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Globalisation, government popularity and the great skills divide

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Abstract

How does international trade affect the popularity of governments and leaders? We provide the first large-scale, systematic evidence that the divide between skilled and unskilled workers worldwide is producing corresponding differences in the response of political preferences to trade shocks. Using a unique dataset that includes 118 countries and nearly 450,000 individuals, we find that growth in high-skill-intensive exports (of goods and services) increases the approval of the leader and incumbent government among skilled individuals. Growth in high-skill-intensive imports has the opposite effect. There is no effect on political approval among the unskilled. To identify exogenous variation in international trade, we exploit the time-varying effects of air and sea distances in bilateral trade flows. Our findings suggest that the political effects of international trade differ with skill intensity and that skilled individuals respond differently from their unskilled counterparts to trade shocks.

Keywords: International trade; political approval; political polarisation; skill intensity of trade

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1 Introduction

The politics of trade has recently dominated headlines. A US presidential election turned in large part on one candidate's promise to get tough against imports from China and Mexico. Across eastern Europe, populist leaders have taken stands against EU integration, and in the United Kingdom a majority voted to leave the European Union. Although anxiety about immigration and weakened sovereignty are common themes with the discontent, anger at the perceived loss of jobs to international competition is also highly salient.

Some argue that attitudes toward globalisation have emerged as a new dimension of political alignment, alongside the traditional left-right redistribution axis. "The new divide", according to the *Economist* magazine (2016), "is not between left and right but between open and closed."[1] If that is true, current political turbulence may foreshadow lasting changes.

Yet, although some scholars have explored implications of classic trade theories for preferences on trade policy (Scheve and Slaughter, 2001; O'Rourke and Sinnott, 2001; Mayda and Rodrik, 2005) until very recently there has been little systematic empirical analysis of the links between global trade and mass politics. A few papers have examined whether import competition in the United States has affected voting patterns in national elections (Margalit 2011; Autor et al., 2016; Jensen et al., 2017), while some others examine voting in Europe (Dippel, Gold, and Heblich 2015; Colantone and Stanig 2016, 2017). The general finding has been that sharp import shocks increase partisan polarisation or voting for populist parties.

We contribute to this literature by examining whether international trade affects not just voting at periodic elections but also the approval ratings of governments and political leaders in between. Using annual data from the Gallup World Poll for 2005-15, we provide the first large-scale, systematic evidence on this issue. In line with the factor endowment theory, we argue that attitudes toward globalisation will depend on both individuals' skill levels and the skill intensity

[1] See also De Vries (2017) on the cosmopolitan-parochial divide in recent Dutch elections.

of the country's exports and imports.[2] To address the endogeneity of trade patterns, we use instruments based on the time-varying bilateral air and sea transport costs, originally proposed by Feyrer (2009) and later used by other trade scholars. The panel structure of the data also allows us to control for country and year fixed effects.

Our results reveal a causal impact of changing trade flows on the approval of political leaders. We find that the effects of trade shocks depend on the interaction between individuals' characteristics and their country's trade structure. Highly skilled individuals approve of their leader and government more when the total volume of high-skill-intensive exports increases but approve of them less when the total volume of high-skill-intensive imports rises. This is the case although neither highly skilled nor unskilled workers respond distinctively to changes in *total* exports or imports. The magnitudes are substantial: a 10 per cent increase in skill-intensive exports results in a 1.17 percentage point increase in the leader's approval among skilled individuals, while a 10 per cent increase in skill-intensive imports prompts a 1.65 percentage point decrease in the leader's approval among the skilled. Given the closeness of certain recent elections, such changes could decide electoral outcomes.

Our analysis offers the broadest cross-national evidence to date on the relationship between trade and political attitudes. Whereas previous papers have mostly looked at individual countries or smaller samples, our data cover 118 countries, both developed and developing, over an 11-year period. This allows greater confidence in the generality of the findings. It also makes it possible to investigate the heterogeneity of responses to trade shocks based on various individual and country-level characteristics. We find that the relationship between high-skill-intensive trade and political approval is driven by developed countries and countries that are not involved in outsourcing; there is no relationship in developing countries that are involved in outsourcing. Furthermore, by incorporating country and year fixed effects and country-specific linear time

[2] Throughout the paper we use the term "skilled" or "highly skilled" to broadly refer to individuals with at least a tertiary education. Individuals with less than a tertiary education are referred to as "unskilled".

trends and by instrumenting for changes in skill-intensive trade, we address many potential concerns related to endogeneity and reverse causality.[3]

The paper proceeds as follows. Section 2 discusses related literature and motivates our hypotheses. Section 3 describes the data. Section 4 outlines our empirical approach and instrumentation strategy. Section 5 presents the results. Section 6 concludes.

[3] Our identification strategy is only suitable for instrumenting high-skill-intensive trade, and does not work for low-skill-intensive trade. In ordinary least squares specifications we have found no relationship between low-skill-intensive exports and imports and political approval among unskilled and skilled individuals.

2 Trade and politics

Classic theories of trade suggest that how international openness affects different groups depends on their factor endowments. The Heckscher-Ohlin and Stolper-Samuelson theorems show that assuming perfect competition, constant returns to scale, and costless factor mobility across sectors, openness benefits the owners of each country's abundant factors and hurts the owners of scarce factors. In particular, free trade should raise the wages of skilled workers in developed countries, where such workers are plentiful, and the wages of unskilled workers in poor countries, where skilled labour is scarce. The main rival theory, the Ricardo-Viner specific factors model, assumes certain factors are immobile between sectors. In this case, all workers in a given industry – whether skilled or unskilled – have similar interests. They do better under openness if their country has a comparative advantage in their industry, and worse if it does not.

Economic interests imply policy preferences. In a Heckscher-Ohlin world, skilled workers should favour free trade if they live in skill-rich countries, but protection if they live in skill-poor ones.[4] The opposite holds for unskilled workers. In a world of specific factors, workers in internationally competitive industries should favour open borders, while those in uncompetitive ones should demand high tariffs.

Empirical studies testing these hypotheses against survey data have found some support for the Heckscher-Ohlin predictions, but less for Ricardo-Viner. In the United States, highly skilled workers – as proxied by education – are more likely to favour openness, consistent with the factor endowment story (Scheve and Slaughter 2001). However, education could affect policy preferences by many other pathways, for instance by inculcating greater tolerance towards foreigners, encouraging risk acceptance, and increasing understanding of the benefits of commerce. Studies that use other measures of skills such as the occupational wage have found no effect on trade attitudes (Mansfield and Mutz, 2009, p.429).

[4] For a classic investigation of the role of such factors in history, see Rogowski (1989).

Two papers use cross-national surveys to investigate the interaction between skill levels of the individual and the country more precisely. O'Rourke and Sinnott (2001) and Rodrik and Mayda (2005) both found that, while highly skilled individuals supported free trade in richer countries (where high skills are more abundant), they *opposed* it in poorer countries. This evidence, consistent with Heckscher-Ohlin, is somewhat surprising given that the assumptions of the model are clearly not met in reality. Besides the lack of perfect competition in many countries and the importance of economies of scale, observed patterns of trade do not fit the expectation Heckscher-Ohlin theory generates of predominantly north-south flows. As Baldwin (2008, p.8) notes, empirical tests have "revealed little support for the HO [Heckscher-Ohlin] proposition that countries export their relatively abundant factors (embodied in goods) and import their relatively scarce productive factors".

This research provides evidence on the link between skill levels and attitudes towards trade. But it does not examine whether such attitudes influence political preferences and behaviour. It is natural to assume the material losers from increased openness will not only favour protection but also vote and protest against incumbents who fail to protect their markets. A small but growing literature looks for such political effects.

Three recent papers evaluate the impact of international trade on voting in the United States. Margalit (2011) shows that job losses from import competition depressed the vote share of the incumbent president in 2004 and 2008. Jensen et al. (2017) also find that trade-related losses in manufacturing cost incumbents votes. They show, also, that rising employment in high-skill export industries led to higher incumbent support. Autor et al. (2016) examine the polarisation of US politics and find that congressional districts exposed to greater increases in import penetration (due to the "China import shock" following China's accession to the World Trade Organization) disproportionately removed moderate politicians from office in the 2000s.

Fewer papers have looked for political consequences of trade in a cross-national context. One exception is Colantone and Stanig (2017), who examine how globalisation has affected electoral outcomes in 15 western European countries in 1988-2007. They find that greater exposure to the

shock of Chinese import competition predicts a shift to the right in voting, including greater support for nationalist parties and the radical right. Margalit (2017), using data from the International Social Survey Programme (ISSP) , finds that those in advanced economies who feel they have suffered from international trade tend to support parties that favour economic protection but socio-cultural conservatism.

We build on both strands of this literature. Following the Heckscher-Ohlin-inspired studies of policy preferences, we hypothesise that attitudes will depend on the interaction between an individual's skill level and the skill-intensity of the country's imports and exports. We disaggregate individuals and trade flows by skills. As in the recent papers on political consequences, we reach beyond self-reported attitudes towards trade, which may be superficial for many citizens and unlinked to political behaviour, to study support for incumbent officials, which has clearer consequences. At the same time, rather than assuming a particular pattern of trade flows based on countries' factor endowments – a pattern known to be at best only partly accurate – we use a direct measure of trade disaggregated on the basis of skill intensity. Our main hypothesis is that skilled workers are more likely to support the incumbent national leadership if high-skill-intensive imports are falling and skill-intensive exports are growing.

3 Data

The data used in this paper come from the Gallup World Polls, the United Nations International Trade Statistics Database (COMTRADE), CEPII, the World Bank's World Development Indicators (WDI), the Integrated Network for Societal Conflict Research Database, Polity IV and Freedom House. The level of analysis is the individual level, and the details on how the dataset was constructed are provided below.

3.1 Individual-level data from Gallup World Polls

Our primary data on individual characteristics and outcome variables come from the 2005-15 Gallup World Polls (GWP). These nationally representative surveys are fielded every year in over 120 countries and interview approximately 1,000 individuals in each country on a wide range of topics. Our main sample includes nearly 450,000 respondents, aged 25 to 64, from 118 countries.[5] We restrict attention to those aged 25 to 64 to focus on economically active individuals who have most likely completed their education.[6]

The key outcome variables in this paper come from questions asked to all Gallup respondents about the job performance of the ruling leader and confidence in national government: (i) "Do you approve or disapprove of the job performance of the leadership of this country?"; (ii) "In (this country), do you have confidence in each of the following, or not: … How about national government?" We also examine responses to four parallel questions, as placebo outcomes, about whether the respondents have confidence in: (iii) the military; (iv) honesty of elections; (v) the judicial system; and (vi) media (freedom).[7]

The GWP also provides detailed information on individuals' demographic characteristics (age, gender, educational attainment, marital status, religion and urbanity status), labour market

[5] We do not include observations for Nagorno-Karabakh, Northern Cyprus, Somaliland and Puerto Rico.
[6] We tried to lower the minimum age to 18 years and found no qualitative change in the results.
[7] These questions are part of a Gallup "national institutions index". Note that if a respondent asks for clarification or interpretation of the question, Gallup surveyors are trained to answer: "However *you* interpret the question" or "It is whatever the question means to *you*". If a respondent asks whether there is a more neutral response option (as opposed to simply "yes" or "no," surveyors are trained to ask whether "there is one that you lean more towards".

outcomes and income. Controlling for employment status and income allows us to measure the impact of trade on political approval beyond trade's direct effect on households' material well-being.

The GWP's main advantage for our purposes is that the poll allows us to measure the impact of international trade on political approval across a broad spectrum of countries over the past decade. This is particularly important since existing research has mostly provided evidence on individual countries.

3.2 International trade data

We obtained product-level export and import data on goods and services from the UN COMTRADE database for the years 2005-15. More specifically, we use the 3-digit Standard International Trade Classification (SITC – revision 3) to categorise manufactured goods by their skill intensity (that is, labour-intensive, low-skill intensive, medium-skill intensive and high-skill intensive).[8] The data on exports and imports of services employ the EBOPS classification. We use correspondence tables provided by the Manual on Statistics of International Trade in Services (2002) to classify trade in services by their skill intensity. In both datasets, values are reported in nominal US dollars. We adjust these values to 2011 dollars using the consumer price index. Using these data, we calculate the variable *Total Volume of High-Skill-Intensive Exports (Imports)*. We provide detailed information about the skill classification in the appendix.

To construct our instruments, we mainly use two datasets. The first is the special licence version of the UN COMTRADE data, which provides bilateral trade flows between countries at the product and service level. The raw dataset includes more than 250 million year-country-pair (exporter-importer) observations. We first classify each trade flow based on its skill intensity. We then calculate the sum of trade values by year-country-trade-partner for each country. The second dataset comes from the Centre d'Études Prospectives et d'Informations Internationales (CEPII). More specifically, we use the Historical Bilateral Trade and Gravity Dataset

[8] Detailed information on product grouping for goods and services can be found here: http://unctadstat.unctad.org/EN/Classifications.html.

(TRADHIST) that was compiled by Fouquin and Hugot (2016) to obtain information on bilateral trade characteristics, including geographical distance, common borders, and colonial and linguistic links. There are three main measures of bilateral distance: a city population-weighted mean of the great-circle distance between each pair of countries; the great-circle distance between the two largest cities of each country pair; and the shortest maritime distance between two countries (for landlocked countries, Fouquin and Hugot, 2016, choose the closest foreign port and report the distance accordingly).[9]

3.3 Time-varying country characteristics

We also control for several time-varying country characteristics in our main specification, including the country's political regime (from the Polity IV dataset) and population, Freedom House's Press Freedom Index, GDP per capita, the import to GDP ratio, and the export-to-GDP ratio obtained from the World Bank's World Development Indicators database. As a robustness check, we also control for leaders' tenure (that is, the number of consecutive years served in the top office). The data on this variable come from the Database of Political Institutions, with our updates (Cruz, Keefer, and Scartascini, 2016).

3.4 Descriptive statistics

Table 1 presents descriptive statistics for the outcome variables, country characteristics and individual demographic characteristics. Several patterns are notable. First, nearly 50 per cent of respondents report that they approve of the performance of the leader or have confidence in the national government. These figures mask substantial heterogeneity within and across countries. For example, over the sample period, the lowest approval ratings for leaders were recorded in Bosnia and Herzegovina (17 per cent), Angola (21 per cent), Romania (22 per cent), Ukraine (23 per cent) and Peru (23 per cent). At the other end of the scale, Bhutan (95 per cent), Singapore

[9] Fouquin and Hugot (2016) obtained information on all maritime distances from vesseltracker.com (2014). They first identified the largest port in each country (two ports if the country was bordered by two different seas or oceans) and chose the shortest maritime distance between any of the ports of both countries.

(94 per cent), Vietnam (92 per cent), Azerbaijan (88 per cent) and Kazakhstan (87 per cent) have the highest approval ratings in the sample.

Similar patterns emerge, perhaps not surprisingly, when we look at the figures about confidence in national government. Respondents in Ukraine, Romania, Peru, Moldova and Bosnia and Herzegovina report the lowest levels of confidence in their national governments, ranging from 19 to 23 per cent, respectively. By contrast, more than 80 per cent of respondents report having confidence in their national government in Azerbaijan, Bhutan, Ethiopia, Namibia, Singapore, Sri Lanka and Vietnam. These figures suggest that: (i) the two outcome variables (approval of leaders and confidence in national government) are highly correlated; and (ii) respondents in democratic countries tend to report lower levels of government approval.[10] The patterns of high-skill-intensive exports and imports also vary substantially. Luxembourg (52 per cent), Ireland (46 per cent) and Singapore (45 per cent) have the highest shares of skill-intensive exports (as a percentage of total exports of goods and services), and China, the United States and Germany have the highest total volume of high-skill-intensive exports. By contrast, the shares are lowest in Venezuela (1.1 per cent), Azerbaijan (0.8 per cent) and Nigeria (0.6 per cent) and the volumes are lowest in Burundi, Rwanda and Zimbabwe.

The shares of high-skill-intensive imports (as a percentage of total imports of goods and services) range from highs of 50 to 72 per cent in Rwanda, Lebanon, Malawi, Nepal and Burundi to lows of 5 to 10 per cent in Azerbaijan, Trinidad and Tobago, Qatar, Oman and Bahrain. When it comes to the volumes, the United States, China and Germany are the top importing countries of high-skill-intensive goods and services, while Burundi, Niger and Togo have the lowest import volume of high-skill-intensive goods and services in our sample. Looking at placebo outcomes, we see that people tend to have confidence in the armed forces (72 per cent for the military), while only about half of respondents worldwide have confidence in the honesty of elections, the judicial system and media. Moreover, differences in these are very large, with about 20-50 percentage point gaps between democracies and non-democracies.

[10] This is consistent with Guriev and Treisman (2017).

4 Estimation methodology

4.1 Empirical strategy

To assess the effect of international trade on approval of the leader and confidence in the national government, we start by estimating ordinary least squares models. We use the following specification:

$$Y_{ict} = \beta_0 + \beta_1 X_{ict} + \beta_2 \text{Skilled}_{ict} * (\text{Log High-Skill-Intensive Exports})_{ct} + \beta_3 \text{Skilled}_{ict} * (\text{Log High-Skill-Intensive Imports})_{ct} + \beta_4 \text{Skilled}_{ict} + + \beta_5 * (\text{Log High-Skill-Intensive Exports})_{ct} + + \beta_6 * (\text{Log High-Skill-Intensive Imports})_{ct} + + \beta_7 Z_{ct} + \beta_8 C_c + \beta_9 T_t + \beta_{10} C_c * t + \varepsilon_{ict} \quad (1)$$

where Y_{ict} is a dummy variable indicating that the respondent approves of "the job performance of the leadership of their country" or the respondent has "confidence in national government" depending on the model, for individual *i* in country *c* at time *t*. We estimate linear probability models for ease of interpretation.

To adjust for the effect of demographic and labour market structure on the outcome variables, we directly control for time-varying, observable individual characteristics. More specifically, X_{ict} is a vector of demographic variables that (depending on the model) include: a male dummy; age and age squared; dummy variables for marital status (married/civil partnership and divorced/separated); a dummy variable for the presence of children in the household (any child under 15); and a dummy variable for living in an urban area. To account for pro-cyclical variation in labour market outcomes, we control for the log of household income.[11] Note that we do not control for individual-level unemployment in our baseline specification since this

[11] Gallup converts local income to international dollars using the World Bank's individual consumption PPP conversion factor. This makes income estimates comparable across all countries.

information is only available in the GWP from 2009. Below we show that our results are robust to this choice.

Skilled is an indicator variable equal to one for individuals with at least tertiary education.[12] The excluded category for education in all models consists of individuals who report less than tertiary education, which we label *unskilled*. *Log High-Skill-Intensive Exports (Imports)* is the natural log of the total volume of high-skill-intensive exports (imports) of good and services. The main coefficients of interest are the interaction terms β_2 and β_3, which capture the impact of growth in the total volume of high-skill-intensive exports and imports on the approval levels of highlyskilled (relative to unskilled) individuals. The coefficients β_5 and β_6 measure the impact of growth in the total volume of high-skill-intensive exports and imports on approval levels of unskilled individuals. Z_{ct} is a vector of other potentially relevant country-time varying characteristics that could be correlated with political approval. These include political regime characteristics of a country (Polity IV), the Freedom House Press Freedom Index, the log of GDP per capita, the log of country population, the import-to-GDP ratio, and the export-to-GDP ratio.

To account for other unobservable characteristics, we include a full set of country (C_c) and year (T_t) dummies. The country dummies control for all time-invariant variation in the outcome variable caused by factors that vary cross-nationally. Year dummies capture the impact of global shocks that affect all countries simultaneously. We also include multiple language and interview type dummies throughout, though we do not report them in equation 1. In addition, we control for country-specific linear time trends, C_c*t, thus removing distinctive trends in opinion in various countries that might otherwise bias our estimates if they accidentally coincided with trade-related changes. In the fully saturated models, the estimates are identified by exploiting within-country variation that has been stripped of any influence of constant and linearly

[12] Gallup harmonised education variables and created a worldwide dataset with standardised individual-level education data. All responses regarding education are coded into the following categories for global comparison: elementary (up to 8 years of basic education); secondary (9 to 15 years of education); and tertiary (completed 4 years of education beyond "high school" and/or received a four-year college degree).

changing country characteristics. Lastly, we cluster standard errors by country and use sample weights provided by Gallup to make the data representative at the country level.

4.2 Instrumentation strategy

To identify the causal effects of international trade on political approval, we need to address the issues of omitted variables bias and reverse causality. If individuals do not approve of the performance of their leader or do not have confidence in the government, that might affect economic activity and eventually influence the volume and composition of trade. Trade and political outcomes may also be jointly affected by omitted variables (such as a change in institutions). Furthermore, measurement error in high-skill-intensive exports (imports) may result in attenuation bias. To tackle these issues, we use two-stage least squares (2SLS) methodology with instrumental variables that affect high-skill-intensive exports (imports) but are unrelated to the approval of or confidence in the incumbents.

To find a valid instrument, we focus on exogenous determinants of trade flows that predict each country's high-skill-intensive exports and imports. Specifically, we use the changes in high-skill-intensive bilateral trade flows that have resulted from advances in transportation technology. As documented in Hummels (2007), substantial improvements in technology have sharply cut the cost of air shipping relative to that of sea shipping. Put differently, a weight/value ratio of trade for air transport has been declining much faster than a weight/value ratio of trade for sea transport. Trade costs have therefore changed differently for country pairs with different sea-distance-to-air-distance ratios. This means, for instance, that countries located far from their major export markets have a comparative advantage in lightweight goods due to air shipping (Harrigan, 2010).

According to annual global statistics from ICAO (2015), total air freight traffic, expressed in terms of scheduled total freight tonne-kilometres performed, increased sharply to 199 billion in 2015 from 152 billion in 2005, registering a 31 per cent increase over our sample period. This shift in the mode of transport is particularly important in our case given that the majority of high-value goods, which are likely to be high-skill-intensive exports (imports), travel by air (Feyrer,

2009). In other words, our instrumentation approach exploits the time-varying effects of air and sea distances on the relative transportation costs of different types of products to identify exogenous variation in bilateral trade flows. These predicted measures (being a function of geography and time only) are exogenous with respect to political approval and therefore allow us to identify causal effects.

Our approach is based on the gravity model (Anderson, 2011 and Anderson and van Wincoop, 2003) and closely follows Feyrer (2009) and Blanchard and Olney (2017). We interact bilateral sea and air distances with year fixed effects to identify the impact of enhanced aircraft technology over the sample period. Formally, we estimate the following equation:

$$\log(X_{ijt}) = \alpha_{sea,t}\log(seadistance_{ij}) + \alpha_{air,t}\log(airdistance_{ij}) + Y_t + Y_{ij} + \varepsilon_{ijt} \qquad (2)$$

where X_{ijt} is the bilateral flow of high-skill-intensive exports from exporter *i* to importer *j* in year *t*. Y_t indicates year dummies and Y_{ij} represents bilateral pair fixed effects; $seadistance_{ij}$ is the shortest bilateral sea trade distance, and $airdistance_{ij}$ is the weighted great circle distance between countries *i* and *j*. Our instruments are the total predicted volume of high-skill-intensive exports (imports) of goods and services.

5 Results

This section presents three sets of results. We first show ordinary least squares (OLS) estimates. We then present IV results following the methodology introduced in section 4.2 and conduct a counterfactual analysis to illustrate the quantitative implications of our results. We also investigate heterogeneity by socio-economic subgroups and country income levels. Lastly, we present a set of robustness checks.

5.1 Ordinary least squares specifications

In this subsection we start analysing the effects of international trade on political approval among skilled workers relative to unskilled workers. Table 2 presents the results from the OLS estimation where the dependent variable is a dummy variable indicating that the respondent approves of "the job performance of the leadership of his or her country" and Table 3 presents the results from the OLS estimation where the dependent variable is a dummy variable indicating that the respondent has "confidence in national government".

In both tables column 1 reports the estimation with country and year fixed effects and country-specific linear time trends included; column 2 adds demographic characteristics; column 3 adds the logarithm of household income; column 4 adds country-level controls (Polity 2 scores, press freedom index, the log of country population, and the log of GDP per capita).

In all columns of Table 2 there is a positive relationship, statistically significant at at least $p < .01$, between total imports (which here captures the effect among the *unskilled*) and approval of the leader. Contrary to conventional wisdom, we find no evidence that unskilled workers oppose imports and blame their leaders for failing to protect markets – rather the reverse. Total imports are also positively related to approval of the government (among unskilled respondents) in the first three columns of Table 3. The coefficient falls by 30 per cent and is no longer statistically significant once we control for country-level characteristics (the estimated impact of imports here may be partly picking up the effect of national income growth, which also boosts

imports). There is no sign that growth in total exports affects political approval one way or the other.

Although increased total imports are associated with higher approval among all respondents, Tables 2 and 3 provide no evidence that skilled and unskilled individuals respond differently to such growth. Nor do they respond differently to growth in total exports – none of the interaction terms is significant. These results highlight the need for a more granular approach analysing the *composition* of trade.

Tables 4 and 5 present estimates of the relationship between the total volume of high-skill-intensive exports (imports) and political approval among skilled individuals.[13] In Table 4 we report results for approval of the leader's performance. The coefficients at the skill-intensive exports and imports are small and statistically insignificant; this implies no effect of skill-intensive trade on unskilled individuals. The interaction term between the tertiary education dummy and the logarithm of total high-skill-intensive exports in the first column is positive and statistically significant (with a magnitude of 0.046), and the interaction term between the tertiary education dummy and the log of total high-skill-intensive imports is negative and statistically significant (with a magnitude of -0.052). The former is the estimated impact of growth in high-skill-intensive exports on political approval among skilled individuals (relative to unskilled ones), and the latter is the estimated effect of growth in high-skill-intensive imports on political approval among skilled individuals (relative to unskilled ones). Columns 2 to 4 show that the estimated effects are similar, and remain significant, as additional controls are added. In our fully saturated regression (column 4), a 10 per cent increase in high-skill-intensive exports leads to a 0.46 percentage point rise in confidence in the country's leader among the skilled relative to the unskilled. A 10 per cent increase in high-skill-intensive imports results in a 0.53 percentage point fall in approval of the leader among skilled individuals (relative to unskilled ones). Table 5 reports the results for confidence in national government. The results have the same sign, statistical significance, and similar magnitudes.

[13] In column 4 we add the same country-level controls as in Tables 2 and 3 plus the log of import-to-GDP ratio and the log of export to GDP ratio.

5.2 Instrumental variable specifications

In this section we present the IV estimates of the relationship between the composition of trade and political approval. We use *the total predicted volume of high-skill-intensive exports (imports)* as instruments for the total volume of high-skill-intensive exports (imports).

We first discuss the validity and the power of the instrument. Table 6 presents the first-stage estimates, which show a strong relationship between the total predicted volume of skill-intensive exports (imports) and actual total volume of high-skill-intensive exports (imports). This relationship is robust to the inclusion of individual-level covariates as well as country-level controls. Overall, the instruments are highly correlated with the relevant endogenous variables and have predictive power. The results for the first-stage F-test also show that the first-stage relationships are strong. The Kleiberberg-Paap F-statistic is 26 in the sample for which data on approval of the leader are available; for the sample with data on confidence in the national government, the F-statistic is 25.

Tables 7 and 8 present the second-stage estimates, in which we replicate the OLS specifications from Tables 4 and 5. We only report coefficients on the main variables of interest. Column 4 of Table 7 presents the IV results with country and year fixed effects, country-specific linear time trends, household income and demographic characteristics, as well as time-varying country-level characteristics. The impact of skill-intensive exports on approval of the leader among skilled individuals is positive and significant, with a point estimate of 0.117, while that of skill-intensive imports is negative and significant, with the point estimate -0.165.

The magnitudes imply that a 10 per cent increase in skill-intensive exports results in a 1.2 percentage point increase in political approval among the skilled individuals (relative to the unskilled). The respective number for skill-intensive imports is 1.7 percentage points. In our dataset, the maximum deviation of skill-intensive exports from the country-specific trend (averaged across all countries) was +3.4 per cent; the minimum deviation was -3.0 per cent. The numbers for the skill-intensive imports are +3.0 and -2.6 per cent respectively. Therefore, if we compare a year with maximum skill-intensive exports (in terms of deviation from the country

trend) and minimum skill-intensive imports with a year with minimum skill-intensive exports and maximum skill-intensive imports, the difference in approval will be 0.117*(3.4+3.0)+0.165*(3.0+2.6)=1.7 percentage points. This is substantial: the average absolute value of the deviation of approval from its country-specific trend is 2.9 percentage points.

Our results also show that skilled individuals on average are more likely to approve of their countries' leaders (controlling for trade). The coefficient at tertiary education is 1.22, so an increase of the share of skilled individuals in the population by 10 percentage points should (on average) increase political approval by 12 percentage points.

We find similar results in Table 8, where the dependent variable is confidence in the national government. The impact of high-skill-intensive exports on confidence in national government among skilled individuals (relative to the unskilled) is positive and significant, with a magnitude of 0.113 (column 4). That of high-skill-intensive imports is negative and significant, with a point estimate of -0.152. In each specification, the IV coefficients are larger than the OLS estimates.[14]

In Table 9 we provide examples to develop a better understanding of the quantitative implications of our results. Specifically, we choose four countries with relatively large increases in skill-intensive exports and four with large increases in skill-intensive imports over the sample period 2005-15. Using the regression coefficients from our preferred 2SLS specification (column 4 of Table 7), we predict the impact of trade on the approval rates of the country's leader among skilled respondents in the given country. We compare the predicted changes in approval with the actual changes in approval among the skilled over the same period. We find that for the countries with large increases in skill-intensive exports (Bulgaria, Lithuania, Nigeria and the Slovak Republic) trade effects explain a quarter of the change in political approval among high-skill individuals. For the countries with large increases in skill-intensive imports (Chile, Paraguay,

[14] There is no correlation between our instrument and low-skill intensive exports and imports. This is not surprising as our instrument is based on the idea that skill-intensive goods are more likely to be transported by air. This, however, makes it impossible to identify the causal effect of low-skilled trade on political approval.

South Korea and Turkey) trade effects explain from one-half to two-thirds of the actual change in political approval among high-skill individuals.

To understand the heterogeneity of the effects, we consider the IV estimations for various subsamples. In Table 10 we report the coefficients of the interaction terms in regressions of, respectively, approval of political leaders and confidence in the government, following the baseline specification in column 4 of Tables 7 and 8. In columns 1 and 2 we break down the results by gender and in columns 3 and 4 we split the sample by age groups (aged 25-44 and 45-64). The coefficients are broadly similar to those in the main specification and suggest no meaningful differences in responses between men and women and younger and older cohorts.

Columns 1 and 2 of Table 11 investigate heterogeneity in urbanity status. One might expect to find stronger effects in rural areas, where labour markets are less competitive, and so workers have more to fear from trade shocks. The results are in line with this conjecture. Columns 3 to 5 split respondents by income level (low-income tercile of households, middle-income tercile and high-income tercile). We find that low-income and middle-income households are more responsive to trade shocks and the average results are mostly driven by these groups. For high-income households, coefficients have the same signs and are statistically significant, but the effects are smaller in magnitude. The smaller effects for high-income individuals may be explained by the fact that our indicator for skilled workers (that is, tertiary education) de facto includes the occupational dummies for professionals and executives, who are less likely to be hurt by the labour market effects of trade shocks.

We also estimate the relationship between trade and political approval separately for richer and poorer countries. As Table 12 shows, results are driven by developed countries.

5.3 Placebo and robustness checks

Table 13 presents our placebo analysis. We examine responses to four parallel questions that should not, in theory, be affected directly by a change in trade flows – whether the respondent had confidence in the military, the judicial system, freedom of media and honesty of elections.

The results confirm that the significant relationships documented in Tables 7 and 8 are specific to political approval. We find no economically or statistically meaningful association between growth in high-skill-intensive exports (imports) and confidence in any of the other institutions.

Tables 14 and 15 present additional robustness checks. The top panel of Table 14 controls for individual unemployment – at the cost of restricting the sample to years after 2009 – and the bottom panel controls for additional country characteristics (Gini index, urbanisation rate and country-level unemployment rate). The top panel of Table 15 controls for leaders' continuous tenure (since time in office can affect approval ratings) and the bottom panel of Table 15 lowers the minimum age in the sample to 15 years. The results remain qualitatively the same.

We also test our results in a sample of countries that are the main recipients of outsourcing business from developed nations. Outsourcing might be expected to change the pattern of attitudes towards international openness. Political approval among highly skilled workers in countries that benefit from considerable outsourcing may be less sensitive to the level of exports and imports of high-skill-intensive products. Indeed, outsourcing and participation in global value chains involves higher volumes of both exports and imports. In such countries, increases in imports may be perceived as essential to subsequent increases in exports and therefore need not be politically unpopular.

We use the AT Kearney Global Services Location Index (2017) to determine the top 35 destination countries (excluding developed nations). The IV results are shown in Table 16. As expected, the coefficient on the interaction between tertiary education and high-skill imports (and exports) is no longer statistically significant. This is consistent with the view that receiving outsourced jobs can insulate the educated population in developing countries against the costs of freer trade.[15] The second column of Table 16 shows that the coefficients for the subsample of non-outsourcing developing countries are large and statistically significant.

[15] As a robustness check, we also tried using an alternative definition of "high-skilled individuals" in this estimation, including those with secondary education. The results do not change.

It is also important to note that our findings do not change when we use the *share of high-skill-intensive exports (imports) as a percentage of total exports (imports)* instead of the log of total volume of high-skill-intensive export (imports). The results are reported in Appendix Tables 4 and 5 (with the first-stage F-statistics being above 26 in all specifications). Lastly, we check if our results hold controlling country and time fixed effects but not controlling for country-specific time trends. As shown in the Appendix Tables 6 and 7, results are the same.

6 Conclusions

How does international openness influence political attitudes and behaviour? This paper shows that the effect of openness on the popularity of incumbents depends on the skill composition of trade. Taking data from 118 countries in 2005-15, we used an instrument based on geography to estimate the causal impact of changes in the skill-intensity of imports and exports. Our results suggest that growth in high-skill-intensive exports increases both the incumbent government's and the leader's approval among skilled individuals while growth in high-skill-intensive imports has a negative effect. We find no effects of high-skill-intensive trade on political approval among unskilled individuals. The effects are very similar when we split the samples by age or gender. As expected, the results are stronger for rural residents, who often have fewer alternatives when local firms are forced to close. We also find that outsourcing of jobs to developing countries may blunt the impact of openness on attitudes of the skilled individuals in those countries.

Our results have different implications for countries with different skill-intensity profiles of exports and imports; by definition, not all countries can export more skill-intensive products than they import. As education levels rise, political approval should tend to increase in countries with a faster growth of skill-intensive exports than imports – but trend lower in other countries. However, our estimates show the magnitudes of these effects are smaller than the direct positive impact of education: on average, skilled individuals are more likely to approve of their countries' leaders and to be more confident in their governments.

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Tables

Table 1: Sample characteristics - 2005-15 Gallup World Poll Data

Variables	(1) Mean (standard deviation)
Dependent variables	
Approval of the leader	0.49 (0.49) – N: 426132
Confidence in national government	0.48 (0.49) – N: 459986
International trade characteristics	
Ln (total high-skill-intensive exports)	22.75 (2.80)
Ln (total high-skill-intensive imports)	23.50 (2.08)
Placebo outcomes	
Have confidence in the military	0.72 (0.44) – N: 440141
Have confidence in the honesty of elections	0.49 (0.49) – N: 445397
Have confidence in the judicial system	0.50 (0.49) – N: 446528
Have confidence in the media	0.53 (0.49) – N: 190270
Individual level characteristics	
Age	42.57 (11.30)
Male	0.45 (0.49)
Tertiary education	0.19 (0.39)
Partnered	0.71 (0.45)
Urban	0.53 (0.49)
Household income	27,836 (119,324)
Country characteristics	
Polity 2	5.54 (5.72)
Press freedom index	45.86 (22.43)
Import-to-GDP ratio	0.43 (0.26)
Export-to-GDP ratio	0.41 (0.29)
GDP per capita	16,721 (19,435)
Ln (country population)	17.03 (1.77)
N	598,100

Sources: Gallup World Poll, UN Comtrade Database, World Development Indicators Database.

Note: Means (standard deviations). This table provides individual and aggregate level variables averaged across the 11 years (2005-15) used in the analysis. The sample sizes for some variables are different, either due to missing data or because they were not asked in every year.

Table 2: International trade and political approval – OLS estimation with aggregate exports and imports

	(1) OLS	(2) OLS	(3) OLS	(4) OLS
Outcome: approval of the leader				
TertiaryEducation*LogTotalExports	0.010	0.009	0.009	0.010
	(0.016)	(0.016)	(0.016)	(0.016)
Log total exports	0.017	0.018	0.017	0.001
	(0.032)	(0.032)	(0.032)	(0.036)
TertiaryEducation*LogTotalImports	-0.005	-0.004	-0.003	-0.005
	(0.018)	(0.018)	(0.018)	(0.018)
Log total imports	0.217***	0.220***	0.219***	0.200*
	(0.081)	(0.081)	(0.082)	(0.104)
Tertiary education	-0.135	-0.117	-0.125	-0.115
	(0.117)	(0.114)	(0.113)	(0.114)
R-squared	0.128	0.130	0.130	0.130
N	426,132	426,132	426,132	426,132
Country fixed effects	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes
Country-specific linear time trends	Yes	Yes	Yes	Yes
Demographic characteristics	No	Yes	Yes	Yes
Household income	No	No	Yes	Yes
Country-level characteristics	No	No	No	Yes

Sources: Gallup World Poll, UN Comtrade Database, World Development Indicators Database.
Note: * significant at 10%; ** significant at 5%; *** significant at 1%. All specifications include multiple language and interview type dummies and control for the log of household income throughout, though we do not report them above. Demographic characteristics include: a male dummy, age and its square, dummy variables for marital status (married/civil partnership and divorced/separated), a dummy variable for living in an urban area and presence of children in the household (any child under 15). Country characteristics include: Polity 2, press freedom index, the log of country population, and the log of GDP per capita. Results use the Gallup sampling weights and robust standard errors are clustered at the country level.

Table 3: International trade and political approval – OLS estimation with aggregate exports and imports

	(1) OLS	(2) OLS	(3) OLS	(4) OLS
Outcome: confidence in government				
TertiaryEducation*LogTotalExports	0.011	0.009	0.009	0.010
	(0.017)	(0.017)	(0.017)	(0.016)
Log total exports	0.047	0.048*	0.048**	0.046
	(0.029)	(0.029)	(0.028)	(0.034)
TertiaryEducation*LogTotalImports	0.003	0.004	0.004	0.003
	(0.019)	(0.019)	(0.019)	(0.019)
Log total imports	0.131*	0.134*	0.134*	0.093
	(0.068)	(0.068)	(0.068)	(0.083)
Tertiary education	-0.355***	-0.325***	-0.324***	-0.317***
	(0.123)	(0.119)	(0.119)	(0.120)
R-squared	0.139	0.142	0.142	0.142
N	459,986	459,986	459,986	459,986
Country fixed effects	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes
Country-specific linear time trends	Yes	Yes	Yes	Yes
Demographic characteristics	No	Yes	Yes	Yes
Household income	No	No	Yes	Yes
Country-level characteristics	No	No	No	Yes

Sources: Gallup World Poll, UN Comtrade Database, World Development Indicators Database.
Note: * significant at 10%; ** significant at 5%; *** significant at 1%. All specifications include multiple language and interview type dummies and control for the log of household income throughout, though we do not report them above. Demographic characteristics include: a male dummy, age and its square, dummy variables for marital status (married/civil partnership and divorced/separated), a dummy variable for living in an urban area and presence of children in the household (any child under 15). Country characteristics include: Polity 2, press freedom index, the log of country population, and the log of GDP per capita. Results use the Gallup sampling weights and robust standard errors are clustered at the country level.

Table 4: International trade and political approval – OLS estimation

	(1) OLS	(2) OLS	(3) OLS	(4) OLS
Outcome: approval of the leader				
TertiaryEducation*LogHighSkillIntensiveExports	0.046***	0.045***	0.045***	0.046***
	(0.007)	(0.007)	(0.007)	(0.007)
Log high-skill-intensive exports	-0.022	-0.022	-0.022	-0.011
	(0.024)	(0.024)	(0.024)	(0.025)
TertiaryEducation*LogHighSkillIntensiveImports	-0.052***	-0.052***	-0.052***	-0.053***
	(0.010)	(0.009)	(0.009)	(0.009)
Log high-skill-intensive imports	0.091**	0.094**	0.093**	0.013
	(0.044)	(0.044)	(0.044)	(0.049)
Tertiary education	0.181**	0.197***	0.191**	0.197**
	(0.077)	(0.076)	(0.076)	(0.076)
R-squared	0.128	0.129	0.130	0.131
N	426,132	426,132	426,132	426,132
Country fixed effects	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes
Country-specific linear time trends	Yes	Yes	Yes	Yes
Demographic characteristics	No	Yes	Yes	Yes
Household income	No	No	Yes	Yes
Country-level characteristics	No	No	No	Yes

Sources: Gallup World Poll, UN Comtrade Database, World Development Indicators Database.
Note: * significant at 10%; ** significant at 5%; *** significant at 1%. All specifications include multiple language and interview type dummies and control for the log of household income throughout, though we do not report them above. Demographic characteristics include: a male dummy, age and its square, dummy variables for marital status (married/civil partnership and divorced/separated), a dummy variable for living in an urban area and presence of children in the household (any child under 15). Country characteristics include: Polity 2, press freedom index, the log of country population, the log of import-to-GDP ratio, the log of export-to-GDP ratio and the log of GDP per capita. Results use the Gallup sampling weights and robust standard errors are clustered at the country level.

Table 5: International trade and political approval – OLS estimation

	(1) OLS	(2) OLS	(3) OLS	(4) OLS
Outcome: confidence in government				
TertiaryEducation*LogHighSkillIntensiveExports	0.035***	0.034***	0.034***	0.034***
	(0.007)	(0.007)	(0.007)	(0.007)
Log high-skill-intensive exports	-0.000	-0.000	-0.000	0.010
	(0.020)	(0.020)	(0.020)	(0.021)
TertiaryEducation*LogHighSkillIntensiveImports	-0.030***	-0.030***	-0.030***	-0.030***
	(0.009)	(0.009)	(0.009)	(0.009)
Log high-skill-intensive imports	0.056*	0.059*	0.059*	0.002
	(0.034)	(0.034)	(0.034)	(0.037)
Tertiary education	-0.097	-0.069	-0.069	-0.065
	(0.076)	(0.075)	(0.075)	(0.075)
R-squared	0.138	0.141	0.141	0.142
N	459,986	459,986	459,986	459,986
Country fixed effects	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes
Country-specific linear time trends	Yes	Yes	Yes	Yes
Demographic characteristics	No	Yes	Yes	Yes
Household income	No	No	Yes	Yes
Country-level characteristics	No	No	No	Yes

Sources: Gallup World Poll, UN Comtrade Database, World Development Indicators Database.
Note: * significant at 10%; ** significant at 5%; *** significant at 1%. For details on control variables, see notes to Table 4.

Table 6: International trade and political approval – IV first-stage estimation

	(1) First-stage estimates (for column 4 of Table 7)	(2) First-stage estimates (for column 4 of Table 8)
Outcome: TertiaryEduc*HighSkillIntensiveExports		
TertiaryEducation*PredictedHighSkillIntensiveExports	6.148*** (0.294)	6.038*** (0.320)
Outcome: TertiaryEduc*HighSkillIntensiveImports		
TertiaryEducation*PredictedHighSkillIntensiveImports	3.860*** (0.225)	3.792*** (0.239)
KP First-Stage F-Statistics	26.83	25.21
Observations	426,132	459,986

Sources: Gallup World Poll, UN Comtrade Database, TRADHIST, World Development Indicators Database.
Note: * significant at 10%; ** significant at 5%; *** significant at 1%. For details on control variables, see notes to column 4 of Table 4. Since the country-year coverage for the two dependent variables (approval of the leader and the confidence in government) have slightly different country-year coverage, we run the first stage regressions separately for Table 7 and Table 8.

Table 7: International trade and political approval – IV estimation

	(1) IV	(2) IV	(3) IV	(4) IV
Outcome: approval of the leader				
TertiaryEducation*LogHighSkillIntensiveExports	0.118*** (0.036)	0.113*** (0.035)	0.117*** (0.035)	0.117*** (0.035)
Log high-skill-intensive exports	-0.028 (0.028)	-0.028 (0.028)	-0.028 (0.028)	-0.017 (0.030)
TertiaryEducation*LogHighSkillIntensiveImports	-0.166*** (0.053)	-0.161*** (0.051)	-0.165*** (0.052)	-0.165*** (0.052)
Log high-skill-intensive imports	0.103* (0.056)	0.105* (0.056)	0.104* (0.056)	0.023 (0.063)
Tertiary education	1.216*** (0.463)	1.191*** (0.444)	1.220*** (0.453)	1.220*** (0.455)
KP First-Stage F-Statistics	26.68	26.84	26.84	26.83
N	426,132	426,132	426,132	426,132
Country fixed effects	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes
Country-specific linear time trends	Yes	Yes	Yes	Yes
Demographic characteristics	No	Yes	Yes	Yes
Household income	No	No	Yes	Yes
Country-level characteristics	No	No	No	Yes

Sources: Gallup World Poll, UN Comtrade Database, TRADHIST, World Development Indicators Database.
Note: * significant at 10%; ** significant at 5%; *** significant at 1%. For details on control variables, see notes to Table 4.

Table 8: International trade and political approval – IV estimation

	(1) IV	(2) IV	(3) IV	(4) IV
Outcome: confidence in government				
TertiaryEducation*LogHighSkillIntensiveExports	0.119*** (0.041)	0.113*** (0.040)	0.113*** (0.039)	0.113*** (0.039)
Log high-skill-intensive exports	-0.008 (0.023)	-0.007 (0.023)	-0.007 (0.023)	-0.003 (0.025)
TertiaryEducation*LogHighSkillIntensiveImports	-0.160*** (0.061)	-0.152*** (0.058)	-0.152*** (0.058)	-0.152*** (0.058)
Log high-skill-intensive imports	0.069 (0.045)	0.072 (0.045)	0.072 (0.045)	0.014 (0.049)
Tertiary education	1.031** (0.518)	1.005** (0.492)	1.002** (0.487)	1.000** (0.489)
KP First-Stage F-Statistics	25.06	25.59	25.22	25.21
N	459,986	459,986	459,986	459,986
Country fixed effects	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes
Country-specific linear time trends	Yes	Yes	Yes	Yes
Demographic characteristics	No	Yes	Yes	Yes
Household income	No	No	Yes	Yes
Country-level characteristics	No	No	No	Yes

Sources: Gallup World Poll, UN Comtrade Database, TRADHIST, World Development Indicators Database.
Note: * significant at 10%; ** significant at 5%; *** significant at 1%. For details on control variables, see notes to Table 4.

Table 9: Counterfactual estimates

Country	% Change in high-skill exports	% Change in high-skill imports	Predicted effects due to change in high-skill exports	Predicted effects due to change in high-skill imports	Total predicted trade effects	Actual change in approval of the leader among high-skill individuals	Proportion explained
Positive effect							
Bulgaria	143.52	66.75	16.79	-11.02	5.77	20.92	0.28
Lithuania	156.99	88.53	18.36	-14.60	3.76	16.32	0.23
Nigeria	75.44	45.75	8.82	-7.54	1.28	9.18	0.14
Slovak Rep	270.98	172.84	31.70	-28.52	3.18	10.65	0.30
Negative effect							
Chile	60.59	114.93	7.09	-18.96	-11.87	-21.97	0.54
Paraguay	157.57	199.83	18.44	-32.97	-14.53	-25.88	0.56
South Korea	74.94	97.94	8.77	-16.16	-7.39	-11.14	0.66
Turkey	120.43	100.23	14.09	-16.53	-2.44	-3.88	0.63

Sources: Gallup World Poll, UN Comtrade Database, TRADHIST, World Development Indicators Database.

Note: Counterfactual estimates are calculated using the point estimates from the baseline IV specification (Column 4 of Table 7). *% Change in high skill exports (imports)* is the percentage change in high-skill-intensive exports (imports) between the earliest and the latest available data points from the UN COMTRADE dataset. *Actual change in approval of the leader* is the population-weighted difference in approval of the leader among skilled individuals between the earliest and latest available data points from Gallup World Polls. *Proportion explained* reflects how much change in approval of the leader among skilled individuals can be attributed to the change in skill composition of trade.

Table 10: International trade and political approval: subsamples

	(1) IV Male	(2) IV Female	(3) IV 25-44	(4) IV 45-64
Outcome: approval of the leader				
TertiaryEducation*LogHighSkillIntensiveExports	0.121*** (0.025)	0.109*** (0.024)	0.125*** (0.025)	0.108*** (0.026)
Log high-skill-intensive exports	-0.014 (0.027)	-0.020 (0.024)	-0.009 (0.025)	-0.035 (0.026)
TertiaryEducation*LogHighSkillIntensiveImports	-0.171*** (0.037)	-0.154*** (0.036)	-0.178*** (0.037)	-0.150*** (0.038)
Log high-skill-intensive imports	0.035 (0.050)	0.013 (0.049)	0.029 (0.050)	0.022 (0.050)
Tertiary education	1.274*** (0.305)	1.129*** (0.313)	1.346*** (0.318)	1.069*** (0.303)
N	193,590	232,542	242,572	183,560
Outcome: confidence in government				
TertiaryEducation*LogHighSkillIntensiveExports	0.107*** (0.024)	0.116*** (0.026)	0.117*** (0.025)	0.118*** (0.027)
Log high-skill-intensive exports	-0.004 (0.023)	0.009 (0.020)	0.004 (0.021)	0.004 (0.023)
TertiaryEducation*LogHighSkillIntensiveImports	-0.140*** (0.036)	-0.160*** (0.040)	-0.159*** (0.038)	-0.156*** (0.038)
Log high-skill-intensive imports	0.006 (0.039)	0.022 (0.037)	0.025 (0.037)	-0.002 (0.039)
Tertiary education	0.882*** (0.304)	1.108*** (0.341)	1.082*** (0.335)	0.984*** (0.310)
N	208,811	251,175	259,980	200,006

Note: * significant at 10%; ** significant at 5%; *** significant at 1%. For details on data and control variables, see notes to Table 4.

Table 11: International trade and political approval - subsamples

	(1) IV Urban	(2) IV Rural	(3) IV Low-income HH (bottom tercile)	(4) IV Middle-income HH (middle tercile)	(5) IV High-income HH (top tercile)
Outcome: approval of the leader					
TertiaryEducation*LogHighSkillIntensiveExports	0.097***	0.164***	0.127*	0.124***	0.038**
	(0.023)	(0.031)	(0.067)	(0.031)	(0.018)
Log high-skill-intensive exports	-0.038	-0.010	0.008	-0.021	-0.005
	(0.034)	(0.025)	(0.025)	(0.031)	(0.051)
TertiaryEducation*LogHighSkillIntensiveImports	-0.144***	-0.228***	-0.185*	-0.185***	-0.058**
	(0.034)	(0.046)	(0.100)	(0.048)	(0.026)
Log high-skill-intensive imports	0.070	-0.005	0.006	0.065	-0.008
	(0.064)	(0.047)	(0.057)	(0.056)	(0.081)
Tertiary education	1.175***	1.631***	1.409*	1.517***	0.512**
	(0.300)	(0.383)	(0.827)	(0.430)	(0.233)
N	183335	242797	120404	138273	155550
Outcome: confidence in government					
TertiaryEducation*LogHighSkillIntensiveExports	0.084***	0.174***	0.173**	0.103***	0.050***
	(0.022)	(0.035)	(0.083)	(0.028)	(0.018)
Log high-skill-intensive exports	0.008	-0.001	0.009	0.021	0.025
	(0.025)	(0.022)	(0.023)	(0.024)	(0.048)
TertiaryEducation*LogHighSkillIntensiveImports	-0.114***	-0.239***	-0.257**	-0.150***	-0.063**
	(0.032)	(0.051)	(0.125)	(0.044)	(0.027)
Log high-skill-intensive imports	0.020	0.007	0.037	0.004	-0.069
	(0.044)	(0.038)	(0.043)	(0.043)	(0.063)
Tertiary education	0.772***	1.651***	2.052**	1.166***	0.362
	(0.284)	(0.424)	(1.035)	(0.408)	(0.242)
N	197,817	262,169	125,191	144,288	170,936

Note: * significant at 10%; ** significant at 5%; *** significant at 1%. For details on data and control variables, see notes to Table 4.

Table 12: International trade and political approval – subsamples

	(1) IV Less-developed countries	(2) IV Developed countries
Outcome: approval of the leader		
TertiaryEducation*LogHighSkillIntensiveExports	0.377	0.077***
	(0.251)	(0.018)
Log high-skill-intensive exports	0.004	-0.059
	(0.028)	(0.049)
TertiaryEducation*LogHighSkillIntensiveImports	-0.571	-0.114***
	(0.402)	(0.026)
Log high-skill-intensive imports	-0.042	0.120
	(0.073)	(0.078)
Tertiary education	4.724	0.913***
	(3.647)	(0.224)
N	166,246	259,886
Outcome: confidence in government		
TertiaryEducation*LogHighSkillIntensiveExports	0.388	0.067***
	(0.242)	(0.017)
Log high-skill-intensive exports	0.005	0.023
	(0.025)	(0.037)
TertiaryEducation*LogHighSkillIntensiveImports	-0.601	-0.087***
	(0.390)	(0.025)
Log-high-skill intensive imports	0.065	-0.028
	(0.054)	(0.057)
Tertiary education	5.169	0.532**
	(3.590)	(0.222)
N	178,900	281,086

Sources: Gallup World Poll, UN Comtrade Database, TRADHIST, World Development Indicators Database.
Note: * significant at 10%; ** significant at 5%; *** significant at 1%. World Bank country income group definitions are used in this analysis. For details on control variables, see notes to column 4 of Table 4.

Table 13: International trade and political approval – placebo estimates

	(1) IV		(2) IV
Outcome: confidence in the military		**Outcome: confidence in the judicial system**	
TertiaryEducation*LogHighSkillIntensiveExports	-0.001 (0.098)	TertiaryEducation* LogHighSkillIntensiveExports	0.118 (0.128)
Log high-skill-intensive exports	-0.006 (0.013)	Log high-skill-intensive exports	-0.010 (0.017)
TertiaryEducation*LogHighSkillIntensiveImports	0.008 (0.133)	TertiaryEducation*LogHighSkillIntensiveImports	-0.122 (0.176)
Log high-skill-intensive imports	-0.008 (0.026)	Log high-skill-intensive imports	0.039 (0.031)
Tertiary education	-0.184 (0.904)	Tertiary education	0.177 (0.211)
N	408,206	N	413,780
Outcome: confidence in honesty of elections		**Outcome: confidence in media (freedom)**	
TertiaryEducation*LogHighSkillIntensiveExports	0.332 (0.263)	TertiaryEducation*LogHighSkillIntensiveExports	0.149 (0.230)
Log high-skill-intensive exports	-0.026 (0.022)	Log high-skill-intensive exports	0.023 (0.030)
TertiaryEducation*LogHighSkillIntensiveImports	-0.420 (0.365)	TertiaryEducation*LogHighSkillIntensiveImports	-0.194 (0.312)
Log high-skill-intensive imports	0.096 (0.086)	Log high-skill-intensive imports	-0.054 (0.054)
Tertiary education	-0.695 (1.155)	Tertiary education	1.103 (2.061)
N	415,654	N	179,432

Sources: Gallup World Poll, UN Comtrade Database, TRADHIST, World Development Indicators Database.
Note: * significant at 10%; ** significant at 5%; *** significant at 1%. For details on control variables, see notes to column 4 of Table 4.

Table 14: International trade and political approval – IV estimation, robustness estimates

Outcome is ➔	(1) IV Approval of the leader	(2) IV Confidence in government
Controls for individual unemployment		
TertiaryEducation*LogHighSkillIntensiveExports	0.116*** (0.022)	0.113*** (0.022)
Log high-skill-intensive exports	-0.017 (0.025)	0.004 (0.021)
TertiaryEducation*LogHighSkillIntensiveImports	-0.164*** (0.032)	-0.151*** (0.033)
Log high-skill-intensive imports	0.023 (0.048)	0.014 (0.036)
Tertiary education	1.215*** (0.275)	0.994*** (0.285)
N	426,132	459,986
Controls for additional country characteristics		
TertiaryEducation*LogHighSkillIntensiveExports	0.126*** (0.029)	0.108*** (0.029)
Log high-skill-intensive exports	-0.066 (0.065)	0.025 (0.044)
TertiaryEducation*LogHighSkillIntensiveImports	-0.177*** (0.042)	-0.144*** (0.042)
Log high-skill-intensive imports	0.231** (0.111)	0.123* (0.074)
Tertiary education	1.287*** (0.354)	0.926** (0.361)
N	203,039	214,271

Sources: Gallup World Poll, UN Comtrade Database, TRADHIST, World Development Indicators Database.

Note: * significant at 10%; ** significant at 5%; *** significant at 1%. For details on control variables, see notes to column 4 of Table 4. A respondent is defined as unemployed if he/she reports not being employed in the last seven days, either for an employer or for himself or herself. The respondent must also report actively looking for a job in the past four weeks and being able to begin work in the last four weeks. Additional country characteristics include: GINI, urbanisation rate and country level unemployment rate.

Table 15: International trade and political approval – IV estimation, robustness estimates

Outcome is ➔	(1) IV Approval of the leader	(2) IV Confidence in government
Controls for leaders' continuous tenure		
TertiaryEducation*LogHighSkillIntensiveExports	0.114***	0.109***
	(0.022)	(0.023)
Log high-skill-intensive exports	-0.010	0.008
	(0.000)	(0.021)
TertiaryEducation*LogHighSkillIntensiveImports	-0.162***	-0.146***
	(0.034)	(0.034)
Log high-skill-intensive imports	0.034	0.022
	(0.048)	(0.035)
Tertiary education	1.191***	0.954***
	(0.294)	(0.294)
N	416,121	452,476
Lowering minimum age in the sample to 15		
TertiaryEducation*LogHighSkillIntensiveExports	0.109***	0.116***
	(0.021)	(0.022)
Log high-skill-intensive exports	-0.011	0.003
	(0.024)	(0.021)
TertiaryEducation*LogHighSkillIntensiveImports	-0.157***	-0.161***
	(0.032)	(0.033)
Log high-skill-intensive imports	0.027	0.028
	(0.048)	(0.036)
Tertiary education	1.200***	1.126***
	(0.272)	(0.289)
N	545,361	586,075

Sources: Gallup World Poll, UN Comtrade Database, TRADHIST, World Development Indicators Database.
Note: * significant at 10%; ** significant at 5%; *** significant at 1%. For details on control variables, see notes to column 4 of Table 4.

Table 16: IV estimation for outsourcing destination countries

Sample is ➔	(1) IV Outsourcing destination countries	(2) IV Non-outsourcing developing countries	(3) IV Other upper-middle or high-income countries
Outcome: Approval of the leader			
TertiaryEducation*LogHighSkillIntensviveExports	-0.501	0.219*	0.050***
	(1.068)	(0.120)	(0.017)
Log high-skill-intensive exports	-0.183*	0.010	0.059
	(0.101)	(0.024)	(0.052)
TertiaryEducation*LogHighSkillIntensiveImports	1.254	-0.292*	-0.066***
	(2.581)	(0.173)	(0.023)
Log high-skill-intensive imports	-0.117	-0.102	-0.017
	(0.292)	(0.069)	(0.079)
Tertiary education	-18.18	1.862	0.422**
	(36.63)	(1.335)	(0.173)
N	160,669	94,247	171,216
Outcome: Confidence in government			
TertiaryEducation*LogHighSkillIntensiveExports	-0.544	0.262**	0.031*
	(1.715)	(0.118)	(0.017)
Log high-skill-intensive exports	-0.078	0.003	0.100***
	(0.111)	(0.022)	(0.044)
TertiaryEducation*LogHighSkillIntensiveImports	1.330	-0.349**	-0.030
	(4.162)	(0.172)	(0.023)
Log high-skill-intensive imports	-0.151	0.022	-0.102
	(0.420)	(0.060)	(0.064)
Tertiary education	-18.980	2.229*	0.022
	(59.147)	(1.344)	(0.177)
N	176,001	97,619	186,366

Sources: A.T. Kearney Global Services Location Index, Gallup World Poll, UN Comtrade Database, TRADHIST, World Development Indicators Database.
Note: * significant at 10%; ** significant at 5%; *** significant at 1%. For details on control variables, see notes to Column 4 of Table 4. Outsourcing destination countries (35) are as follows (based on A.T. Kearney Global Services Location Index): Argentina, Bangladesh, Brazil, Bulgaria, Chile, China, Colombia, Costa Rica, Czech Republic, Egypt, Estonia, Ghana, Hungary, India, Indonesia, Kenya, Latvia, Lithuania, Malaysia, Mauritius, Mexico, Morocco, Pakistan, Peru, Philippines, Poland, Portugal, Romania, Russia, Sri Lanka, Ukraine, Thailand, Tunisia, Turkey, Vietnam.

Appendix Table 1: Expanded set of coefficients, fully saturated model (column 4 of Tables 7 and 8)

	(1) IV	(2) IV
Outcome is ➔	Approval of the leader	Confidence in government
TertiaryEducation*LogHighSkillIntensiveExports	0.117***	0.113***
	(0.035)	(0.039)
TertiaryEducation*LogHighSkillIntensiveImports	-0.165***	-0.152***
	(0.052)	(0.058)
Log high-skill-intensive exports	-0.017	0.003
	(0.030)	(0.025)
Log high-skill-intensive imports	0.023	0.014
	(0.063)	(0.049)
Tertiary education	1.220***	1.000**
	(0.455)	(0.489)
Male	-0.009***	-0.006
	(0.003)	(0.004)
Age	-0.002***	-0.001
	(0.001)	(0.0001)
Age-squared	0.000***	0.000***
	(0.000)	(0.000)
Married/CP	0.014***	0.014***
	(0.003)	(0.003)
Divorced or separated	-0.017***	-0.029***
	(0.004)	(0.004)
Presence of children under 15	0.008**	0.016***
	(0.003)	(0.003)
Urban	-0.031***	-0.037***
	(0.005)	(0.006)
Log of household income	0.005	-0.001
	(0.003)	(0.003)
Country fixed effects	Yes	Yes
Year fixed effects	Yes	Yes
Country-specific linear time trends	Yes	Yes
Country characteristics	Yes	Yes
N	426,132	459,986

Sources: Gallup World Poll, UN Comtrade Database, TRADHIST, World Development Indicators Database.
Note: * significant at 10%; ** significant at 5%; *** significant at 1%. For details on control variables, see notes to column 4 of Table 4.

Appendix Table 2: OLS estimation with aggregate exports and imports

	(1) OLS
Outcome: approval of the leader	
Log total exports	-0.051 (0.074)
Log total imports	0.160 (0.140)
R-squared	0.133
N	406,655
Outcome: confidence in government	
Log total exports	0.003 (0.056)
Log total imports	0.078 (0.113)
R-squared	0.144
N	436,916

Sources: Gallup World Poll, UN Comtrade Database, World Development Indicators Database.

Note: * significant at 10%; ** significant at 5%; *** significant at 1%. All specifications include multiple language and interview type dummies and control for the log of household income throughout, though we do not report them above. Demographic characteristics include: a male dummy, age and its square, dummy variables for marital status (married/civil partnership and divorced/separated), educational attainment (tertiary and secondary), a dummy variable for living in an urban area and presence of children in the household (any child under 15). Country characteristics include: Polity 2, press freedom index, the log of country population, and the log of GDP per capita. Results use the Gallup sampling weights and robust standard errors are clustered at the country level.

Appendix Table 3: OLS estimation with high-skill exports and imports

	(1) OLS
Outcome: approval of the leader	
Log high-skill-intensive exports	-0.009 (0.027)
Log high-skill-intensive imports	-0.022 (0.052)
R-squared	0.133
N	406,655
Outcome: confidence in government	
Log high-skill-intensive exports	0.017 (0.023)
Log high-skill-intensive imports	-0.019 (0.041)
R-squared	0.144
N	436,916

Sources: Gallup World Poll, UN Comtrade Database, World Development Indicators Database.

Note: * significant at 10%; ** significant at 5%; *** significant at 1%. All specifications include multiple language and interview type dummies and control for the log of household income throughout, though we do not report them above. Demographic characteristics include: a male dummy, age and its square, dummy variables for marital status (married/civil partnership and divorced/separated), educational attainment (tertiary and secondary), a dummy variable for living in an urban area and presence of children in the household (any child under 15). Country characteristics include: Polity 2, press freedom index, the log of country population, and the log of GDP per capita. Results use the Gallup sampling weights, and robust standard errors are clustered at the country level.

Appendix Table 4: International trade and political approval – IV estimation with share of high-skill intensive trade

	(1) IV	(2) IV	(3) IV	(4) IV
Outcome: approval of the leader				
TertiaryEducation*ShareofHighSkillIntensiveExports	0.280*** (0.0451)	0.268*** (0.0442)	0.273*** (0.0445)	0.274*** (0.0445)
Share of high-skill-intensive exports	0.0076 (0.245)	0.0074 (0.245)	0.0116 (0.245)	0.0437 (0.247)
TertiaryEducation*ShareofHighSkillIntensiveImports	-0.657*** (0.128)	-0.636*** (0.126)	-0.656*** (0.128)	-0.656*** (0.128)
Share of high-skill-intensive imports	0.0957 (0.143)	0.0988 (0.143)	0.0975 (0.143)	0.0390 (0.144)
Tertiary education	0.139*** (0.0344)	0.145*** (0.0339)	0.146*** (0.0343)	0.146*** (0.0344)
KP First-Stage F-Statistics	28.62	28.10	28.26	28.28
N	426,132	426,132	426,132	426,132
Country fixed effects	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes
Country-specific linear time trends	Yes	Yes	Yes	Yes
Demographic characteristics	No	Yes	Yes	Yes
Household income	No	No	Yes	Yes
Country-level characteristics	No	No	No	Yes

Sources: Gallup World Poll, UN Comtrade Database, TRADHIST, World Development Indicators Database.
Note: * significant at 10%; ** significant at 5%; *** significant at 1%. For details on control variables, see notes to Table 4.

Appendix Table 5: International trade and political approval – IV estimation with share of high-skill intensive trade

	(1) IV	(2) IV	(3) IV	(4) IV
Outcome: confidence in government				
TertiaryEducation*ShareofHighSkillIntensiveExports	0.370*** (0.0479)	0.353*** (0.0464)	0.353*** (0.0466)	0.354*** (0.0466)
Share of high-skill-intensive exports	0.0790 (0.166)	0.0766 (0.166)	0.0766 (0.166)	0.0961 (0.168)
TertiaryEducation*ShareofHighSkillIntensiveImports	-0.565*** (0.119)	-0.542*** (0.117)	-0.542*** (0.117)	-0.543*** (0.117)
Share of high-skill-intensive imports	0.0738 (0.110)	0.0781 (0.110)	0.0781 (0.110)	0.0453 (0.110)
Tertiary education	0.0958*** (0.0327)	0.106*** (0.0320)	0.106*** (0.0320)	0.106*** (0.0320)
KP First-Stage F-Statistics	26.92	26.78	26.66	26.79
N	459,986	459,986	459,986	459,986
Country fixed effects	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes
Country-specific linear time trends	Yes	Yes	Yes	Yes
Demographic characteristics	No	Yes	Yes	Yes
Household income	No	No	Yes	Yes
Country-level characteristics	No	No	No	Yes

Sources: Gallup World Poll, UN Comtrade Database, TRADHIST, World Development Indicators Database.
Note: * significant at 10%; ** significant at 5%; *** significant at 1%. For details on control variables, see notes to Table 4.

Appendix Table 6: International trade and political approval – IV estimation without country-specific time trends

	(1) IV	(2) IV	(3) IV	(4) IV
Outcome: Approval of the leader				
TertiaryEducation*LogHighSkillIntensiveExports	0.121*** (0.037)	0.117*** (0.035)	0.120*** (0.036)	0.122*** (0.036)
Log high-skill-intensive exports	-0.028 (0.020)	-0.028 (0.020)	-0.028 (0.020)	-0.027 (0.021)
TertiaryEducation*LogHighSkillIntensiveImports	-0.171*** (0.054)	-0.165*** (0.052)	-0.169*** (0.053)	-0.171*** (0.054)
Log high-skill-intensive imports	0.075* (0.042)	0.074* (0.042)	0.074* (0.042)	0.033 (0.049)
Tertiary education	1.245*** (0.470)	1.224*** (0.452)	1.248*** (0.459)	1.256*** (0.466)
KP First-Stage F-Statistics	26.83	26.81	26.99	26.97
N	426,132	426,132	426,132	426,132
Country fixed effects	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes
Demographic characteristics	No	Yes	Yes	Yes
Household income	No	No	Yes	Yes
Country-level characteristics	No	No	No	Yes

Sources: Gallup World Poll, UN Comtrade Database, TRADHIST, World Development Indicators Database.
Note: * significant at 10%; ** significant at 5%; *** significant at 1%. For details on control variables, see notes to Table 4.

Appendix Table 7: International trade and political approval – IV estimation without country-specific time trends

	(1) IV	(2) IV	(3) IV	(4) IV
Outcome: confidence in government				
TertiaryEducation*LogHighSkillIntensiveExports	0.125*** (0.042)	0.120*** (0.040)	0.120*** (0.040)	0.122*** (0.040)
Log high-skill-intensive exports	-0.018 (0.020)	-0.018 (0.020)	-0.018 (0.020)	-0.018 (0.022)
TertiaryEducation*LogHighSkillIntensiveImports	-0.169*** (0.062)	-0.162*** (0.059)	-0.162*** (0.059)	-0.165*** (0.059)
Log high-skill-intensive imports	0.107*** (0.039)	0.106*** (0.038)	0.106*** (0.038)	0.040 (0.042)
Tertiary education	1.105** (0.525)	1.085** (0.502)	1.083** (0.496)	1.093** (0.502)
KP First-Stage F-Statistics	25.25	25.23	25.42	25.39
N	459,986	459,986	459,986	459,986
Country fixed effects	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes
Demographic characteristics	No	Yes	Yes	Yes
Household income	No	No	Yes	Yes
Country-level characteristics	No	No	No	Yes

Sources: Gallup World Poll, UN Comtrade Database, TRADHIST, World Development Indicators Database.
Note: * significant at 10%; ** significant at 5%; *** significant at 1%. For details on control variables, see notes to Table 4.

Appendix Table 8: Classification of high-skill-intensive goods (SITC Rev. 3)

TDRE1	**High-skill: electronics (excluding parts and components)**
751	Office machines
752	Automatic data processing machines, n.e.s.
761	Television receivers, whether or not combined
762	Radio-broadcast receivers, whether or not combined
763	Sound recorders or reproducers
TDRE2	**High-skill: parts and components for electrical and electronic goods**
759	Parts, accessories for machines of groups 751, 752
764	Telecommunication equipment, n.e.s.; and parts, n.e.s.
776	Cathode valves and tubes
TDRE3	**High-skill: other, excluding electronics**
511	Hydrocarbons, n.e.s., and halogenated, nitrated or nitrosated derivatives
512	Alcohols, phenols, halogenat., sulfonat., nitrat. derivative.
513	Carboxylic acids, anhydrides, halides, carboxylic acid derivatives
514	Nitrogen-function compounds
515	Organo-inorganic, heterocyclic compounds, nucleic acids
516	Other organic chemicals
522	Inorganic chemical elements, oxides and halogen salts
523	Metallic salts and peroxysalts, of inorganic acids
524	Other inorganic chemicals
525	Radioactives and associated materials
531	Synthetic organic colouring matter and colouring lakes
532	Dyeing and tanning extracts, synthetic tanning materials
533	Pigments, paints, varnishes and related materials
541	Medicinal and pharmaceutical products, excluding 542
542	Medicaments (including veterinary medicaments)
551	Essential oils, perfume and flavour materials
553	Perfumery, cosmetics or toilet preparations (excluding soaps)
554	Soaps, cleansing and polishing preparations
562	Fertilisers (other than those of group 272)
571	Polymers of ethylene, in primary forms
572	Polymers of styrene, in primary forms
573	Polymers of vinyl chloride or halogenated olefins
574	Polyethers, epoxide resins; polycarbonates, polyesters

575	Other plastics, in primary forms
579	Waste, parings and scrap, of plastics
581	Tubes, pipes and hoses of plastics
582	Plates, sheets, films, foil and strip, of plastics
583	Monofilaments, of plastics, cross-section > 1mm
591	Insecticides and similar products, for retail sale
592	Starch, wheat gluten; albuminoidal substances; glues
593	Explosives and pyrotechnic products
597	Prepared additives for minerals, oils; lubricants, de-icing
598	Miscellaneous chemical products, n.e.s.
792	Aircraft and associated equipment; spacecraft, and so on.
871	Optical instruments and apparatus, n.e.s.
872	Instruments and appliances, n.e.s., for medical, and so on.
873	Meters and counters, n.e.s.
874	Measuring, analysing and controlling apparatus, n.e.s.
881	Photographic apparatus and equipment, n.e.s.
882	Cinematographic and photographic supplies
883	Cinematograph films, exposed and developed
884	Optical goods, n.e.s.
885	Watches and clocks
891	Arms and ammunition
892	Printed matter
896	Works of art, collectors' pieces and antiques
897	Jewellery and articles of precious materials, n.e.s.
898	Musical instruments, parts; records, tapes and similar

Note: The Standard International Trade Classification (SITC) is a statistical classification of the commodities entering external trade, which is provided by UNCTADstat. The current international standard is the SITC, Revision 3. N.e.s = not elsewhere specified.

Appendix Table 9: Classification of high-knowledge intensive services

ISIC code	EBOPS code	Service industry
642	247	Telecommunications services
65	260	Financial services
66	253, 254, 255, 256, 257, 258	Insurance services Life insurance and pension funding Freight insurance Other direct insurance Reinsurance Auxiliary services
72	263	Computer services
73	279	Research and development
74	275, 276, 277, 278, 280, 284	Legal services Business and management consulting and public relations services Accounting, auditing, bookkeeping and tax consulting services Advertising, market research and public opinion polling Architectural, engineering and other technical services Other business service

Note: EBOPS data from UN COMTRADE do not classify exports and imports of services by skills. Therefore, we use ISIC-EBOPS conversion tables to identify "high-knowledge intensive services" using the definitions provided by the United Nations Manual on Statistics of International Trade in Services (2002).