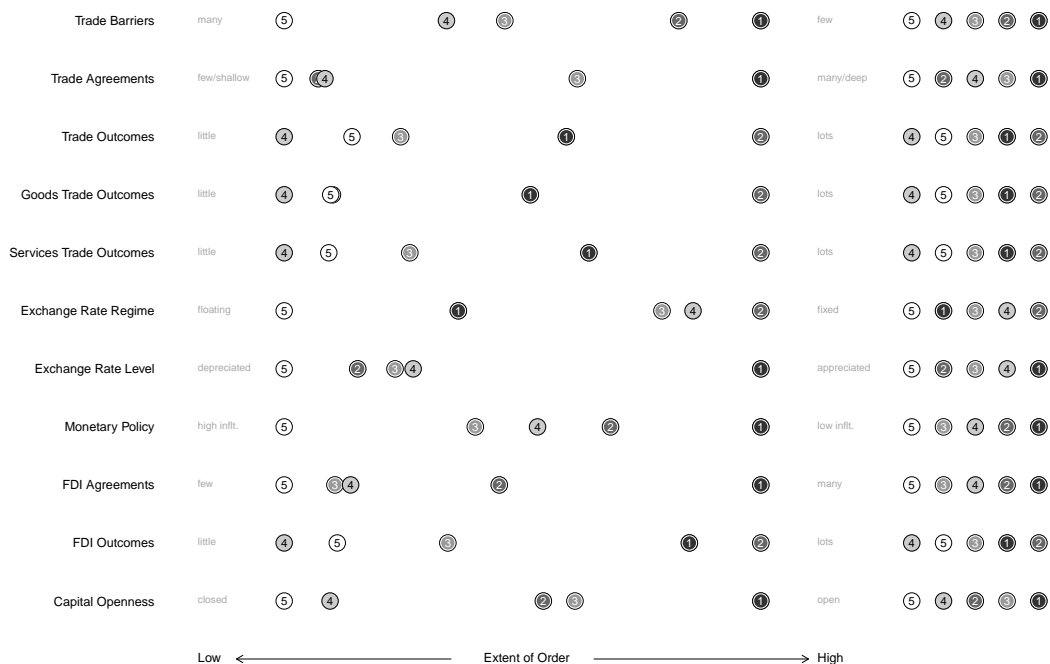


Figure 3: Cluster means across aggregated policy categories

The “open and orderly” states of cluster 1 are concentrated in Northern Europe – every single country-year in Scandinavia but 6 years for Iceland are in this group – though Canada, South Korea, New Zealand, Israel and others fit into the group at particular points. The most exemplary country of this cluster over time is Sweden, while Germany and Norway represent the largest and highest income members of the group. Cluster 1 started out as the smallest cluster in the early 1990s and had grown substantially by 2015, in line with the process of European integration and the proliferation of PTAs and BITs. Strikingly, not a single country-year in Cluster 1 comes from a country considered to be developing by the World Bank as of 2016.

The countries of cluster 2 are the top performers across every single measures of trade performance, whether imports or exports, goods or services. This superior performance owes in part to very low trade barriers and depreciated and highly stable fixed exchange rates but not to PTAs or BITs, in which they are not major participants. Despite the lack of BITs, these countries are the best in attracting FDI though they send a certain amount of FDI too. Unlike cluster 1, their openness to short-term international capital is only half-hearted. We call these countries either “production hubs” or “trade superstars” reflecting their role as key links in global production networks and their deep economic integration into the global economy. Unlike cluster 1, these countries have not sought to manage or tame their integration through agreements or floats. The doors are

wide open and they have utterly embraced global exchange.

These trade superstars are primarily located on the rapidly developing margins of the developed world in Eastern Europe and Southeast Asia. A combination of reliable institutions, human capital, cheaper labor, and self-conscious strategies of engagement have made them key sites within the European and East Asian production networks. Many of them are formerly Communist. Croatia is emblematic of the group, while Vietnam (after 1997) is the largest, Singapore the richest, and Cambodia the poorest. Between 20 and 27 years of Malaysia, Singapore, Thailand, Cambodia, Vietnam, and Hong Kong fit into this group. Egypt, Jordan and Lebanon also form a small Mediterranean subcluster. As should be evident, this cluster is overrepresented among developing countries, many of them transitioning out of relatively autarkic economic strategies.

Cluster 3 countries are tentatively or moderately engaged with almost all of the facets of global economic integration. They have partly lowered trade barriers and signed some trade agreements but markedly less than cluster 1. Their trade performance and attraction of FDI is middling to poor – they tend towards trade deficits – despite usually fixed and depreciated exchange rates. This may reflect strong disengagement from investment agreements. Their openness to capital flows is middle-of-the-road, at best, and inflationary monetary policy is an issue at times. They do all things in moderation. For this reasons, we call cluster 3 "half-hearted globalizers".

These tentative integrators are located across the developing world with particular concentrations in Southern and East Africa and Central American and the Andes but also in Southern Europe, exemplifying a Mediterranean model of relatively unsuccessful globalization. Spain, Portugal and Greece each spend nearly all of their time in cluster 3. Most exemplary of these countries over time is Costa Rica, while Italy is both the largest and richest. The African subcluster includes Tanzania (the least-developed of the group), Swaziland, Botswana, Uganda, and Zambia. While this cluster is geographically diverse and crosses different levels of development, it is in fact the most coherent by far. The average Mahalanobis distance of a cluster member is only 12.2 from the mean (in other clusters these numbers are mostly well about 17.5). Cluster 3 also stands out as being a two-way way-station: some countries exit cluster 3 to globalize in clusters 1 and 2; others de-globalize and move into cluster 4 or 5.

Cluster 4 countries are the worst performers on trade and FDI outcomes except for Goods exports (where they are second worst). This bad performance is partly a result of moderately high trade barriers (though lower than 5) and relatively few trade and investment agreements (though just more than 5 and 3), and may be exacerbated by generally floating and appreciated exchange rates. On average, the group has relatively low openness to short-term capital, too. These average statements mask some underlying splits in the group, however. One set of countries fits right in with the above description, South Africa, India (2005-2016), and Senegal, for example. Another group consists of very large developed economies that aren't so reliant on trade owing to their sheer size, but which are in other ways quite integrated into the global economy (e.g. with low trade

barriers and capital controls, and deep PTAs). Australia, the US and Japan stick out in this group. Another group stick out for their very high levels of minerals exports (Saudi Arabia and Venezuela) paired to low goods imports; significant services and FDI deficits; and diffident attitudes toward trade agreements.

Despite these differences, the common thread across all of these countries is a very strong lack of exposure to trade across some or all of the dimensions that we measure. Given that many of these states are islands (Phillipines, Indonesia, Sri Lanka, Japan, Australia) or act as though they might be (United States, India, Argentina, Brazil) we refer to them as Insular non-traders. The most exemplary country in this heterogeneous group is South Africa, while the biggest and richest are the US and Australia, respectively. The group has a rich set of West African nations (Benin, Burkina Faso, Cameroon, Cote d'Ivoire, Mali, Niger, Republic of Congo, Senegal, and Togo are all in the group) and a group of states from South America which give it some geographical coherence. But really it is quite diffuse.

The final group of countries that we uncover is Cluster 5. These countries have very high barriers to trade and few trade agreements or BITs. Their trade performance is almost as bad as group 4. They have the most currency floats on average, and their depreciated currencies are paired with by far the worst average inflation across the clusters. Their openness to short-term capital is the lowest among the clusters and they only just beat cluster 4 in terms of attracting FDI.

These countries have set out on a deliberate course of isolation from global economic forces, and are alienated from the institutions that have been used to manage global trade and investment. We call them “estranged autarkies”. Most emblematic of this group is Bangladesh, while Mexico and the DRC represent the highest and lowest income members of this group. Cluster 5 has significant membership across Latin America (Colombia, Dominican Republic, Honduras, Paraguay e.g.) as well as equatorial and North Africa (Algeria, Burundi, Morocco, Nigeria, Malawi, Tunisia, Zimbabwe) and central and South Asia (Iran, Armenia, India 1990-2004, Pakistan, and Bangladesh). Unlike cluster 2-4 which are 25-30% high income countries, only 7% of cluster 5 is high income. Cluster 5 sees the most significant exit from its ranks over time, as countries moved into cautious (cluster 3) or incautious (cluster 2) forms of globalization.

Patterns over time and space

The evolution of clusters over time and across regions may help to make our verbal and quantitative descriptions more concrete. Figure 4 shows that evolution of cluster proportions over three time periods, with arrows representing transitions from one cluster to another. As can be seen, cluster 1 has steadily grown over time while cluster 5 has steadily shrunk. Cluster 1 is virtually an absorbing state – few countries exit the cluster after entering – while cluster 5 has dramatically lost members to clusters 4, 3 and 2 as countries have exited autarkic developmental models. Clusters 2 and 3 both

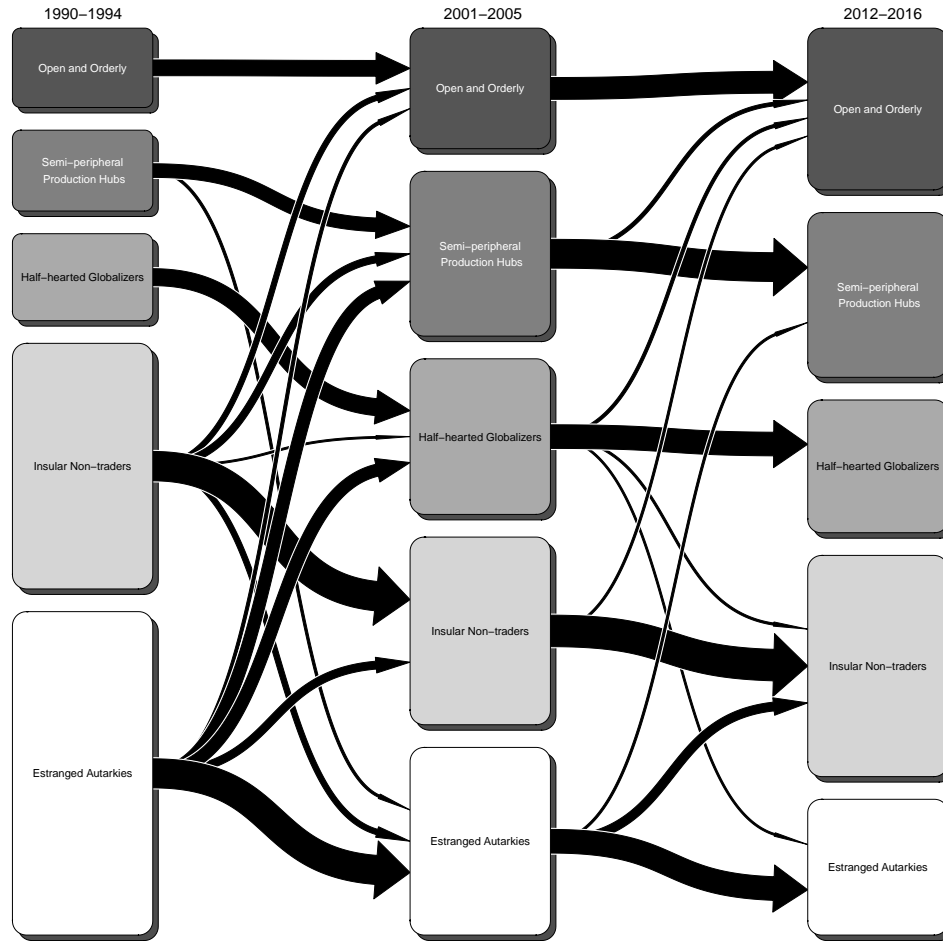


Figure 4: Change of country memberships between the three time periods (1990 - 1994, 2001 - 2005, 2012 - 2016)

increased in size moving to the early 2000's and then stabilized. Cluster 2 tends to lose relatively few members while cluster 3 members have redistributed across the spectrum.

The maps in Figure 5 illustrate the distribution of clusters over several regions and how those regions have evolved over time. For example, Cluster 1 started out as primarily Northern European phenomenon in the early 1990s, but over time spread through much of Western Europe (though cluster 3's hold in the Mediterranean remains). Cluster 2 is almost non-existent in Europe and then takes over much of Eastern Europe by 2015. South and East Asia witness a similarly striking transformation from autarkic and insular models, to moderate or extreme forms of global economic integration. Cluster 2 is especially clear in SE Asia, again reflecting the importance of production networks on the edges of the most advanced and richest economies. Finally, it is interesting to observe how little has changed in the Americas over the same time period.

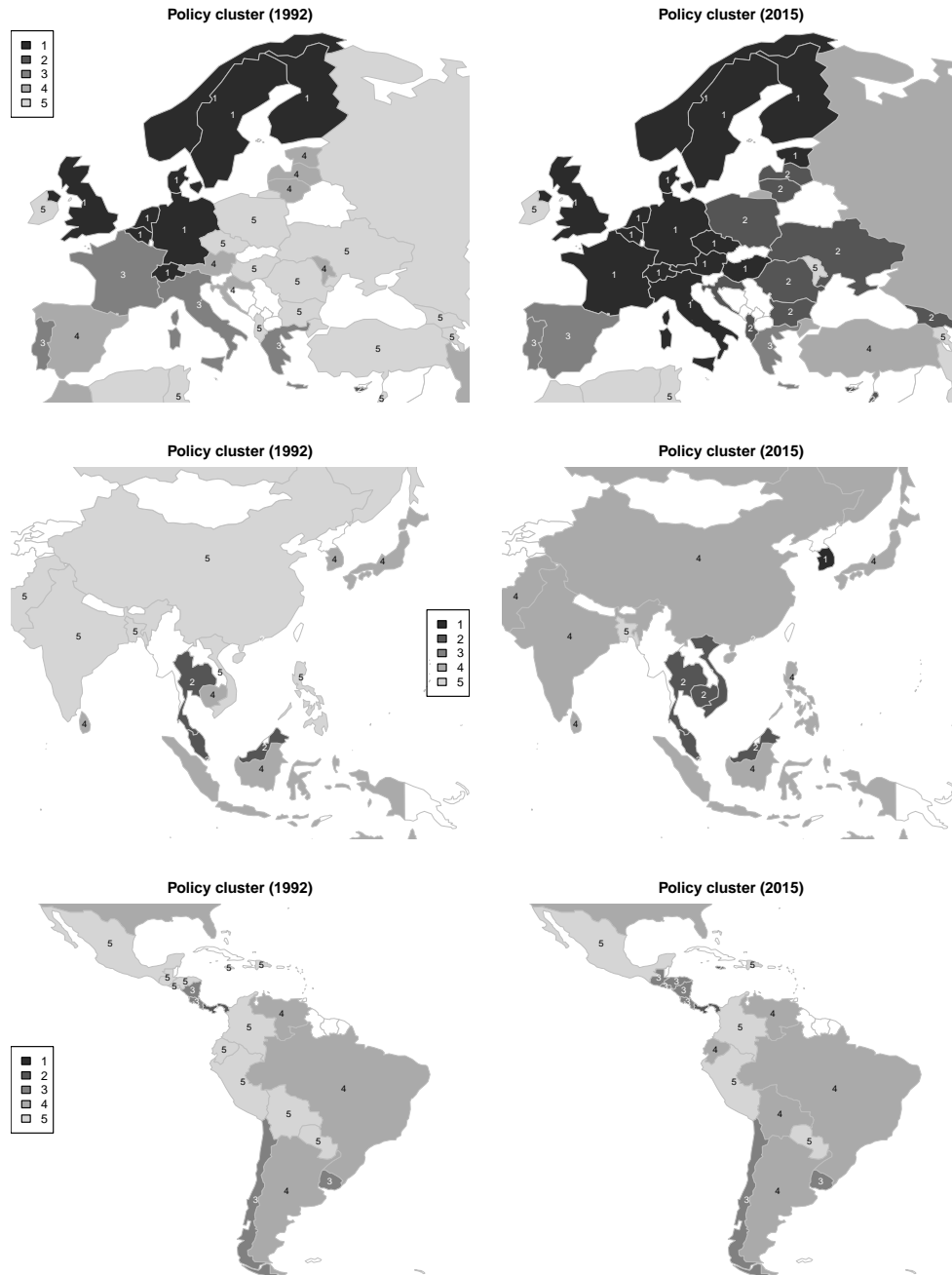


Figure 5: Clustering across geographic regions

Explaining Global Engagement Strategies

Democracy and development strategy

A vast literature examines the drivers of policy choices across the separate policy dimensions we discuss above, and also considers determinants of overall strategies of international economic en-

agement (Haggard, 1990; Baum and Lake, 2003; Doner, Ritchie and Slater, 2005; Cao, 2012; Rodrik et al., 2013; Hidalgo, 2021). Our new classification of economic strategies provides us an opportunity to reinvestigate the determinants of these policy choices. To do so, we focus on highlighting three key tradeoffs in global economic engagement: over growth versus control, production versus consumption, and risk versus certainty. The main benefits of a focus on production and the upside benefits of risk are relatively concentrated in society, among elite firms, entrepreneurs, and the well-off. The main benefits of a focus on broad-based growth, consumption, and on mitigating the downside costs of risk are more diffuse, accruing to a wide array of ordinary consumers, workers, and citizens. Consequently, we expect non-democracies to be more willing to embrace strategies that focus on production even at the expense of greater risk. Alternatively, non-democracies may be less likely to cede control over the economy to global forces in the first place.

Growth versus control: Perhaps the fundamental tradeoff faced by countries considering how open to be to the global economy concerns the benefits and costs of integration-driven economic growth. Trade integration generally encourages growth through gains from exchange and specialization, as well as increasing competition, market discipline, technology transfer, and a variety of other mechanisms (Milner and Kubota, 2005*b*; Henisz and Mansfield, 2006; Mansfield and Milner, 2012). Openness to foreign investment and short-term international financial flows can have similar effects, as do the policies that encourage movements of goods and capital like fixed exchange rates and low inflation (Bernhard and Leblang, 1999; Bernhard, Broz and Clark, 2002; Broz, 2002). Without ignoring the potentially negative consequences of significant economic change to some actors in society, an important long-run effect of global integration is to encourage broad-based economic growth.

For some regimes, however, this growth can be threatening. It may entail the redistribution of relative political power. Sectors, interest groups, or individuals outside of the regime's support base or inner circle may benefit in relative terms, weakening the regime's monopolization of power (De Mesquita et al., 2005*a*, ch. 5). Openness to the global economy also entails a loss of control over how income and wealth are distributed in the political economy, as global market forces increasingly displace state power. Globalization may also make it harder or more costly to fully use the powers of state for political purposes, for example, as with monetary, fiscal, or tax policy. Many of the standard policies used to integrate into the global economy require standing down key tools of state power, like taxes on trade and capital controls.

Production versus consumption: A second tradeoff concerns encouraging consumption at home versus encouraging production for sale to foreigners. Countries that focus on production for export must sacrifice present consumption in order to save and invest. Owing to flourishing global production networks and secular trends in the complexity of production, such a strategy requires tight integration into global networks of production in the many steps between raw materials and

final consumption. These countries therefore expose themselves to enormous trade flows as a share of GDP. The attraction of FDI is also integral to production-focused countries, limiting regulatory standards and capital taxation. While workers may benefit from pay increases and more or better jobs, the primary beneficiaries of such an approach are competitive local enterprises, whether extant or as part of emerging classes of entrepreneurs. A focus on production in the global market also leads countries to adopt fixed exchange rates at moderate but depreciated values. Currency stability encourages trade and investment, while partial depreciation favors exporting without rendering input sourcing impossible. Low inflation, to encourage wage restraint, is also important. A focus on production may also increase the attraction of lowering capital controls, the better to attract investment in corporate stocks and bonds.

Countries that focus on consumption are less likely to concentrate on insertion into global supply networks and on export surpluses. Though they may import more final products, trade is probably not as great a share of the economy as they do not need to engage in the repeated import and export of goods across the value accumulation process that is characteristic of modern production. Attracting FDI (at least of the vertical type) and foreign capital (except perhaps borrowing to fund spending) are less of an imperative. Exchange rates may therefore float, or a strong currency peg may be targeted to enhance consumer's purchasing power.

Risk versus certainty: A final tradeoff that states confront over globalization is about how much risk they can tolerate (and of course about who bears that risk) (Quinn and Woolley, 2001). Globalization can increase risk substantially. An orientation towards exporting and global production is good when prices are high and the global economy is growing, but leaves the economy highly exposed to a downturn in world economic activity. Exposure to international capital, whether short- or long-term, is positive when capital is moving in; depending on foreign capital and permitting its free movement is painful when capital decides to leave. A fixed exchange rate reduces risk for those engaged with the international economy, but raises risk for the broader economy in the form of a lost lever for responding to recession (monetary policy) and by introducing the risk of currency crisis.

In each of these statements, it should be clear the the burden of risk is not equitably distributed. The profits from production and exporting are mainly concentrated in the hands of capitalists (and to some extent their workers). The collapse of those firms, however, is likely to be more widely felt. In a similar way, the benefits of capital inflows may be relatively concentrated, while the consequences of outflows – financial, banking, or currency crises – are much more broadly felt. In these ways, the upside risk of globalization tends to be relatively concentrated and is more like a private or targeted good. The worst downside risks spread pain more broadly, and so are more like a public good.

Public and private goods, and democracy Our discussion of these major tradeoffs embodied in

global integration suggests that these three tradeoffs (admittedly partially and imperfectly) can be mapped onto the state's search for public and private goods to satisfy constituents. The aggregate growth unleashed by global economic integration has a significant public component, especially over the longer run; domestic economic autonomy provides the state more access to targetable private resources. A focus on production targets a narrower slice of producers and workers; a focus on consumption benefits a much wider group because everyone is a consumer. Because globalization's uncertain but extreme short-term benefits can be concentrated while its downside costs are more widely shared, global economic integration's risk is more of a private good and a public bad.

Following the logic of selectorate theory, democratic regimes with competitive elections have a larger selectorate (aka the electorate) and winning elections requires satisfying a larger share of that selectorate (De Mesquita et al., 2005*b*). These regimes therefore find the provision of public goods to be a useful political strategy, as the benefits of public goods are widely spread and fall in no small measure on the majorities that they need to stay in office. These observations lead us to two observations. First, all else equal, democratic states are more likely to opt for the broad-based growth that is promised by globalization and the benefits for consumers of international trade. Second, and however, democracies are also likely to seek to temper some of the greatest risks of globalization by managing trade and money flows or perhaps by engaging in tentative forms of liberalization. This is likely to lead democracies into more moderated forms of globalization.

In selectorate theory, non-democratic regimes are generally considered to have much smaller selectorates, perhaps a small group of elite businesses, party members, families, or military officers. Each of these may have a significant stake in the economy and may reap some concentrated benefits from global integration; of course they may be alienated from the the global economy or have a small stake in global integration, too. Owing to the small size of the selectorate (and quite possibly a small winning coalition within that selectorate), non-democratic polities are expected to find targeted or private goods more useful as political resources. Their strategies for engaging the global economy should therefore reflect efforts to secure or distribute targeted goods.

This idea then leads us to two further observations, analogous to the discussion of democracies above. First, some non-democracies (especially those where the support base has little stake in globalization) are likely to strongly weight the benefits of economic control over the broad-based growth unleashed by economic integration. They should therefore target relative autarky. Second, other non-democracies may have a base of political support that can benefit from globalization. But because this base of support is likely to be narrowly construed, they are more likely to embrace a production-centered mode of global economic engagement. They should also be more tolerant of the broad-based economic risks inherent in deep exposure to the global economy.

Summing up this discussion leads to the following hypothesis:

Hypothesis 1: The economic strategies represented by clusters 1 (open and orderly

integration) and 3 (cautious globalization) should be more prevalent among democracies. Clusters 2 (hyper-integrated production hubs) and 5 (estranged autarkies) should be more prevalent among non-democracies.

Cluster 1 represents a highly globally engaged democratic economic model that seeks out the broad-based benefits of economic integration. It seeks to manage risk by not letting trade and finance eat the entire economy, and through the use of carefully designed international institutions to further liberalization. Exchange rates are strong to benefit consumers. Cluster 3 represents a more cautious democratic approach to globalization, one that is careful about minimizing downside risk but still gets some of the broad benefits of integration. Clusters 2 and 5 (and perhaps cluster 4) represent non-democratic models. Cluster 2 countries are all-in on production for the global economy. This has potentially big gains for entrepreneurs but also potentially big risks. It may also require reducing some public good-type regulations. Cluster 5 countries perhaps do not have a support base invested in the global economy, and so they strongly favor the control granted by maintaining an alienated stance from the global economy.

Cluster 4, who we describe as insular non-traders, represents something of a mixed case in our view. Some of these countries are large and so don't face as great costs from a relatively non-engaged global economy – that may be consistent with democracy, as these states don't face pressing tradeoffs associated with limited global economic integration. Other Cluster 4 countries are small, and so their insularity represents a real lost opportunity for the economy, broadly construed, and for consumers. We are therefore uncertain about the overall relationship between Cluster 4 and democratization, and we consider as a subsidiary test whether the effect of democracy on adoption of Cluster 4 might be conditional on the size of the economy. We also examine whether the effect of democratization might be altered by the size of the economy for our other clusters, too.

Regression models and results on democratic institutions

We use a multinomial logistic regression model in order to describe the relationship between democracy and economic strategy. We represent the clusters of global engagement strategies as the outcome variable y_{it} for state i at time t where of course $y_{it} \in \{1, 2, 3, 4, 5\}$. To measure the level of democratization, we use the Electoral democracy index from the Varieties of Democracy (V-DEM) project. This measure is an aggregate or summary of several subindices and is meant to capture the extent to which government is accountable to citizens through competitive elections. We first fit a simple model with the democracy variable alone and present the predicted bivariate relationship between the policy clusters and democracy.

$$y_{it} \sim \text{Multinom}(1, \beta_0 + \beta_1 \text{Democracy}_{it}) \quad (1)$$

The baseline group is the *Estranged Autarkies* cluster and the outcome variables are the logged odds-ratio of a given outcome relative to *Estranged Autarkies*.

The results from this simple model are presented in Appendix B. We find that the predicted proportion of *Estranged Autarky* monotonically decreases as the level of democracy improves. *Semi-peripheral Production Hubs* maintain nearly the same proportion upto the 75% quantile of the democracy index, and then decreases to less than 10% when the democracy index is at the maximum. The predicted proportion of *Open & Orderly*, on the other hand, exponentially increases as the level of democracy increases, leaping from mere 1.5% when the democracy index is at its median, to nearly 36% when the democracy index is held at 75% quantile. The predicted proportions of *Half-hearted Globalizers* and *Insular Non-traders* show positive associations until the level of democracy increase to around 75% quantile, then slowly decrease.

In the next model, we include a variety of other country features that might shape the choice of economic strategy (and the level of democratization). We do so to show that the observed correlations between democracy and economy strategy hold conditional on other classic explanations for global engagement in the literature. We use the following model:

$$\begin{aligned}
 y_{it} &\sim \text{Multinom}(1, \boldsymbol{\theta}_{it}) \\
 \boldsymbol{\theta}_{it} &= F(\tau \text{Democracy}_{it} + \mathbf{x}_{it}^T \boldsymbol{\beta} + a_{ic} + \zeta_t + \zeta_t^2 + \zeta_t^3)
 \end{aligned}
 \tag{2}$$

\mathbf{x}_{it} denotes the set of control variables. We include basic economic indicators such as logged GDP per capita and the logged population. Geography can shape policies on trade and finance, so we control for the structural effect of geography by including a binary indicator for landlocked countries in our model. We also control for the economic complexity index (ECI) obtained from the Atlas of Economic Complexity project, which is defined as the revealed capability of a country in producing various exported goods. Economic complexity may serve as the baseline economic status on which a government conceives its development strategies. Some studies note how threats to national security can be a strong predictor of how a country pursues development.⁷ We add in our model the count of militarized interstate dispute a country was involved at a given year. We also added another count variable for the number of times a country faced militarized threats at a given year. Both variables are obtained from Militarized Interstate Dispute dataset in the Correlates of War(COW) project. Finally, we introduce a Continent-specific fixed effect a_{ic} and third degree polynomial over years to model trends over time.

The regression results from the full model in Table 3 suggest again that democracy is associated with the adoption of clusters 1, 3 and 4 relative to cluster 5. Non-democracy is therefore associated

⁷ Doner, Ritchie and Slater (2005), for example, emphasized that clear present security threats were one of the three critical drivers of the developmental state in South Korea and Taiwan.

Table 3: Results of Multinomial Regression with continent-level fixed effects and third degree polynomial of year

	$\log \frac{p(C1)}{p(C5)}$	$\log \frac{p(C2)}{p(C5)}$	$\log \frac{p(C3)}{p(C5)}$	$\log \frac{p(C4)}{p(C5)}$
(Intercept)	-19.84*** (5.44)	30.83*** (2.32)	9.85*** (1.71)	-4.89** (1.59)
Democracy	6.75*** (1.70)	-1.47** (0.56)	4.31*** (0.53)	3.22*** (0.41)
ECI	2.46*** (0.30)	2.12*** (0.22)	0.18 (0.17)	0.30* (0.13)
log_gdppc	5.57*** (0.68)	-1.82*** (0.32)	-0.67* (0.27)	0.91*** (0.23)
log_pop	-2.78*** (0.31)	-3.34*** (0.22)	-1.36*** (0.18)	0.11 (0.15)
mil_dispute	-0.02 (0.02)	-0.11*** (0.02)	0.02 (0.02)	-0.05*** (0.01)
mil_threat	-0.02 (0.03)	-0.19** (0.06)	0.06 (0.02)	0.09** (0.02)
former_sov	-0.21 (0.67)	-0.47 (0.39)	-2.97*** (0.51)	-1.98*** (0.52)
landlock	-0.86† (0.50)	-7.46*** (0.80)	-0.52* (0.21)	0.05 (0.23)

Standard errors in parentheses

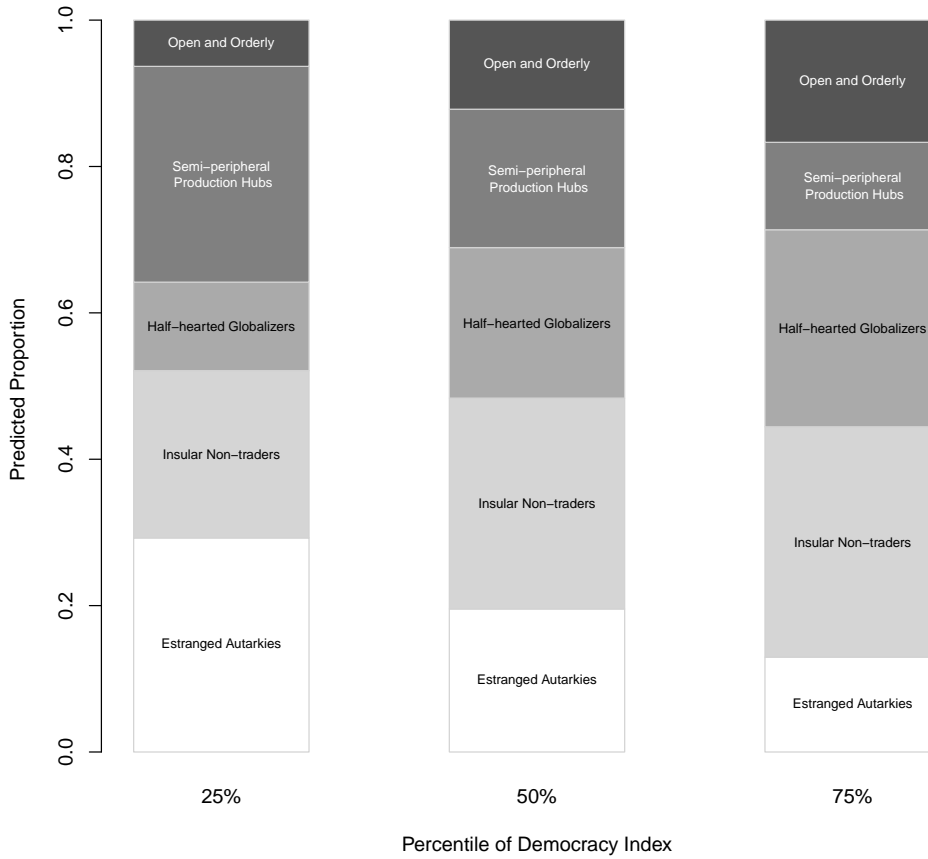
† significant at $p < .10$; * $p < .05$; ** $p < .01$; *** $p < .001$

with clusters 2 and 5. We illustrate the relationships uncovered in the full model in Figure 6. As we increase the level of democracy from 25%, 50% to 75% percentile, the predicted proportion of *Open & Orderly* and *Half-hearted Globalizers* increased significantly. Note that the predicted proportion of *Insular Non-traders* in our full model is increasing in democracy score after introducing controls for confounders. The level of democracy is negatively associated with the choice of *Semi-peripheral Production Hubs* cluster and *Estranged Autarky*. The predicted proportion for *Semi-peripheral Production Hubs* cluster takes up 29.4% when the democracy level is fixed to the 25% percentile, but it shrinks to 11.9% when democracy moves to the 75% percentile. Likewise, the predicted proportion for *Estranged Autarky* reduced from 29.2% to 12.9% between the 25% and 75% percentile of the democracy index.

The moderating effect of economy size

In this section, we examine whether the observed positive association between democracy and clusters 4, 3, and 1 (and its negative association with clusters 5 and 2) remains consistent across coun-

Figure 6: Full model: Predicted cluster proportions as a function of democracy



tries of different economic size. Our motivation for this investigation is part theoretical-deductive and part empirical-inductive. On the theoretical side, it is generally agreed that the broad-based economic costs of non-engagement are likely to be smaller in larger economies. So while we still think that the most extreme forms of autarky (cluster 5) will be unappealing to democracies large or small, it is possible that democratization in large economies will conduce more to clusters 3 and 4 rather than cluster 1 and 2 (which will be favored by small democracies). This observation builds on the long-running idea that larger polities face lower opportunity costs from forgoing the public goods of global economic integration. On the empirical-inductive side, we noticed in our analysis above that cluster 4 included several very large economies, particularly the US and Japan. These democracies are quite globally engaged in some sectors, but they are also very large and internal trade is likely to be more prominent (especially given their developed economic structure and the important role of relative non-tradables – government, health care, personal care, education – in the economy).

Table 4: Economic size as a moderator of democracy’s impact on globalization strategy

Non-democracy → democracy	Cluster				
	5	4	3	2	1
<u>Small economy (GDP at 25th percentile):</u>					
Predicted change	-0.07*	-0.04*	0.07*	-0.24*	0.28*
<u>Large economy (GDP at 75th percentile):</u>					
Predicted change	-0.14*	0.06*	0.27*	-0.39*	0.20*
Difference in predicted changes	-0.07*	0.10*	0.20*	-0.15*	-0.08*

Notes: Figures in the top two lines represent changes in predicted probabilities of the five clusters when the democracy measure is moved from its 25th to its 75th percentile. Two cases are considered: when nominal GDP is at its 25th percentile and at its 75th percentile. These simulations are drawn from a multinomial logistic regression model which interacts GDP and the democracy measure and includes GDP per capita as a control (set at its 75th percentile so that cluster 1 is ‘observed’).

To see if country size moderates the predicted impacts of democracy on cluster choice, we fit a simple model which interacts logged GDP (in 2010 dollars) with our democracy variable, and includes GDP per capita as a control. We first simulate first differences where we change democracy from its 25th percentile to its 75th percentile in the data while holding the economy size at the 25th percentile in the GDP data. Then we did the same holding GDP at the 75th percentile in the data, and also looked to see if there was a difference between the two differences. Our main prediction is that democratization will have more a positive affect on membership for clusters 4 and 3 and will have a larger negative effect or smaller positive effect for cluster 2 and 1, respectively.

Our first observation from Table 4 is that most of the main effects of democratization we observed above are consistent across the different GDP sizes. Clusters 1 and 3 are more common among democracies; clusters 3 and 5 are more likely non-democracies. Only cluster 4 sees a different effect of democratization depending on country size. As we speculated above, smaller economies have a tendency to abandon cluster 4 during democratization (and perhaps enter clusters 3 and 1); larger economies have a tendency to enter cluster 4 with democratization (as they exit, probably, cluster 5).

This moderating effect of country size on the relationship between democracy and cluster choice is also visible across the other clusters. Democracy has a more sharply negative effect on cluster 2 among large countries, and a less sharply positive effect on cluster 1. This perhaps reflects that the allure of hyper-engagement (especially via cluster 2) is much lower for very large economies that can do quite well without vast exposure to the global economy. At the same time, democratization has a (more) positive effect on adopting cluster 4 and 3 for large economies. This may reflect the comparative allure of strategies of semi-engagement or even relative insularity for large countries.

Conclusion

[TBD.]

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SUPPORTING INFORMATION

The following additional materials are available in the online appendices:

Appendix A: Data collection.

Appendix B: Additional models.