The Political Consequences of Globalization in Hungary:
An Analysis of International Trade and Party Support

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Abstract

Hungary's leading right-wing party, Fidesz KDNP, has retained political control in Hungary ever since its landslide victory in the 2010 National Elections. Prior to the electoral success of Fidesz, Hungary ran a massive trade surplus, which benefited the country's manufacturing and industrial sectors. Hungary's export sector is dominated by low-skill labor-intensive industries, hence the manufacturing workers of these industries have greatly benefited from international trade. This thesis seeks to examine the effect of international trade on the political behavior of export workers. Through quantitative analysis, this research finds that individuals benefiting from increased exports are more likely to vote for right-wing parties for their economic policies, such as decreased social welfare benefits and lower taxes.
1 Introduction

The fall of the Berlin Wall in 1990 reshaped the political and economic environment of Europe. Eastern Europe opened up its borders to the West and embarked on a process of modernization and democratization. In 2004, eight countries – Hungary, the Czech Republic, Slovakia, Slovenia, Poland, Latvia, Lithuania, and Estonia – that were formerly part of the Eastern Bloc joined the European Union.

Their accession to the EU led to greater integration with the West as they opened up their markets to cross flow trade, foreign direct investment, and information technology sharing. Furthermore, in 2011, a new law was passed, which allowed the free movement of citizens between the member states (Koikkalainen, 2011).

All EU member states have democracies, where leaders are elected based on free elections. Since 1990, there has been much variation in the leaders’ political ideologies, representing both left and right-wing parties. However, in the past five to ten years, there has been an increase in the number of right-wing parties throughout Europe (Muis and Immerzeel, 2017). Scholars have researched various explanations for this new phenomenon, and a popular theory is that workers who have lost their jobs or have seen less growth in their wages due to globalization are the ones more likely to vote for right-wing populist parties (Mughan, Bean, and McAllister, 2003). Many have concluded that the restructuring of the labor market due to open trade led to the intense political polarization that is so widespread today (Malgouyres, 2014; Jensen, Quinn, and Weymouth, 2016; Dippel, Gold, Heblich, and Pinto, 2018).
2 Research Question

The central question of this research is how globalization, manifested through international trade, affects support for right-wing parties. Does an increased exposure to international trade affect individuals’ voting behavior?

2.1 Effects of globalization on the labor market

In the last decade, there’s been a heightened interest in studying how globalization reshapes labor markets. Researchers have studied this phenomenon and have found significant results in districts across the United States and Western Europe. In her study, Stefanie Walter (2015) researches the effects of globalization on labor markets by dividing up the labor market into three categories. Walter claims that there are the “winners”, “losers”, and those “sheltered” from globalization. The “winners” are those high ability workers that benefit from international trade because they are employed in highly productive exported-oriented firms. Upon gaining access to foreign markets such firms increase their production and in return increase their demand for workers, which boosts the workers’ wages. Additionally, because the firms are competitive internationally, the employees in such sectors have a lower risk of losing their job. The second category is comprised of those workers who are sheltered from globalization. Such workers are in non-tradable sectors such as services that are not threatened by import competition. Finally, the third category consists of the “losers” of globalization, who are the lower-skilled workers who face higher labor market risks after trade liberalization. An important assumption is that Western countries are comparatively advantaged in high-skilled labor, whereas
developing countries are abundant in low-skilled labor and therefore are comparatively advantaged in sectors that utilize low-skilled workers.

Walter employs the Helpman model to explain how the impact of globalization on low-skilled workers differs based on whether individuals are employed by tradable or non-tradable sectors. Non-tradable sectors are not exposed to international competition thus the workers in such sectors do not face the risk of wage losses or unemployment due to competition. On the other hand, firms that are exposed to international competition from developing countries are in the import-competing industries and thus face higher labor market risks. The workers employed in such industries have a higher likelihood of being unemployed and of seeing a decrease in their wages (Walter, 2015).

2.2 Effects of globalization on voting behavior

Globalization evidently impacts domestic markets; however, the central question of this research is whether these shocks to the labor market (caused by globalization) impact individuals’ voting behavior. Haupt (2010) and Margalit (2018) study how parties versus individuals shift their political preferences in response to globalization. Haupt’s theory is that export-oriented countries benefit from trade that supports their domestic markets, which makes business friendly right-wing policies more appealing to the average voter. However, in countries where imports play a greater role more “losers” are created from trade, who in response demand leftist welfare expansion policies. Haupt concludes that parties adjust their policies in response to changes in imports, exports, and capital mobility to accommodate the “winners” or the “losers” (Haupt, 2010).

On the other hand, Margalit, researches how markets shape individuals’ political preferences. He conducts a field experiment to measure how exposure to financial markets
impacts social values and preferences for economic policy. In the experiment, Margalit gives fifty British pounds to individuals to invest over a six-week period. The individuals are randomly assigned where they can invest. A third of the group receives the real stock treatment, through which they can invest in three different assets: technology, automotive, and wine and spirits. The second group receives the sport treatment, in which the assets are indexed to the performance of American baseball teams (so that the results aren’t correlated with the British domestic economy). Finally, the remaining people receive a fantasy treatment in which they can make fantasy money investments. At the end of the six weeks, Margalit measures the participants’ social economic values based on a series of questions. Upon assessing the results, Margalit concludes that people’s confidence to successfully invest in the market influences their political preference, and more specifically their engagement with the financial market creates a rightward shift in their values and policy preferences. Margalit’s theory is that increased trust for the financial market decreases people’s demand for social safety nets and regulations of markets, which leads to a rightward shift in their political ideology (Margalit, 2018).

3 Hypotheses

Drawing upon this literature, this research seeks to examine how international trade has affected Hungarian voting behavior. In contrast to other developed countries, Hungary’s case is unusual, since the middle class has benefited from globalization, unlike in other European countries where the middle classes have suffered from exposure to international trade. In Hungary, trade balances have been positive, wages have grown, and foreign direct investment has also increased, which has expanded the manufacturing and tradable services sector and has created more job opportunities (Economy Watch, 2015).
3.1 Preferred Hypothesis

The central hypothesis of this study is that individuals in Hungary who benefited from globalization are more likely to vote for the right-wing party of Fidesz KDNP for the party’s economic policies and free-trade ideology.

3.2 History of Hungary’s political parties

Hungary has had a mixture of ruling parties from both the left and the right; but since the fall of Communism, the left has had a more dominant role in shaping domestic politics. However, since securing a landslide victory in 2010, Viktor Orbán’s, right-wing Fidesz KDNP party has dominated parliament.

Starting in 1990 Hungary has had free national elections every four years under a mixed member electoral system. During these elections, every Hungarian citizen above the age of 18 can cast two votes, one for the national party list and the other for a candidate running for the local single-seat constituency where he or she is a permanent resident. The National Assembly is then comprised of the aggregated constituency and party-list seats (Benoit, 1996).

In 1990, József Antall’s center right MDF\(^1\) party won the elections and in the succeeding election (in 1994) the left-wing, MSZP\(^2\), secured a winning coalition with the liberal SZDSZ\(^3\) party. Viktor Orbán first emerged as a prominent figure in 1998 when his Fidesz party received a majority in the national elections and formed a coalition with two

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\(^1\) Hungarian Democratic Forum  
\(^2\) Hungarian Socialist Party  
\(^3\) Alliance of Free Democrats
other minority parties. Following the election of 1998, the Fidesz party was unable to secure a majority in parliament until the elections of 2010. During this time interval, independent and left-wing parties dominated the National Assembly, primarily the left-wing, Hungarian Socialist Party, mostly referred to as MSZP (Harmat, 2015).

3.3 Events leading up to the national election of 2010

Some social scientists attribute the loss of MSZP in the 2010 elections to the wave of scandals that plagued the party in 2006 and to the financial crisis of 2007-08. In 2002, the left-leaning independent candidate, Péter Medgyessy, won the Hungary national elections. However, in 2004, he resigned over staunch disagreements with SZDSZ, the ruling coalition partner of MSZP. Through a series of (internal) parliamentary votes on September 29, 2004, Ferenc Gyurcsány was elected Prime Minister. In the succeeding election of 2006, Gyurcsány ran for office and was re-elected Prime Minister. However, in September of 2006, Gyurcsány became entangled in a serious scandal, involving the leaked tapes of a recording, in which he admitted to lying about the state of the economy to win the elections in April. He delivered the speech in a closed meeting to his Socialist party in Balatonöszöd, where he said, "We lied throughout the last year and a half, two years. It was totally clear that what we are saying is not true.... We lied." The recording leaked in September, which sparked a series of protests throughout the country, demanding Gyurcsány to resign. He refused to resign, nevertheless, he was hit hard again during the financial crisis of 2008. Hungary’s economy greatly deteriorated amidst the crisis, the Hungarian Forint depreciated 26 percent against the Euro, and the country was forced to ask the International Monetary Fund for a loan package. By March of 2009, disillusionment with Gyurcsány was rampant;

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4 Independent Smallholders’ Party and the Hungarian Democratic Forum
Gyurcsány’s approval rating hit an all-time low of 18 percent and Gyurcsány announced his resignation (Dempsey, 2006).

3.4 Economic determinants of electoral outcomes

Several political scientists have hypothesized that voters punish the incumbent during economic downturns and reward the incumbent leader for times of economic prosperity. Dassonneville and Lewis-Beck research how responsive voters are to domestic economic conditions by studying how vote shares for incumbents are affected in times of crises. Their data consists of a national time series pool for 359 elections in 31 European countries from 1950 till 2010. Their dependent variable is incumbent vote share measured on the country level and their independent variable is a lagged variable, measuring the GDP growth rate in the previous year. They hypothesize that positive GDP growth leads to increases in incumbent vote support and that during an economic decline negative GDP growth has a stronger net effect on incumbent vote support (than a positive growth). They utilize a spline regression model with two variables, GDP (+) and GDP (-), and run the regression. Their results confirm that GDP has a statistically significant effect on incumbent vote share; a one percent increase in GDP growth leads to a 0.7 percentage point increase in incumbent support. Moreover, they also find that negative economic growth has a stronger effect on incumbent vote shares (Dassonneville and Lewis-Beck, 2014).

Their results show that economic issues become more salient during recessions, which is consistent with other literature (Mueller, 1970; Gough, 1984; Singer 2011). For that reason, it’ll be crucial to control for the recession of 2008 in Hungary, which likely decreased vote shares for the incumbent MSZP party in the 2010 elections. The external shock of the crisis decreased the GDP and increased unemployment rates, which could have also
impacted voting behavior (Economy Watch, 2015). The most prominent adverse effect of the crisis was a dramatic increase in the unemployment rate to 11.8 percent in 2010 (Statista, 2018).

Therefore, significant increases in unemployment rates will be signs of a negative shock from the financial crisis. Hence, the unemployment variable will account for the effects of the financial crisis on individuals’ voting behavior.

An ostensible concern is that increases in the vote shares for Fidesz were caused by voters’ disapproval of MSZP rather than by increased export exposure. However, it is very unlikely that the pattern of the dissatisfaction of socialists is consistent with the pattern of export exposure. There was a general decline in vote shares for MSZP in 2010 across Hungary but without a distinct pattern. The decline in support for MSZP is common to all cities in the year 2010; therefore, year fixed effects will be sufficient to capture the effect of this aggregate trend in 2010 – that cannot be attributed to other variables.

Additionally, this further demonstrates that Orbán’s incumbent (Fidesz) party is likely to have performed well in the past three elections due to the favorable economic circumstances (such as the higher GDP growth rates). Thus, it will be important to also control for the general economic trend when observing the effect of trade on Hungarian voter behavior.

Voters likely punished the incumbent MSZP party for the scandal and economic crisis by voting against them. However, the enigma is that Fidesz received an equally higher share of votes in 2014 as well. I conjecture that an economic variable is driving this shift to the right. Hungary experienced a positive trade shock at the end of 2009 and early 2010 when there was a sharp increase in exports compared to imports. Moreover, since 2010, Hungary’s external trade surplus has increased by 55.8 percent. Within the total share of
exports, transport and machinery equipment declined by 3.1 percent, while manufactured goods rose by 3.4 percent (Ministry for National Economy, 2015).

### 3.5 Predictions for the case of Hungary

According to the preferred hypothesis, this study predicts an increase in Fidesz vote shares amongst individuals who benefited from international trade. As referenced earlier, Haupt studies how globalization creates an amiable climate for the economic policy goals of right-wing parties. Right-wing political ideology is centered on reducing government intervention and social safety nets, and promoting a free market mechanism. On the other hand, left-wing ideology promotes a social welfare system with the redistribution of wealth and increased government intervention to minimize the shocks of the business cycle. Haupt concludes that the groups who suffer from economic openness will favor welfare expansion because of their need for protection and compensation (Haupt, 2010). Generally, left-wing parties endorse such welfare policies; therefore, according to this view I would expect the “losers” of globalization to vote for left-wing parties.

In their research, Cusack, Iversen, and Rehm (2006) also find that there is a higher demand for redistribution as risk of future income loss grows. Thus according to their results, an expected increase in future income is negatively related to the support for redistribution. Furthermore, based on his field experiment, Margalit (2018) concludes that increased trust in the financial market decreases people’s demand for social safety nets and regulations of markets, which leads to an ideological shift towards the right.

Therefore, it is expected that individuals who benefit from free trade will vote for a right-wing party based on their economic policy preference. Voters are rational and have an incentive to maximize their utility; hence if market conditions are good then individuals are
predicted to support the free market based ideologies of the right. They will be opposed to left-wing policies that increase social welfare benefits at the expense of their individual losses (manifested through higher taxes).

### 3.6 Fidesz KNDP’s economic policies

In the past eight years, Fidesz KDNP has endorsed a strong right-wing economic policy by creating a flat income tax rate and reducing welfare benefits (Brückner, 2018). More importantly, one of Orbán’s prominent campaign promises ahead of the 2010 elections, was that Hungary would further open to international trade and become one of the most business-friendly countries in the Central and Eastern European region (Origo, 2010). Orbán emphasized similar goals during his reelection campaign in 2014. His primary objective was to increase domestic production and to surpass the manufacturing sectors of Germany and the Czech Republic (Sereg, 2014). In his campaign speeches, he also stressed his desire to improve economic and political ties with Turkey and India.

Orbán is a staunch supporter of international trade and has secured various new investment and trade deals throughout his time in office (and continues to be an avid advocate for increased cross flows of goods today). Orbán takes pride in fostering trade relations with the East, notably China and Russia. Hungary, in fact, has become China’s leading economic partner in Central Europe. China has a dominant economic presence in Hungary with working capital investments exceeding 4 billion USD in 2016. Hungarian exports to China have also surged in the past years and in 2016 the Minister of Foreign Affairs and Trade publicized that Hungary exported 2.25 billion dollars’ worth of goods to China, an increase of 25 percent from 2015 (Hungarian Telegraphic Office, 2017). As the statistics reveal, improving trade relations and increasing exports have been a priority on
Fidesz’s political agenda.

3.7 Hungary’s post-recession growth

After the Great Recession of 2008, the majority of the country was still recovering from the ramifications of the economic downturn, including the export sector. The export sector was especially impacted, due to its vulnerability to financial contagion, as sales are largely dependent on demand from abroad. However, because sales are driven by foreign market demand, the export sector of Hungary was able to recover at a generally fast pace. Although export sales in 2009 were still below the levels of 2008, Hungary ran its first trade surplus that year – since the 1990s. By 2010 Hungary had a foreign trade surplus of 6 billion euros, which increased to 10 billion euros by 2017 (Kovács, 2018).

Hungary’s export orientedness is very high compared to similar size economies, as its exports comprise 48 percent of the country’s GDP, making it the 35th largest export economy. This export orientedness has been intensified in the past eight years under the Fidesz party’s rule. New manufacturing plants have been constructed and existing plants have been renovated (OECD, 2017). It’s important to note that the majority of the revenue generated from export sales in Hungary is derived from the automotive industry, the manufacturing of specialized machinery and transportation equipment, and pharmaceuticals. Hungary’s growing openness to international trade prompted the construction and expansion of manufacturing factories, which created new employment opportunities.

Therefore, cities that have export firms, with factories producing such products, have benefited the most from a surge in exports. Furthermore, the export commodities of
these firms are produced in low-skill labor-intensive industries, as a result of which, low-skilled manufacturing workers have benefited.

The degree to which unskilled workers benefited from an increase in the firms’ export sales is ambiguous; however, research shows that there’s been an increase in the demand for low-skilled workers by such firms (Diószegi-Horváth, 2018). So this sector of workers has unambiguously benefited since the boost in exports.

3.8 Voter response to localized economic shocks

The central hypothesis predicts that workers who benefit from international trade are more likely to support Fidesz for its right-wing economic policies, regarding tax cuts and a pro-trade ideology. Expanding on this prediction, several social scientists have studied the indirect impact of trade and other economic shocks on an aggregated, town level. Simonovits, Kates, and Szeitl (2014) find that local economic conditions in Hungary influence voters’ evaluations of the economy as a whole, such that individuals tend to vote for the incumbent based on the economic environment that surrounds them. Expanding on their argument, Jensen, Quinn, and Weymouth (2016) study the particular effects of international trade on labor market outcomes. They find a robust correlation between trade flows and citizen voting behavior at the county level in the United States. One of their key findings is that individuals tend to vote as if they were responding to the trade exposure of their geographic region. Their finding is significant because it implies that an individual doesn’t need to be employed by an export firm, in order to be affected by the trade exposure. This conveys that the location of one’s residence, in an area exposed to international trade, also has a particular impact on individual voting behavior. As predicted by the central hypothesis, workers who are employed in export firms – directly benefiting from the
positive trade surplus— are more likely to vote for the right. Additionally, according to Simonovits et al. (2018) and Jensen et al. (2017) residents of a town who are not working in the export firm, will be indirectly influenced by a surge in exports. They will experience the benefits of trade through the economic boom in their towns, which will likely influence their voting behavior.

Apart from their “hard evidence”, fieldwork and other forms of “soft evidence” also appear to support this theory. Two major car manufacturing export firms in Hungary are Audi Hungaria Zrt. in Győr and Mercedes-Benz Manufacturing in Kecskemét. The boom of these two firms has generated an economic upswing in both cities, as the demand for workers has steadily grown (Portfolio Financial News, 2014). Moreover, the growth in these industries has spurred consumption and overall benefited the local economies of these cities. In both cities several families were asked about their support for the right-wing Fidesz party and then about their views on the growth of the export firms. Seven out of the ten families reported that the export firms have overall greatly benefited their cities and partially attributed that success to the economic policies of Prime Minister Orbán (Szepesi, 2018).

I conjecture that individuals within a settlement who weren’t directly employed by an export firm also benefited from the local economic upswings and therefore were more likely to vote for Fidesz, for its pro-trade ideologies.

3.9 Alternative Hypothesis

This paper also seeks to examine how the overall share of votes for right-wing parties has changed in response to the increased sale of exports. Jobbik is the second largest right-wing party of Hungary after Fidesz KDNP. Founded in 2003, the Jobbik party is rooted in
strong nationalistic rhetoric and conservative economic policies (Tóth, 2013). The party rose to prominence in the 2010 elections, when it won 16.67 percent of the party list votes in the national election. Following that election, the party continued to grow in popularity and by 2014 it received 20.39 percent of the votes in the national elections (Nagy, 2014).

Several social scientists have claimed that the difference between Fidesz and Jobbik's political ideology is minimal and that the supporters of the two groups overlap (Vona, 2008). The two parties share a very similar political platform, which is reflected through their common campaign promises. The economic policies of Jobbik are closely aligned with those of Fidesz, specifically in their focus on boosting the Hungarian domestic economy through exports. Jobbik has emphasized the need for reducing dependency on Western Europe for imports and has advocated for improving manufacturing production systems to induce sustainable growth (Nótik, 2018).

Owing to the parties’ shared ideologies, there has been a high degree of party switching among the supporters of Fidesz and Jobbik. In fact, many voters are thought to be indifferent between voting for Fidesz or Jobbik. Due to fluctuations in the voter bases, it is crucial to assess how the combined share of votes for Fidesz and Jobbik has changed during the national elections (Balogh, 2015).

This study predicts that the combined share of votes for Fidesz and Jobbik will increase among individuals who benefited from export sales, due to the parties’ shared economic goals and policies.

4 Competing Hypothesis

The competing hypothesis, aligned with popular theory, is that individuals who benefited from globalization are less likely to vote for right-wing parties. Moreover,
individuals who have suffered due to globalization are more likely to vote for right-wing parties.

4.1 Support for the far right from workers adversely affected by globalization

In support of this argument, Dippel, Gold, Heblich, and Pinto (2015) research how trade affects political views through the impact it has on labor markets. The three variables they measure are vote shares, regional import exposures, and labor market conditions. They study Germany from 1987 to 2009 when the country increased its level of imports from Eastern Europe and China, while it simultaneously reduced its exports to these same regions. Specifically, an instrumental variable approach is implemented to study the effect of trade on voter behavior. The researchers generate an instrument that measures Germany’s increased trade exposure to Eastern Europe and China and compare it to the trade exposure of other countries at similar levels of economic development. Through this approach, they measure the effect of trade exposure that is caused by supply changes rather than by the domestic conditions in Germany. They then use this variable to predict the independent variable, which is defined as the changes in the labor market. They measure those changes by observing the changes in daily wages, controlling for socio-demographic variables, the change in total employment, the change in manufacturing industries’ share of total employment, the change in manufacturing and non-manufacturing wages, the change in unemployment, and the change in total population size. Finally, they regress those variables on the dependent variable, which is defined as the party’s vote share at the federal elections in Germany. Their results reveal that higher import competition causes labor market disturbances, which increases voter support for far right populist parties. Thus, they conclude that in high wage manufacturing countries (such as Germany
and the United States), globalization has adverse effects on manufacturing workers, which makes them favor the protectionist policies of right-wing parties (Dippel, Gold, Heblich, and Pinto, 2017).

4.2 Nationalism and cultural fears fueling right-wing resurgence

Furthermore, in a multivariate analysis, Oesch studies workers’ support for right-wing populist parties in five countries where manufacturing workers were adversely affected by globalization (Austria, Belgium, France, Norway, and Switzerland). Oesch uses the European Social Survey data to test how the status of the voters – their social-structural characteristics and attitudes – affects their support for right-wing parties. Holding age and gender constant, he finds that manufacturing workers are significantly more likely to vote for right-wing populist parties than the average voter. However, his results show that issues of national identity have a greater impact on right-wing populist support than economic grievances. He specifically finds the strongest effect of cultural protection and national identity on right wing populist support among workers in Austria and Switzerland (Oesch, 2008).

In a recent study, Rodrik also stresses the importance of cultural issues in the backlashes against globalization. He claims that populist leaders in Europe emphasized the national and cultural cleavages caused by immigration, which led to the rise of nationalist right wing populist parties (Rodrik, 2017).

Oesch (2008) and Dippel’s (2017) research show that support for the right-wing is owed to cultural fears and a drive to protect national identity. They ascribe the right-wing ideology to nationalism and cultural norms. From that perspective, the adverse effects of
globalization and the fear of immigrants leads workers to vote for the conservative nationalist parties of the right.

4.3 The idiosyncrasies of Hungary’s economic landscape

However, contrary to previous case studies where the manufacturing workers suffered as a result of free trade, in Hungary, the manufacturing workers have benefited from the country’s export orientedness. Hungary’s case cannot be directly compared to other case studies performed across Western Europe and the United States, such as the works of Dippel, Gold, Heblich, and Pinto (2017) and Oesch (2008). The countries that they researched were significantly less export oriented with negative trade balances. Moreover, the manufacturing workers of those countries were employed in the import competing industries that were outsourced by foreign competition and suffered from globalization.

Hungary is on the lower end of the developed countries in Europe, with its own currency – the Forint—, which is weaker than the Euro. Hungary’s weaker currency makes the country’s exports more competitive, as the general price levels are lower in Hungary. Wages are also considerably lower for manufacturing workers compared to other Western nations; therefore, Hungary can export its manufactured goods at a lower cost, which (in the past years) has increased demand for the sector. The increased demand for the sector has also driven up demand for manufacturing workers, which has subsequently increased (the workers’) real wages.

Nevertheless, instead of looking at the socio-political ideologies that shift workers’ support to the right, this analysis will examine if individuals are attracted to the economic policies of the right. There is evidence that cultural fears shifted individuals’ political ideology to the right. In fact, cultural fears of immigrants taking jobs and changing cultural
norms were heightened during the refugee crisis of 2015, which led to increased support for right-wing parties. However, the rise of the right-wing party in Hungary occurred well before the issue of refugees and immigration became a salient topic in political campaigns. To support this, Guiso, Herrera, Morelli, and Sonno study European survey data on voting behavior and find that the rise of populist parties is largely driven by economic insecurities, involving both the exposure to competition from imports and immigrants (Guiso et.al, 2017).

5 Predicted signs of other controls

5.1 Income

Other factors, such as income levels and unemployment rates, have been proven to affect voting behavior. In his chapter on "Income and Voting," Crandinetti discusses the dichotomous relationship between voting behavior on the individual versus the aggregate level. He writes that in most countries the poor are more likely than the middle and upper classes to vote for socialist or liberal parties, for the parties’ redistributive and welfare policies. Crandinetti’s bases his arguments on the intuition that the poor are likely to gain monetary benefits from redistributive policies at the expense of the rich, through higher tax rates and various subsidies. However, the conundrum of voting behavior patterns is that it changes when observed at the aggregated, regional level. In the United States, poorer people are more likely to vote for the Democratic Party, meanwhile higher income states, with more resources, tend to vote for Democrats (Crandinetti, 2008). Gelman ascribes these peculiarities to differences in voter priorities. Gelman argues that although economic issues affect voter preferences, social issues have become a more salient factor in determining
political support in recent years. Richer regions of the United States, such as New York, Connecticut, and Massachusetts tend to be more liberal on social issues. In such states, the liberal values of the left have a stronger effect than the economic policies of the right in shaping voters’ political ideology (Gelman, 2014). Therefore, this study will also explore whether the effect of export sales on vote shares will vary at different levels of income per capita. An interaction term between export sales per capita and income per capita will be added to explore how vote shares for the right are affected by increases in exports at different levels of income growth.

Moreover, in a study conducted by HVG\(^5\), Hungarian researchers concluded that the financial status of Hungarian counties had a significant effect on party support. The research, conducted on the 2014 national election at the county level, found that lower-income counties were more likely to support Fidesz. The correlation between low income and Fidesz support is very surprising especially because the government’s social policy has mostly benefited economically prosperous individuals. The Fidesz led government has implemented a flat tax rate, imposed family tax allowances, and has cut overhead expenses (Muck, 2018).

Concluding, it is hard to predict whether individual wealth or the degree of cosmopolitanism of a city will have a more dominant effect on the voting behavior of high-income individuals. However, those individuals who experience positive shocks to their income solely due to exports are expected to vote for the right for their economic policies. Therefore, there is a distinction to be made between the individuals who reside in wealthier cities and those whose pecuniary benefits are derived from increased exports.

However, due to limitations in data, it is impossible to study the relationship between

\(^5\) Weekly World Economy: Hungary's leading business magazine
individuals’ financial status and their voter preference. Hence, the relationship between the overall economic status of a city and its share of votes will be examined through this study. Drawing upon HVG’s findings and on previous literature, this analysis predicts that the higher income settlements of Hungary will have a lower share of votes for the right. The higher income cities of Hungary are more cosmopolitan in nature and embracing of liberal values; therefore they are expected to have a higher share of votes for left-leaning liberal parties.

5.2 Unemployment

Finally, this study predicts that unemployment will have a negative effect on support for Fidesz and a positive effect on the left-wing parties. In “Economic Policy Voting and Incumbency: Unemployment in Western Europe”, Dassonneville and Lewis-Beck study how rises in unemployment increase support for left-wing parties. For their analysis, they utilize a large time-series cross-sectional pool of Western European nations, to explore voting behavior based on the economic policy issue of unemployment. They argue that the left has been the historic supporter of welfare programs and “own” the issue of unemployment. They find that a rise in unemployment increases support for left-wing parties, but also discover that the magnitude of the effect depends on the extent to which the party is involved in the government. The effect is diminished when the left is in office, as there is an offsetting effect of incumbency-oriented economic policy, which punishes the incumbent for the deteriorating economy. In fact, Dassonneville and Lewis-Back find that if unemployment rates surpass a certain threshold, then the incumbency-oriented economic policy dominates the left’s “ownership” of the unemployment problem and the left loses votes (Dassonneville and Lewis-Back, 2013).
For the case of Hungary, it is ambiguous whether the “ownership” effect will have a dominant role in shaping voter outcomes, since MSZP was the incumbent party prior to the 2010 elections at a time of economic decline. However, controlling for year-fixed effects as well as income levels, this analysis predicts that a rise in unemployment will decrease the share of votes for the right and will increase support for the left.

6 Data

In an ideal experiment, each individual’s exact exposure to exports would be measured, but due to data limitations, the study will not be carried out on an individual unit of analysis but rather on the settlement level.

To test the central hypothesis for the case of Hungary, data was collected on both the Hungarian elections and on economic indicators of benefiting from globalization. The first dataset is panel data on the Hungarian national election for 2006, 2010, and 2014 on the settlement level. In the time span of these three elections the dominating political parties from the right were Fidesz KDNP, Jobbik, and MDF and the leading parties from the left were MSZP, LMP, and SZDSZ.

Hungary is divided into 3145 settlements that all differ in size and population. During national elections, individuals vote in the settlements that they reside in and those votes are then aggregated to a greater electoral district level.

A crucial factor that must be accounted for is the changes in the electoral system that were passed in 2011 by the Fidesz dominated parliament and enforced for the 2014 election. Prior to 2011, Hungary had a two-round voting system, which was changed to a
single-round majoritarian model. Furthermore, the new system also reduced the number of representatives in parliament to 199 members from 386. Finally and most importantly, Fidesz KDNP redesigned the borders of voting districts (constituencies) and justified the gerrymandering as an act of instating equality across constituencies. According to Fidesz it was unconstitutional to have a varying amount of voters across different electoral districts (Kovács, 2018). Due to the electoral reforms, the study cannot utilize electoral district level data since the districts in 2006 and 2010 comprised different settlements than the districts in 2014. Therefore all of the analysis will be executed on the settlement level.

The primary dependent variable is operationalized as the share of votes for the right-wing party of Fidesz KDNP per election year at the settlement level. Furthermore, to test the alternative hypothesis, the secondary dependent variable is generated by combining the share of votes for both Fidesz KDNP and Jobbik. Finally, to evaluate the competing hypothesis, the third dependent variable is constructed by summing the total share of left-wing votes.

Apart from the election data, the dataset includes panel data on the number of people registered as unemployed on a settlement level from 2006 to 2014. Furthermore, there is demographic data on the settlement level for these same years, including the population of the settlement, as well as the population of working adults between the ages of 18 to 59. Moreover, the demographic data also classifies the settlements as being in the capital or as being a county seat, town, or village.

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6 This dataset includes the first round’s results of the 2006 and 2010 elections for districts where there was both a turnout above 50% and where one candidate received over 50% of the votes and the second round’s results for the remaining districts.
Hungary has gained from international trade on an aggregate level, but to test whether the independent variable is positively related to the dependent variable, this study will leverage variation in the independent variable at the settlement level. Data from the World Bank shows that Hungary has had a strong trade surplus since the end of 2009 and early 2010. The entities that benefited the most from globalization and from having greater access to foreign markets are the export firms of Hungary and hence the settlements with the highest revenues from exporting goods and services.

For the explanatory variable, data was extracted from the META Database of the National Tax and Customs Administration of Hungary (NTCA). To construct the dataset, raw data on revenues from net export sales per settlement expressed in 1000 Forints were collected for the years of 2006, 2010, and 2014. This includes the total revenues generated from the selling of products abroad. To expand the dataset raw data from the META Database of NTCA on the consolidated tax base per settlement expressed in Forints was also obtained for the years of 2006, 2010, and 2014. The consolidated tax base includes income from independent activities, income from salaries, and income from all other sources. Hence the consolidated tax base is the sum of all taxable income earned in a settlement per year.

To operationalize the primary independent variable, the revenue from export sales variable was normalized, through the creation of a per capita measure, for which total sales were divided by the population of the settlement.

7 Research Design

To evaluate the central hypothesis an ordinary least squares regression design will be implemented. The unit of analysis for this regression will be settlement-year and to
reiterate, the independent variable will be the per capita revenue generated from export sales per settlement and the dependent variable will be the share of right-wing votes per settlement.

This regression will be used to predict the values of the continuous dependent variable using the primary independent variable, in order to determine the strength of the relationship between these two variables. Thus, the regression will test if an increase in total revenue from export sales per settlement is associated with a rise in the share of votes for Fidesz per settlement.

The OLS regression minimizes the sum of the squares of the differences between the values of the actual dependent variable and those predicted by the independent variable and models a best-fit line based on those two variables. The slope of the best-fit line is the coefficient of the independent variable. If that coefficient is significant on a 0.05 level (meaning that it has a p-value < 0.05) then a significant relationship between the variables can be confirmed and the null hypothesis can be rejected.

The regression will also include other variables that may be confounding the relationship between export sales and the share of votes for Fidesz. Socio-geographic factors of the settlements will be controlled for by four dummy variables that characterize the types of settlements as being a village, town, county seat, or capital. In total there are 3145 settlements in Hungary, out of which 2893 are villages, 229 are towns, 22 are county seats, and one is coded as the capital. A village is characterized as having basic functions, such as a primary school, a general practitioner, and a convenience store. Villages have very simple structures, a relatively small population, and revenue is mostly generated from agricultural production. Settlements categorized as towns are more developed, with higher levels of infrastructure. Towns have high schools, hospitals, and department stores and their
main source of revenue is derived from industrial work, commerce, education, cultural activities and transportation. Finally, county seats are the capitals of counties, where the administrative centers of counties are located. These cities possess the highest quality of infrastructure and the most educational institutions, including colleges and universities ("Településtípusok", 2002).

Another variable in the regression will be the population of the settlement that will control for the concentration of people per settlement. Although the effect might not be significant, it is possible that the population of the settlement is correlated with the share of votes, hence the regression will need to account for the possibility that the number of people living in a settlement considerably decreased or increased due to an exogenous factor. Furthermore, a variable on the share of unemployed individuals per settlement will control for the settlements’ unemployment rates. To create this variable the number of unemployed people per settlement was divided by the total working-age population\(^7\).

The regression will further control for per capita income levels within the settlements. To generate this variable, the consolidated tax base – or the sum of all the legally generated incomes per settlement— was divided by the population of the settlement.

These additional variables will control for exogenous factors that could affect the settlement in general. For example, some settlements might have received stronger negative economic shocks during the financial crisis, which would be reflected through increases in unemployment rates or decreases in income levels.

\(^7\) Individuals between the ages of 18 and 59.
### 7.1 Logarithmic transformations

Finally, logarithmic transformations were performed on two continuous variables, export sales per capita and income per capita, since they were highly skewed. Some settlements specialize in exports and thus receive substantially greater revenues from export sales than the average settlement; moreover, larger cities also have considerably higher than average income levels.

This transformation technique pulls outliers from the skewed distribution towards the center and creates a more normal distribution of the data. For the purpose of this research, it is more important to test for the relative changes in these variables than the absolute changes. Solely testing for the absolute changes wouldn’t accurately reflect the effect of these variables on the independent variable. A linear-scale regression of these variables treats a 500,000 Forint ($1,800) increase in export sales from 100,000 ($360) to 600,000 ($2,160) and 1,500,000,000 ($5,415,162) to 1,500,500,000 ($5,416,967) as the same, whereas a log-scale regression takes into account the initial value of the sales and calculates the change relative to that value. Therefore, the increase from 100,000 to 600,000 would be characterized as a 500% increase, while the increase from 1,500,000,000 to 1,500,500,000 would be marked as a 0.034% increase. It is crucial that these differences are accounted for since an absolute change in export sales can have a very different effect on vote shares depending on the initial economic conditions of the settlement. Additionally, the population variable is also slightly skewed; hence in the subsequent model the total population variable will also be transformed into a log variable.
7.2 Interaction effects

The secondary regression analysis will include an interaction effect between (logged) exports per capita and (logged) income per capita to test whether the effect of export sales per capita on vote shares varies at different levels of income per capita. Moreover, the regression will show how much the vote shares for the right change in response to a one percent increase in exports in the absence of income growth.

As Figure 1 indicates there is no correlation between percentage changes in exports per capita and percentage changes in income. Hence, the two variables are independent, and the distribution of one variable doesn’t depend on the other variable.

**FIGURE 1. Correlation between logged income per capita and logged exports per capita**

The reasoning behind this perplexing phenomenon is that these variables are not indicating absolute changes but are rather measuring relative changes. For example, a settlement may experience a 0.4 percent increase in its income per capita, while having a 13
percent increase in exports per capita. In an already wealthy settlement, even if exports rose dramatically from one period to the next, the ratio of export sales to total income could be extremely low. Therefore, the percentage changes in these two variables could be very different and the addition of the interaction effect to the regression will increase the robustness of the model.

After running the regression on the share of votes for Fidesz, the study will also assess the alternative hypothesis, particularly how the cumulative share of votes for both Fidesz KDNP and Jobbik change in response to export shocks. Therefore, the first regression’s dependent variable will be reconstructed to include the share of votes for Jobbik— the second largest right-wing party in Hungary.

In addition to running this modified regression — with an added interaction effect— on the share of votes for the right, the regression will also be utilized to predict the vote shares for the left at different levels of export sales. The purpose of this regression is to test the reverse side of the central hypothesis, specifically whether greater exposure to exports leads to fewer votes for the left. The regression will also be employed to evaluate the competing hypothesis, which argued that increases in exports create “winners” from globalization who are more likely to vote for left-wing parties.

To ensure that the decline in votes for MSZP in 2010 isn’t caused by voters who are upset about the MSZP scandal, the dependent variable is operationalized as the total share of votes for left-leaning parties. Hence, it is assumed that individuals voting against MSZP solely because of the scandal will vote for other left-leaning parties rather than switch to a right-wing party. Therefore, this variable is comprised of the total number of list votes for the three left-wing parties –MSZP, LMP, and SZDSZ – on the settlement level, divided by the number of valid votes cast per settlement.
8 Results

8.1 Hypothesis testing

The regressions in Table 1 yield robust results with significant p-values that indicate strong causal relationships between the variables. The results indicate a statistically significant relationship between the growth in revenues from export sales per capita and the share of votes for Fidesz. Models 1 and 2 are basic linear regressions that show the direction of correlation between the primary independent and dependent variable, without all the independent variables, controls and year fixed effects. The complete regressions, however, are displayed in Models 3 and 4.

Model 3

\[
Fidesz\_share_{it} = \alpha + \beta_1 \log(\text{Exports per capita})_{it} + \beta_2 \log(\text{Income per capita})_{it} + \beta_3 \text{Unemployment rate}_{it} + \beta_4 \text{Population}_{it} + \beta_5 \text{Village}_i + \beta_6 \text{Town}_i + \beta_7 \text{Countyseat}_i + \beta_8 \text{Year}_t + e_{it}
\]

According to Model 3, all else equal, a one percent increase in the export sales per capita (per settlements) increases the share of votes for Fidesz by 0.140 percentage points. Moreover, there is a strong, statistically significant relationship between income growth per capita and the share of votes for Fidesz. As predicted by Gelman (2014), a settlement’s aggregated income growth is negatively correlated with its share of right wing votes. All else equal, a one percent increase in income per capita decreases the share of votes for Fidesz by 10.59 percentage points.

The GKI Economic Research Company in Hungary has found that cities with the highest purchasing power per capita experienced the highest growths in income between 2009 and 2016, while the poorest settlements stagnated in their growth. Accordingly, the
richer settlements got wealthier, whereas the impoverished settlements got poorer (Szabó, 2018). Income growth was more likely to occur in richer settlements, so it can be assumed that in wealthy cities the liberal ideologies of the left dominated the right-wing’s pro-trade economic policies in shaping voter behavior.

Table 1: Effect of Export Sales on Fidesz Vote Shares

<table>
<thead>
<tr>
<th>VARIABLES</th>
<th>(Model 1) Fidesz share</th>
<th>(Model 2) Fidesz share</th>
<th>(Model 3) Fidesz share</th>
<th>(Model 4) Fidesz share</th>
</tr>
</thead>
<tbody>
<tr>
<td>Logged export sales per capita</td>
<td>0.0609</td>
<td>0.161**</td>
<td>0.140**</td>
<td>0.0884</td>
</tr>
<tr>
<td></td>
<td>(1.023)</td>
<td>(2.547)</td>
<td>(2.493)</td>
<td>(1.634)</td>
</tr>
<tr>
<td>Logged income per capita</td>
<td>-1.077**</td>
<td>-10.59***</td>
<td>-9.848***</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(-2.032)</td>
<td>(-16.75)</td>
<td>(-16.07)</td>
<td></td>
</tr>
<tr>
<td>Unemployment rate</td>
<td>0.157***</td>
<td>-0.402***</td>
<td>-0.428***</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(5.516)</td>
<td>(-13.17)</td>
<td>(-14.50)</td>
<td></td>
</tr>
<tr>
<td>Population of settlement</td>
<td>-0.000122***</td>
<td>-0.000120***</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(-5.334)</td>
<td>(-5.917)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Logged population</td>
<td>-2.794***</td>
<td></td>
<td>-2.941***</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(-23.45)</td>
<td></td>
<td>(-19.78)</td>
<td></td>
</tr>
<tr>
<td>Settlement is a village</td>
<td>-196.1***</td>
<td>-195.2***</td>
<td>-10.55**</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(-4.963)</td>
<td>(-5.554)</td>
<td>(-1.970)</td>
<td></td>
</tr>
<tr>
<td>Settlement is a town</td>
<td>-200.2***</td>
<td>-198.3***</td>
<td>-8.936*</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(-5.096)</td>
<td>(-5.675)</td>
<td>(-1.683)</td>
<td></td>
</tr>
<tr>
<td>Settlement is a city (county seat)</td>
<td>-194.4***</td>
<td>-191.4***</td>
<td>-5.820</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(-5.196)</td>
<td>(-5.752)</td>
<td>(-1.077)</td>
<td></td>
</tr>
<tr>
<td>Year = 2010</td>
<td></td>
<td></td>
<td>14.48***</td>
<td>14.17***</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(34.71)</td>
<td>(35.08)</td>
</tr>
<tr>
<td>Year = 2014</td>
<td></td>
<td></td>
<td>6.413***</td>
<td>5.481***</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(14.93)</td>
<td>(13.10)</td>
</tr>
<tr>
<td>Constant</td>
<td>72.80***</td>
<td>261.6***</td>
<td>386.2***</td>
<td>213.1***</td>
</tr>
<tr>
<td></td>
<td>(81.88)</td>
<td>(6.534)</td>
<td>(10.78)</td>
<td>(21.33)</td>
</tr>
<tr>
<td>Observations</td>
<td>5,105</td>
<td>5,105</td>
<td>5,105</td>
<td>5,105</td>
</tr>
<tr>
<td>R-squared</td>
<td>0.099</td>
<td>0.062</td>
<td>0.260</td>
<td>0.308</td>
</tr>
</tbody>
</table>

* t-statistics in parentheses
  *** p<0.01, ** p<0.05, * p<0.1
  Robust standard errors. *** p<0.01, ** p<0.05, * p<0.1.

In wealthier cities, increases in revenues from export sales are generated by high skilled employees in service related sectors. However, the export commodities of those cities don’t accurately reflect the industrial landscape of Hungary’s exports. The majority of
Hungarian exports are derived from the manufacturing and industrial sectors that employ large numbers of unskilled workers. Therefore, richer cities with high-income growths likely have fewer manufacturing workers; hence even if there’s a growth in export sales, it should be attributed to revenue from the tradable service sector rather than to revenue from the manufacturing and industrial sectors.

Another statistically significant relationship exists between unemployment rates and vote shares for Fidesz. In accordance with previous studies, unemployment is negatively correlated with support for the right. All else equal, a one-unit increase in the unemployment rate per settlement decreases the vote share for Fidesz by 0.402 percentage points.

The year fixed effects of the regression also provide interesting statistically significant results. All else equal, the share of votes for Fidesz – in the Hungarian national parliamentary election – from 2006 to 2010 increased by 14.48 percentage points. This increase in the popularity of Fidesz – caused exclusively by the year fixed— is likely due to voters’ punishment of MSZP for the mismanagement of the financial crisis of 2008 and for the scandal preceding it. Moreover, all else equal, in 2014 the overall share of votes for Fidesz increased by 6.413 percentage points compared to the election of 2006. These significant percentage increases reflect the parliamentary supermajority that Fidesz secured in both 2010 and 2014.

The year fixed effect variable accounts for the general cross-country trend of increased votes for Fidesz in 2010; however, it doesn’t diminish the effect of the export variable, which evidences a direct increase in the share of votes for Fidesz in the settlements that benefited from increased export sales.
Model 4

\[
Fidesz\_share_{it} = \alpha_1 + \beta_1 \log(Exports \ per \ capita)_{it} + \beta_2 \log(\text{Income per capita})_{it} + \beta_3 \\
\text{Unemployment\_rate\_it} + \beta_4 \log(\text{Population})_{it} + \beta_5 \log(\text{Population})_{it} + \beta_6 \text{Village\_i + \beta_7 \text{Town\_i + \beta_8 \text{Countyseat\_i + \beta_9 \text{Year\_t + e\_i} }}}
\]

Model 4 is a slight modification of Regression 1. For the purpose of this regression, the total population variable was transformed into a log variable due to the slight skewness of the distribution. As expected, the sign on logged exports per capita is positive, which indicates a positive relationship between increases in the revenue generated from export sales and the share of votes for the right-wing Fidesz party; however, the relationship is no longer significant. All else equal, a one percent increase in the revenues from export sales per capita increases vote shares for Fidesz by 0.0884 percentage points. The other variables of the regression produce very similar results to the first regression. Income growth and the unemployment rate are still negatively correlated with the share of votes for Fidesz. This regression indicates a slightly lower decrease in the vote shares for Fidesz caused by a one percent increase in income growth per capita (9.8 percent rather than the previous 10.59 percent) and a slightly higher decrease in vote shares caused by a one percent increase in the unemployment rate (a 0.428 percent decrease instead of 0.402 percent).

8.2 Evaluating the alternative and competing hypothesis

Model 1

\[
Fidesz\_share_{it} = \alpha_1 + \beta_1 \log(Exports \ per \ capita)_{it} + \beta_2 \log(\text{Income per capita})_{it} + \beta_3 \\
\text{Unemployment\_rate\_it} + \beta_4 \log(\text{Population})_{it} + \beta_5 \text{c.log(Exportspc)*c.log(Incomepc) + \beta_6 \text{Village\_i + \beta_7 \text{Town\_i + \beta_8 \text{Countyseat\_i + \beta_9 \text{Year\_t + e\_i} }}}
\]

Model 2

\[
Right\_share_{it} = \alpha_1 + \beta_1 \log(Exports \ per \ capita)_{it} + \beta_2 \log(\text{Income per capita})_{it} + \beta_3 \\
\text{Unemployment\_rate\_it} + \beta_4 \log(\text{Population})_{it} + \beta_5 \text{c.log(Exportspc)*c.log(Incomepc) + \beta_6 \text{Village\_i + \beta_7 \text{Town\_i + \beta_8 \text{Countyseat\_i + \beta_9 \text{Year\_t + e\_i} }}}
\]
Model 3

\[ \text{Left}_i = \alpha_1 + \beta_1 \log(\text{Exports per capita})_i + \beta_2 \log(\text{income per capita})_i + \beta_3 \text{Unemployment rate}_i + \beta_4 \log(\text{Population})_i + \beta_5 c.\log(\text{Exports}_c)*c.\log(\text{Income}_c) + \beta_6 \text{Village}_i + \beta_7 \text{Town}_i + \beta_8 \text{Countyseat}_i + \beta_9 \text{Year}_t + \epsilon_i \]

### Table 2: Effect of Export Sales with Interaction Effects

<table>
<thead>
<tr>
<th>VARIABLES</th>
<th>(Model 1)</th>
<th>(Model 2)</th>
<th>(Model 3)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Log Export Sales per capita</td>
<td>0.0158</td>
<td>5.666***</td>
<td>-4.982***</td>
</tr>
<tr>
<td></td>
<td>(0.00788)</td>
<td>(3.185)</td>
<td>(-2.892)</td>
</tr>
<tr>
<td></td>
<td>(-10.69)</td>
<td>(-8.695)</td>
<td>(7.839)</td>
</tr>
<tr>
<td>Unemployment Rate</td>
<td>-0.428***</td>
<td>-0.152***</td>
<td>0.169***</td>
</tr>
<tr>
<td></td>
<td>(-14.42)</td>
<td>(-5.767)</td>
<td>(6.617)</td>
</tr>
<tr>
<td>Log Population</td>
<td>-2.942***</td>
<td>-1.834***</td>
<td>1.644***</td>
</tr>
<tr>
<td></td>
<td>(-19.67)</td>
<td>(-13.82)</td>
<td>(12.78)</td>
</tr>
<tr>
<td>c.\log(\text{Exports}_c)*c.\log(\text{Income}_c)</td>
<td>0.00542</td>
<td>-0.430***</td>
<td>0.380***</td>
</tr>
<tr>
<td></td>
<td>(0.0363)</td>
<td>(-3.237)</td>
<td>(2.955)</td>
</tr>
<tr>
<td>Settlement is a village</td>
<td>-10.55**</td>
<td>0.903</td>
<td>-1.970</td>
</tr>
<tr>
<td></td>
<td>(-1.967)</td>
<td>(0.190)</td>
<td>(-0.427)</td>
</tr>
<tr>
<td>Settlement is a town</td>
<td>-8.930*</td>
<td>0.966</td>
<td>-1.777</td>
</tr>
<tr>
<td></td>
<td>(-1.681)</td>
<td>(0.205)</td>
<td>(-0.389)</td>
</tr>
<tr>
<td>Settlement is a city (county seat)</td>
<td>-5.816</td>
<td>0.0712</td>
<td>-0.769</td>
</tr>
<tr>
<td></td>
<td>(-1.076)</td>
<td>(0.0148)</td>
<td>(-0.165)</td>
</tr>
<tr>
<td>Year = 2010</td>
<td>14.17***</td>
<td>31.36***</td>
<td>-26.14***</td>
</tr>
<tr>
<td></td>
<td>(34.97)</td>
<td>(87.20)</td>
<td>(-75.06)</td>
</tr>
<tr>
<td>Year = 2014</td>
<td>5.482***</td>
<td>29.40***</td>
<td>-24.52***</td>
</tr>
<tr>
<td></td>
<td>(13.08)</td>
<td>(79.03)</td>
<td>(-68.05)</td>
</tr>
<tr>
<td>Constant</td>
<td>213.5***</td>
<td>155.8***</td>
<td>-49.60***</td>
</tr>
<tr>
<td></td>
<td>(15.73)</td>
<td>(12.93)</td>
<td>(-4.251)</td>
</tr>
<tr>
<td>Observations</td>
<td>5,105</td>
<td>5,105</td>
<td>5,105</td>
</tr>
<tr>
<td>R-squared</td>
<td>0.308</td>
<td>0.725</td>
<td>0.660</td>
</tr>
</tbody>
</table>

\* t-statistics in parentheses
\** *** p<0.01, ** p<0.05, * p<0.1

Robust standard errors. *** p<0.01, ** p<0.05, * p<0.1.

The basic structure, of the regressions of Table 2, differs from the structure of the regressions of Table 1 by the inclusion of an interaction effect between export sales and income.
Model 1 demonstrates that the export variable is still positively related to vote shares for Fidesz. However, the coefficient on export sales is no longer significant in Model 1, whereas, in Model 2 – where the dependent variable is the total share of votes for Fidesz and Jobbik —, the variable is significant at the one percent level. In Model 1, holding all else equal, a one percent increase in export sales per capita, in the absence of income growth, leads to a 0.0158 percentage point increase in Fidesz vote shares per settlement. In Model 2, the effect of export sales is far more pronounced; where a one percent increase in exports, in the absence of income growth, leads to a 5.66 percentage point increase in vote shares for Fidesz and Jobbik. Furthermore, Model 2 has the highest coefficient of multiple determination out of all the models in this study. Precisely, 72.49 percent of the variance in the dependent variable is explained by the variables of the regression model.

I surmise that voters who benefited from export sales were almost as likely to vote for Jobbik as for Fidesz, due to strong similarities in the two parties’ economic policies. Therefore, measuring the effect of export sales on political support for both Fidesz and Jobbik provides a more accurate reflection of voter preferences for right-wing economic policies.

Moreover, Model 2 also shows that a one percent increase in income, in the absence of growth in export sales, causes a 7.127 percent decline in vote shares for the two right-wing parties. Richer settlements are expected to experience higher growth rates in income, and as suggested by Gelman (2014), wealthier settlements tend to be more cosmopolitan and liberal in perspective, hence more supportive of the left-wing’s liberal ideologies.

Model 2 also yields robust results for the interaction effect between export sales per capita and income per capita. A one percent increases in export sales per capita in
settlements that are aggregately experiencing income growth, right-wing vote shares decline by 0.430 percentage points.

Additionally, as the marginal effect indicates in Figure 2, higher levels of income growth, concurrent with higher export sales growth, cause a greater decline in the share of right wing votes. This implies that regardless of the amount of export growth, the wealthier the settlement\(^8\); the less likely it is to vote for right wing parties.

![Marginal Effects](image)

**FIGURE 2.** *Average marginal effects of logged income per capita*

Lastly, Model 3 also yields significant results for the primary independent variable and other variables. Holding all else equal, a one percent increase in export sales per capita, in the absence of income growth, yields a 4.982 percentage point decrease in the share of

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\(^8\) Between the years of 2006 and 2014 wealthy settlements (overall) experienced greater income growth than poor settlements (Szabó, 2018).
left-wing parties. This result disproves the competing hypothesis that claimed the winners of globalization would support left-wing parties. Aligned with the argument of the central hypothesis, the result evidences that the winners of globalization are less likely to support left-wing parties.

A further significant result shows that a one percent increase in income per capita, absent increases in export sales, leads to a 6.223 percentage point increase in the vote shares for left-wing parties.

The positive relationship between income and support for the left-wing was anticipated based on previous research that has found a strong correlation between these two variables (Gelman, 2014; Muck, 2018). Furthermore, studies have shown that schooling and education levels are important factors in explaining income disparities on the aggregate level (Hanushek and Kimko, 2000; Soto, 2009). Due to the strong correlation between income and education levels, I conjecture that the wealthier settlements of Hungary also have higher education levels. Highly educated individuals tend to be more forward thinking and embracing of liberal values; therefore the correlation in support for the left-wing and higher income can be attributed to the fact that the residents of wealthier cities of Hungary are more educated and cosmopolitan in their mindsets.

Moreover, this model also reveals that a one percent increase in the unemployment rate increases the vote shares for the left by 0.169 percentage points. This result is aligned with the theory of the left’s “ownership” of the issue of unemployment as discussed by Dassonneville and others (Dassonneville and Lewis-Back, 2013; Petrocik 1996; Rattinger, 1991). It shows that an increase in the unemployment rate is associated with stronger support for the left. This causal mechanism is driven by the desire for welfare benefits from the unemployed, which is generally associated with the left.
9 Conclusion

The results of the study show that there exists a positive relationship between increased revenues from export sales and support for the right-wing party of Fidesz KDNP. Therefore, as hypothesized, settlements that have benefited from globalization were more likely to vote for the right wing party of Fidesz; however, the evidence isn’t strong enough to establish a significant causal relationship between the two variables. Although Fidesz has overall benefited from an increased share of votes in settlements that underwent an export boom, the greatest increase in vote shares was caused by the year fixed effect of 2010.

Economic voting theory posits that voters punish incumbents for economic downturns, which appears to be the case for Hungary. The recession occurred in 2007-2008 and in the following elections, the total share of votes for Fidesz increased dramatically across the entire country, while the total share of left-wing votes declined.

The main finding of the research is that political support for the two dominant right-wing parties – Fidesz and Jobbik— grew in response to increases in revenue generated by export sales. This finding suggests that right-wing parties, endorsing conservative economic policies, will be supported by manufacturing workers in places where such workers benefit from international trade.

One of the primary drawbacks of this paper’s research design is that it measures export exposure on an aggregated, settlement level rather than measuring individual voters’ exposure to exports. A more comprehensive research design would employ a difference in differences regression; however, due to data limitations, it was impossible to do so. For a difference in differences model, settlement level results of the 2002 national election would be needed. Only then could one establish a parallel trend assumption between the election years, and test for the differences between the settlements that experienced a trade shock
versus the ones that were not affected by it. Moreover, in a stronger study, the independent variable would be operationalized as the wage of workers in the manufacturing sectors that specialize in exports. A further imperfection of the current framework is that it assumes that increases in export sales are associated with a concurrent increase in demand for workers employed by an export firm. External data confirms that low-skilled manufacturing workers benefited from increases in export sales but the degree to which workers benefited might differ from firm to firm. Moreover, the data doesn’t distinguish between support for the right-wing party from the workers of an export firm and individuals in a settlement that experienced a boost to their local economy from increased export sales. Furthermore, a difference in difference design would control for issues of endogeneity that were not fully addressed in this study.

Finally, the extent to which the findings of this study can be applied to other countries is ambiguous. Hungary’s case is unusual, in that its export industry relies heavily on low-skilled workers, whereas in other Western countries demand for low-skilled labor has decreased in response to globalization. Therefore, the low-skilled workers of Hungary have benefited from international trade, whereas low-skilled workers in the West have suffered from layoffs and a decline in their wages.

Prior research substantiated the claim that that the “losers” of globalization are more likely to support right-wing parties for their nationalist (anti-immigrant) and conservative ideologies, for fear of foreigners “stealing” jobs from the low-skilled labor market. Such political behavior has been extensively explored; however, little research has been conducted on the political behavior of the “winners” of globalization. The results of this study corroborate the theory that globalization affects political behavior; however, the results challenge the direction of correlation of previous studies. Instead of observing a
negative correlation between increased export sales and support for the right-wing, this study found a positive relationship between these two variables. Most prior studies were conducted in countries where low-skilled workers suffered due to globalization; however, in Hungary low-skilled workers have benefited and yet still supported the right.

The enigma is whether worker support for the right is driven by the economic consequences of globalization or simply by class distinctions and sectoral lines. Can it be argued that the “losers” or the “winners” of globalization will be in support of the right? Or is support for the right propelled by the shared views of a specific sector of voters? This analysis falls short of addressing that question and future research should explore other Eastern European countries with a similar economic and political climate to that of Hungary. These countries should have right-wing parties whose economic policies are closely aligned with those of Fidesz and Jobbik and should also be exporters of commodities that are heavily dependent on low-skilled workers.
References


The Global Economy. "Hungary Trade Balance, Percent of GDP - Data, Chart."

Tóth, András. (2013, April 5). Új rend: Mennyire neonáci a Jobbik?


## Appendix

### 1 Descriptive Statistics

<table>
<thead>
<tr>
<th>Variable</th>
<th>Label</th>
<th>Description</th>
<th>Mean</th>
<th>Standard Deviation</th>
<th>Min</th>
<th>Max</th>
<th>Observations</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>telkod</td>
<td>Settlement id</td>
<td>Four digit code associated with the settlement</td>
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<td>29,942</td>
<td></td>
<td></td>
<td></td>
<td>Hungarian Administrative Data</td>
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<tr>
<td>fidesz_share</td>
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<td>Share of list votes for Fidesz in the national elections</td>
<td>53.52079</td>
<td>12.3496</td>
<td>0</td>
<td>100</td>
<td>9,451</td>
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<td>right_share</td>
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<td>Share of list votes for right-wing</td>
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<td>100</td>
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<tr>
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<td>Share of list votes</td>
<td>Share of list votes for left-wing</td>
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<td>9,451</td>
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<td>logexportspc</td>
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<td>Logged revenue of export sales per capita per settlement</td>
<td>4.325463</td>
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<td>-4.922714</td>
<td>12.99169</td>
<td>5,105</td>
<td>National Tax and Customs Administration of Hungary</td>
</tr>
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<td>logincomepc</td>
<td>Logged income per capita</td>
<td>Logged tax base of settlements per capita</td>
<td>13.21669</td>
<td>0.4218952</td>
<td>9.847506</td>
<td>14.91222</td>
<td>9,444</td>
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<td>capital</td>
<td>Settlement is Budapest</td>
<td>Dummy variable; 1 if settlement is in Budapest, 0 if not</td>
<td>0.0003119</td>
<td>0.017658</td>
<td>0</td>
<td>1</td>
<td>25,650</td>
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</tr>
<tr>
<td>countyseat</td>
<td>Settlement is a city (county seat)</td>
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<td>0.1109976</td>
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<td>0.295357</td>
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<td>The total population of the settlement</td>
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<td>32710.88</td>
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<td>Logged population</td>
<td>Logged population per settlement</td>
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<td>1.295578</td>
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<td>14.48683</td>
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<td>unemployment_rate</td>
<td>Unemployment rate in settlement</td>
<td>Share of unemployed people over the total working population</td>
<td>12.74971</td>
<td>8.180899</td>
<td>0</td>
<td>78.57143</td>
<td>9,448</td>
<td>Hungarian Administrative Data</td>
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