Electoral swings amidst globalization pressures.

Insights from Greece.

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Abstract

This paper studies the role of trade globalization approximated by imports from China at the local level in shifting the electoral dynamics in Greek parliamentary elections over the 2012-2023 period. Accounting for time invariant unobserved confounding factors, our preliminary results depart from the political polarization impact from globalization; instead, we indicate that import competition is correlated with a shift towards extreme right parties, at the expense of extreme left ones. Using a more nuanced classification of political parties, we document positive relationships between trade exposure and support for both communist-socialist and social democratic parties, as opposed to a negative correlation with Christian democratic parties.

1. Introduction

Since the last two decades, the ideological divide in many developed Western economies has been progressively increasing (Autor et al. 2020). Contemporary international politics are characterized by a sizeable right-ward shift, illustrated by the landslide re-election of D. Trump, or *inter alia* the increasing voting shares of Front National in France, AfD in Germany and PVV in the Netherlands, mainly capitalizing on anti-globalization nativism (Rodrik, 2018). Coupled with a more modest left-ward shift (Syriza in Greece, Podemos in Spain) exploiting an anti-establishment rhetoric, the prevailing political arguments increasingly challenge the founding principles of post-war Western international politics (Caselli, Fracasso & Traverso, 2019).

Growing concerns regarding such political developments stimulated theoretical and empirical investigations as to their main determinants. The relevant literature puts forward the following candidate explanations. First, despite the beneficial growth effects of the ongoing integration of the world economy, globalization has inadvertently caused non-neutral redistributional impact, both between and within countries. The economic insecurity amongst the regions lagging behind or the lest privileged societal groups has fueled the demand for economic protectionism, especially in industries exposed to import competition (Autor, Dorn & Hanson, 2013). Along similar lines, technological developments have increased the employment insecurity of low-skilled workers (Helpman, Itskhoki & Redding, 2010). Such concerns are exacerbated by the increased migration flows, which are often perceived by some natives as a threat to their national identities (Hainmueller & Hiscox, 2010). Taken together, the above factors have aggravated underlying political and social tensions which are increasingly polarizing the electoral outcomes.

Within this rapidly evolving political environment, the current study investigates the role of trade integration to explain the outcomes of parliamentary elections in Greece during the 2012-2023 period. Despite its relative small size, Greece has experienced fundamental economic and political restructuring within the period of analysis. On the economic front, between 2012 and 2015 Greece was in the midst of the debt crisis, which decreased imports especially from outside the EU. However, more recent years exhibit a substantial increase in the 'China shock' (Autor et al. 2013), resulting in sufficient variation to exploit. At the same time, far-reaching changes in the political environment include the emergence of new political parties both at the so-called extreme left (MeRA25, LAE etc.) and the extreme right (EL, Sp etc.), increased momentum of pre-existing ones (Syriza, GD etc.), and the political demise of traditional parties (PASOK). As a result, the investigated political environment features increased radicalization and a multi-polar character, as opposed to the bi-polar character of electoral outcomes till the early 2000s. By grouping political parties into categories based on their ideological position and their stance regarding thorny economic, social and cultural issues, our analysis seeks to explain the forces stimulating this radical restructuring.

The empirical analysis is based on electoral data at the municipality level. However, to ensure the comparability of our results with the international literature (Caselli et al. 2019), we define local labor markets (NUTS-3 regions) as the main spatial unit of our analysis, with the additional benefit of adding appropriate variables controlling for social, economic and

demographic trends. In a nutshell, we utilize panel data models to evaluate the potential of globalization, proxied by the increased import competition from China on the outcomes of the following general elections: May 2012, January 2015, September 2015, July 2019 and June 2023.

Previewing our preliminary results, static panel analysis illustrates that import competition is positively correlated with electoral support for extreme right parties and negatively with the electoral shares of extreme left parties. Following a more nuanced classification of political parties, we point to negative relationship between trade exposure and support for Christian democratic parties and positive associations with support for communist/socialist and social democratic parties. Overall our results depart from the political polarization patterns in the US due to import competition (Autor et al. 2020) and align more closely with results from Italy (Caselli et al. 2019) pointing to an electoral transition favoring extreme right parties at the expense of extreme left ones.

2. Data

The empirical analysis combines panel data on 318 (out of the 332) Greek municipalities for the parliamentary elections of May 2012, January 2015, September 2015, July 2019 and June 2023, obtained from the Greek Ministry of the Interior. Municipality-level electoral data have been aggregated at the NUTS-3 level (52 regions), to approximate local labor markets. Given their construction to reflect economically-integrated spatial units and the low commuting patterns in Greece, NUTS-3 regions are particularly appropriate for investigating the impact of local trade exposure on the voting behavior or regional populations, since the voters in each region typically live and work in the same region[1]. Furthermore, we drop mail-voting results. Between 2012 and 2023, the NUTS-3 classification in Greece remained particularly consistent (Appendix A). Our analysis is based on the most recent classification; however, analysis at the municipality- and the electoral constituency levels are bound to account for the small discrepancies.

Electoral data are combined with economic, social and demographic indicators at the regional (NUTS-3) and provincial (NUTS-2) level from the OECD and Eurostat. The local economic environment is approximated by the gross value added per worker, the unemployment rate and the labor force participation. Data on sociodemographic structure include net migration, old age dependency, upper secondary and tertiary school enrollment, labor force participation, number of deaths per capita and infant mortality rate.

2.1. Import competition from China

To measure the intensity of the import competition from China at the local level, we interact country-level import data with local employment data. Therefore, the level of Chinese imports per worker for each local labor market r at time t is defined as:

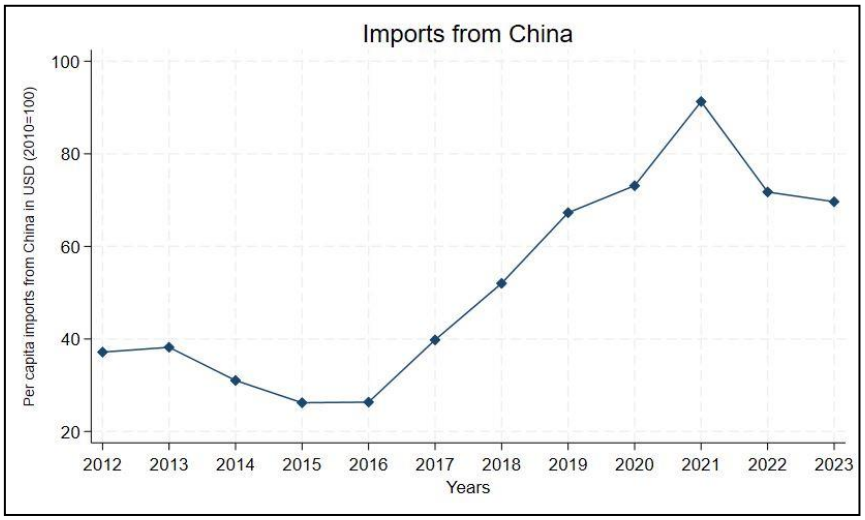
[1] To ensure that the spatial unit of analysis does not drive the results, we repeat the analysis at the municipality and the electoral constituency levels.

$$TrExp_{rt}^{CHN} = \frac{1}{Pop_{it}} IMP_t^{CHN} \qquad (1)$$

Where Pop_{it} is the population at the NUTS-3 level[2] and IMP_t^{CHN} are the deflated values of imports from China at the national level (constant USD, 2015=100).

Figure 1 illustrates the per capita imports from China between 2012 and 2023. During the early period of our analysis, Greece was in the middle of the debt crisis which explains the decreasing trend in imports from China till 2016. From that point, there is a clear increase in the per capita imports, which triple in value till 2021 (from less than 30 USD per person in 2016, to almost 90 USD per person in 2021). In the last two years, the imports decline and stabilize to the level of around 70 USD per person.

Figure 1. Per capita imports from China



2.2. *Classification of political parties*

We have identified 23 political parties competing in the elections between 2012 and 2023. Nevertheless, some dissolve or are established later, resulting on an average of 12 political parties per election period (detailed data are reported in Appendix B). Tables 1 and 2 report means and st. deviations for the variables included in our analysis (correlation matrices are reported in Appendix C), separated into the control variables (Table 1) and the trade and electoral ones (Table 2). Both tables use the NUTS-3 regions as the spatial unit of analysis and report data for the years where elections have taken place.

[2] Ideally, we would have preferred to use local employment instead of population. However, population data are readily available at the NUTS-3 level, as opposed to employment data, which need to be disaggregated from the NUTS-2 level, using regional population as the weight. The correlation coefficient between the population data and the calculated employment data is: 0.993.

Table 1. Descriptive statistics (control variables at the NUTS-3 level)

	2012	2015	2016	2019	2023	Total
$lnGVApw_{rt}$	3.662 (0.240)	3.624 (0.233)	3.580 (0.232)	3.553 (0.243)	3.502 (0.235)	3.584 (0.241)
Net_migr_{rt}	-1278 (4531)	-864 (2944)	198 (2458)	676 (1614)	350 (1356)	-183.558 (2895)
$Old\_age\_dep_{rt}$	33.252 (7.060)	35.200 (7.155)	35.765 (7.216)	37.117 (7.770)	39.332 (7.360)	36.133 (7.538)
$lnDeaths\_pc_{rt}$	-4.499 (0.172)	-4.465 (0.161)	-4.487 (0.156)	-4.432 (0.159)	-4.266 (0.169)	-4.430 (0.183)
$lnInfMort\_pc_{rt}$	-2.123 (0.885)	-1.824 (0.785)	-1.695 (0.803)	-2.008 (0.928)	-2.147 (0.890)	-1.959 (0.871)
$Lab\_force\_part_{rt}$	67.067 (2.114	67.523 (1.832)	68.098 (0.977)	68.392 (1.909)	69.278 (1.816)	68.071 (1.916)
$lnUnempl_{rt}$	3.154 (0.185)	3.190 (0.161)	3.147 (0.169)	2.834 (0.213)	2.467 (0.208)	2.989 (1.916)
$Upper\_Sec_{rt}$	37.742 (4.053)	39.952 (3.750)	40.642 (2.909)	44.848 (2.718)	47.542 (4.059)	42.145 (5.000)
$Tertiary_{rt}$	22.167 (5.589)	25.086 (5.674)	26.436 (5.854)	28.273 (5.870)	29.742 (7.374)	26.341 (6.621)
Observations	52	52	52	52	52	260

Table 2. Descriptive statistics (trade exposure and electoral variables at the NUTS-3 level)

	2012	2015	2016	2019	2023	Total
$TrExp_{rt}^{CHN}$	7.756 (0.875)	7.597 (0.876)	7.601 (0.875)	8.522 (0.870)	8.592 (0.892)	8.054 (0.973)
$Extr\_left\_sh_{rt}$	0.012 (0.006)	0.006 (0.003)	0.037 (0.010)	0.038 (0.009)	0.054 (0.015)	0.029 (0.020)
$Extr\_right\_sh_{rt}$	0.192 (0.044)	0.112 (0.026)	0.104 (0.021)	0.064 (0.021)	0.127 (0.038)	0.120 (0.052)
$Com\_soc\_sh_{rt}$	0.255 (0.080)	0.426 (0.074)	0.446 (0.059)	0.402 (0.068)	0.308 (0.068)	0.367 (0.102)
$Right\_sh_{rt}$	0.192 (0.044)	0.117 (0.026)	0.104 (0.021)	0.064 (0.021)	0.127 (0.038)	0.120 (0.052)
$Green\_sh_{rt}$	0.028 (0.008)	0.004 (0.001)	0.037 (0.222)	0.000 (0.000)	0.004 (0.001)	0.015 (0.018)
$Soc\_dem\_sh_{rt}$	0.211 (0.042)	0.166 (0.025)	0.102 (0.020)	0.101 (0.031)	0.139 (0.042)	0.144 (0.052)
$Conserv\_sh_{rt}$	0.267 (0.060)	0.286 (0.058)	0.289 (0.049)	0.406 (0.054)	0.397 (0.048)	0.329 (0.081)
Observations	52	52	52	52	52	260

To classify political parties, we primarily rely on the Chapel Hill Expert Survey (CHES, Jolly et al. 2022), complemented by three other relevant databases (ParlGov, PopuList 3.0 and TIMBRO), since CHES does not include all the political parties in our sample. We mainly rely on CHES due to its two main advantages. First, it assigns scores (0-10) to political parties based on their viewpoints on a multitude of economic, social and political issues. Secondly, the scores vary per year, thus accounting for party repositioning.

Table 3. Classifications of political parties

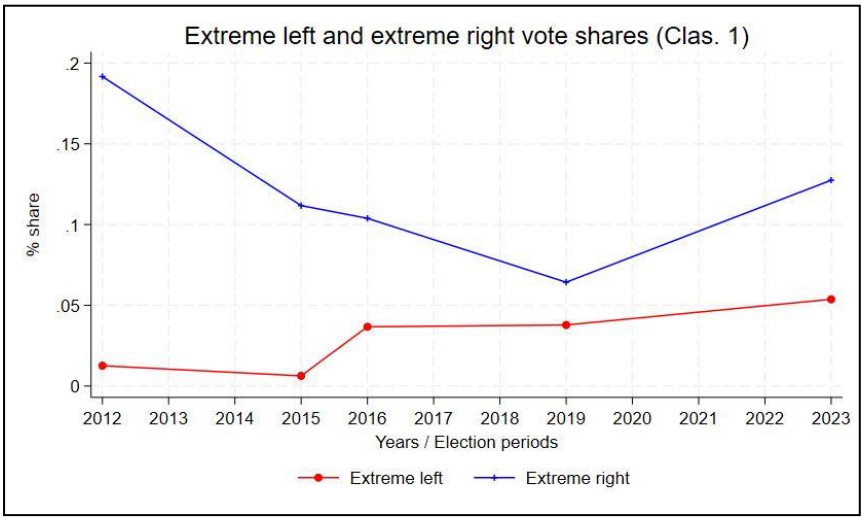
Extreme right VS extreme left		**Libertarian/post-materialist VS traditional/authoritarian**				
Extreme right (1)	**Extreme left (2)**	**Right-wing (3)**	**Christian democracy (4)**	**Social democracy (5)**	**Green/ Ecologists (6)**	**Communist/ Socialist (7)**
ANEL	ANTARSYA	ANEL	ND	DIMAR	OP	ANTARSYA
EL	DIKKI	EL	D-FS	EK		LAE
GD	LAE	GD	DISY	KIDISO		LE|PE
LAOS	MeRA25	LAOS	DX	PASOK		MeRA25
NIKH	LE|PE	NIKH		TP		SYRIZA
Sp		Sp		Tel		KKE

Our first classification (Table 3 - Columns 1-2) captures the traditional *extreme right vs extreme left* cleavage, and is based on the position of each party in terms of its overall ideological stance (LRGEN variable, with higher scores indicating right-wing party positioning). In particular, we classify as *extreme right* the political parties which score at least 8.5 (LAOS, GD, ANEL and EL). Given that the CHES database does not cover all the political parties, we complement the extreme right category with two political parties (Sp and NIKH) which are characterized either as right-wing (ParlGov) or fascist (TIMBRO). The *extreme left* category includes political parties with a left-right score below 1.5 (MeRA25). However, reflecting our choice to limit this category to the extreme parties, we remove the Greek Communist Party (KKE)[3] and also include LAE (far-left according to PopuList 3.0 and Communist/Trotskist according to TIMBRO) together with ANTARSYA and LE|PE (both communist according to ParlGov).

Figure 2 illustrates that –on average- extreme right parties account for a larger voting share compared to extreme left ones. The initially increased share of extreme right parties reflects the popularity of ANEL and GD, which gradually decreased (the former was dissolved in 2015, while the latter was deemed unconstitutional and did not participate in the 2023 elections). The losses of those two parties were partially offset by the emergence of similar ones (EL and Sp), which draw votes from the same electorate. Extreme left parties typically represent a smaller share of the electorate. Their increasing shares as of 2015 are explained by the political parties

[3] Our intention is that the *extreme left* category reflects the electoral preferences of voters "to the left" of the traditional Greek Communist Party.

Figure 2. Extreme left and extreme right voting shares



formed by parliamentarians formerly affiliated with SYRIZA (LAE in 2015 and LE|PE in 2019) and the emergence of a new political entity (MeRA25).

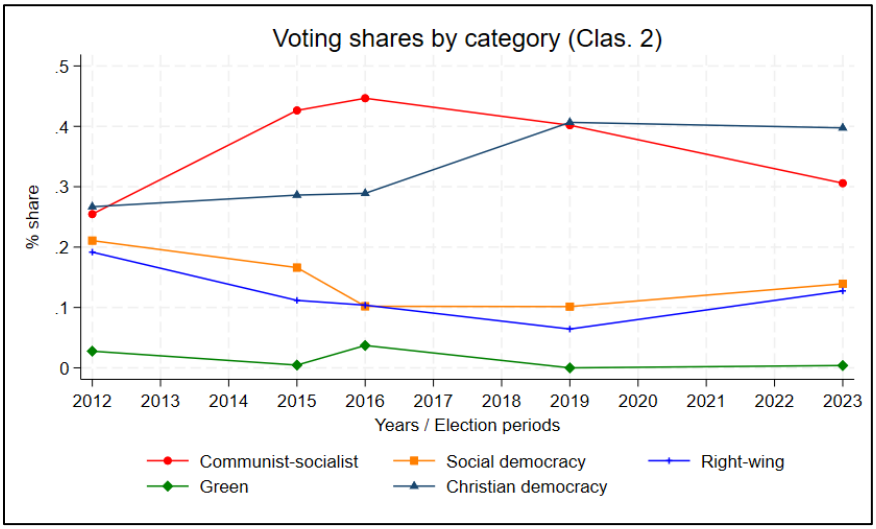
The second classification exploits information on the party's views regarding social and cultural values (GALTAN variable from CHES). Low values are assigned to libertarian or post-materialist parties, which typically favor expanded personal freedoms such as abortion rights or same-sex marriage. Higher values reflect traditional or authoritarian parties, which believe in the moral authority of the government on social and cultural issues (Jolly et al. 2022). As a result, our second classification distinguishes between the following groups (Table 3 - Columns 3-7). *Right-wing*[4] parties score very high (above 8.5), *Christian democracy*[5] score above the mean but below 8.5, *social democracy* includes parties with values below the mean, while the *communist-socialist* category includes parties with very low scores (below 2.4) in the GALTAN variable. We complemented the last category with ANTARSYA, LAE and LE|PE which are not included in the CHES database, but are characterized as *communist/socialist* in ParlGov and PopuList 3.0 databases. We further refine this categorization by including the *green/ecologists* (ParlGov) as a separate category.

Figure 3 clearly depicts the bipolar political environment in Greece. The increased voting shares for communist/socialist parties at least till the elections of September 2015, are mainly explained from SYRIZA gaining votes from the electorate supporting PASOK (as the main political party in the social democracy category) and ND (the main political party in the Christian democracy category), which witnessed decreasing voting shares between 2012 and 2015. From that point, SYRIZA lost political power, at the expense of ND, which is the governing party since 2019. Green parties in Greece have very limited political power and mainly participate in the elections as members of broader coalitions.

[4] This category perfectly corresponds to the *extreme right* category of our first classification.

[5] This category also includes political parties which are not included in the CHES database, but are characterized as *liberal/conservative* according to the ParlGov database (D-FS, DISY, DX and EDIK). Those are very small parties which originated from ND, the main party in the *Christian democracy* category.

Figure 3. Libertarian and traditional voting shares



Figures 4 and 5 illustrate the regional voting shares for the extreme left (left panel) and the extreme right parties (right panel). Regarding the former, the difference in the scales between the two panels clearly reflect the increasing support for extreme left parties between 2012 and 2023. From a spatial perspective, early support for extreme left parties is mainly evident in peripheral regions (Ithaka, Kefallonia, Lesvos, Limnos), while in 2023, extreme left parties increased their voting support in more central regions, such as Northern Athens, Thessaloniki or Magnisia. The situation is relatively different considering the opposite side of the political spectrum. Overall, the voting shares of the extreme right parties have declined between 2012 and 2023. Early support for the extreme right parties is initially taking place in Athens, possibly reflecting the increased political power of GD. However, in the last election period, regions in the northern part of the country exhibit the highest support for extreme right parties.

Figures 6 to 8 illustrate the regional voting patterns for the most important categories along the libertarian / post-materialist against the traditional / authoritarian political cleavage. The regional pattern for communist socialist parties is rather homogeneous between 2012 and 2023. Support is almost equally spread across local labor markets, with the highest shares in some small, peripheral labor markets (Ikaria, Samos) and the exception of a few labor markets in the northern part of the country (Serres, Drama etc.), where the voting shares of communist and socialist parties are the lowest. In the case of Christian democratic parties, the image is rather consistent between 2012 and 2023, with the highest support for ND (the main political party in this category) located in the regions of Messinia, Lakonia, Serres and Evritania. Finally, consistent support for social democratic parties is located in the regions of Creta, a stronghold for PASOK, the main political party in this category.

Figure 4. Regional voting shares for the extreme left parties

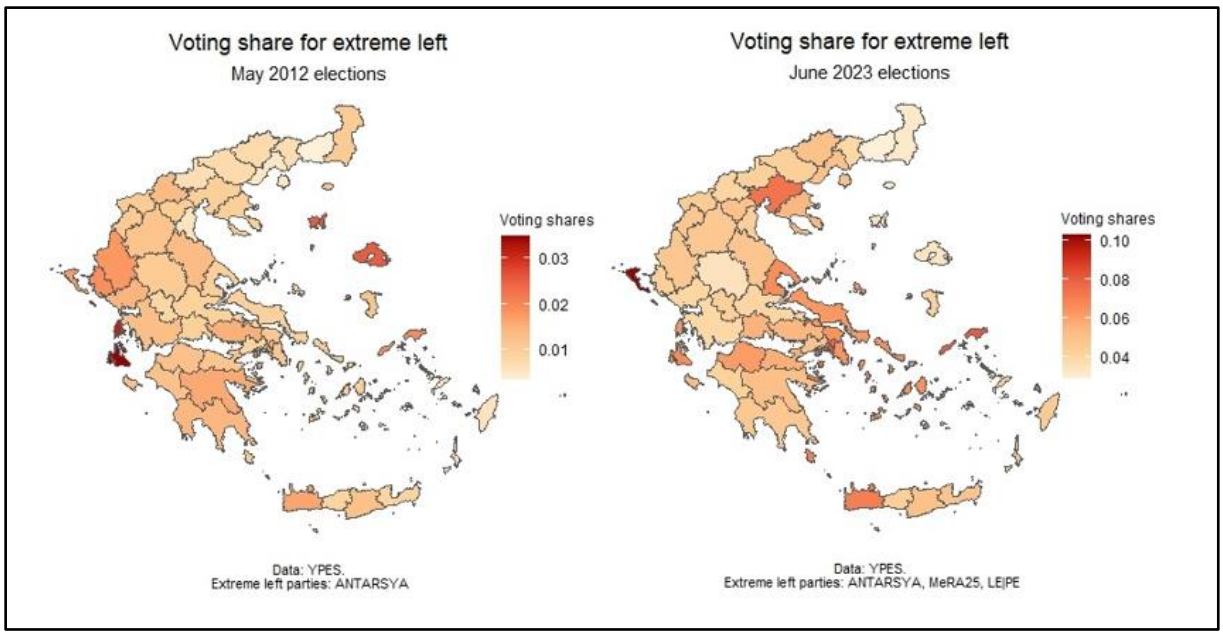


Figure 5. Regional voting shares for the extreme left parties

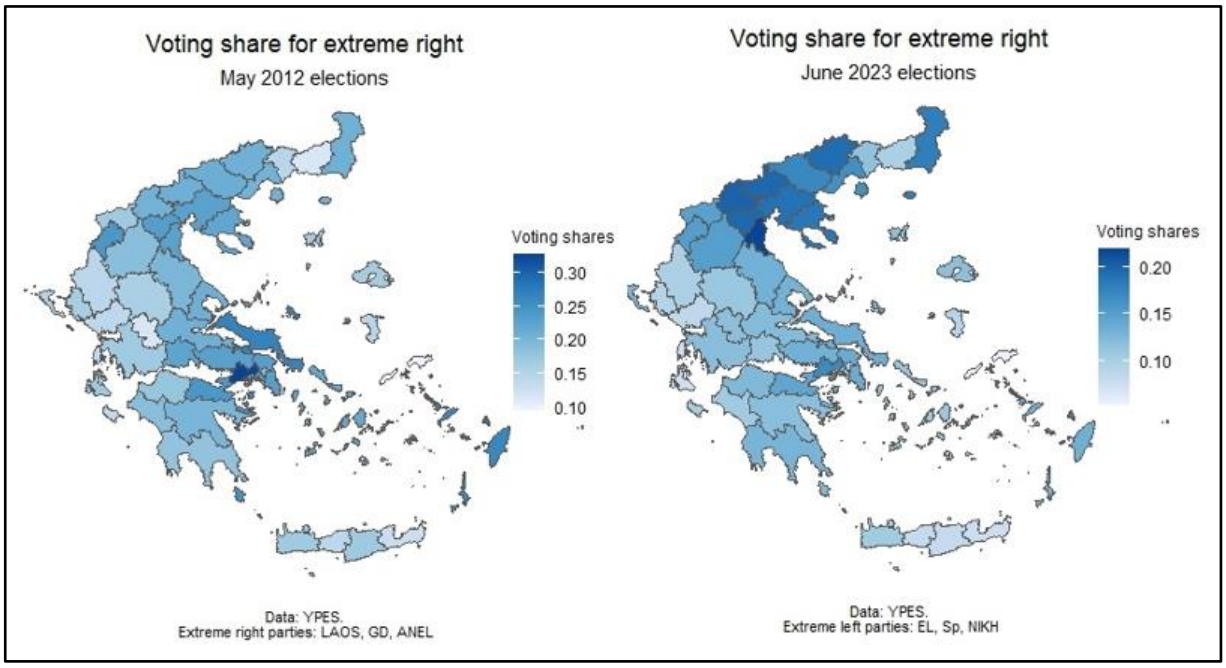


Figure 6. Regional voting shares for the communist-socialist parties

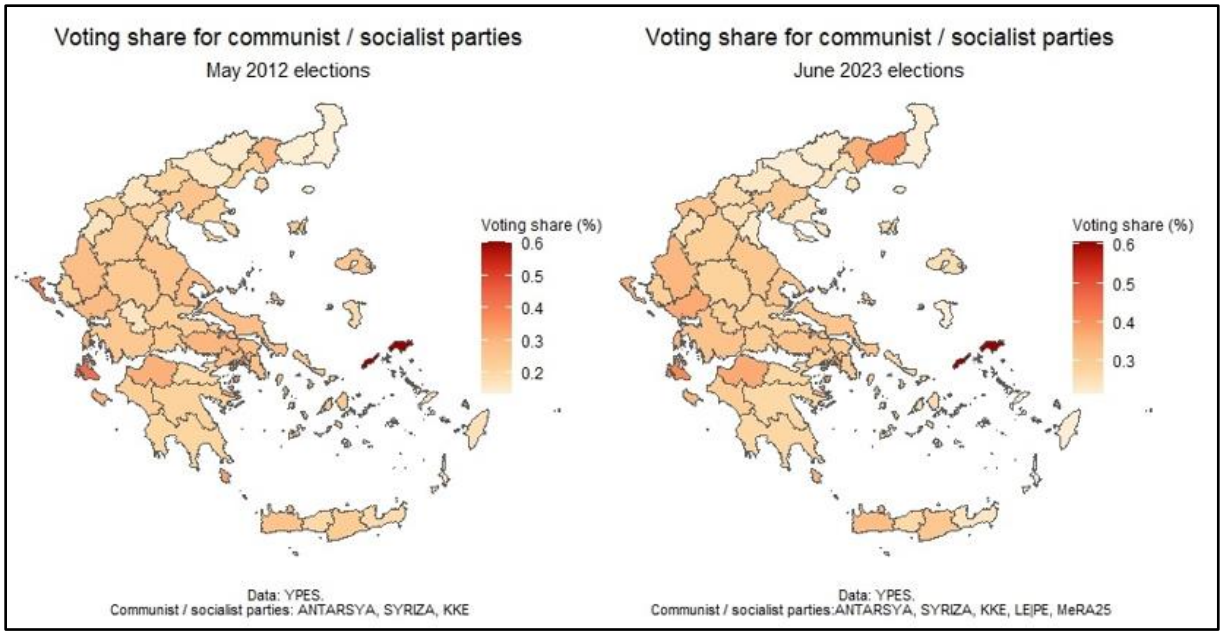


Figure 7. Regional voting shares for Christian democratic parties

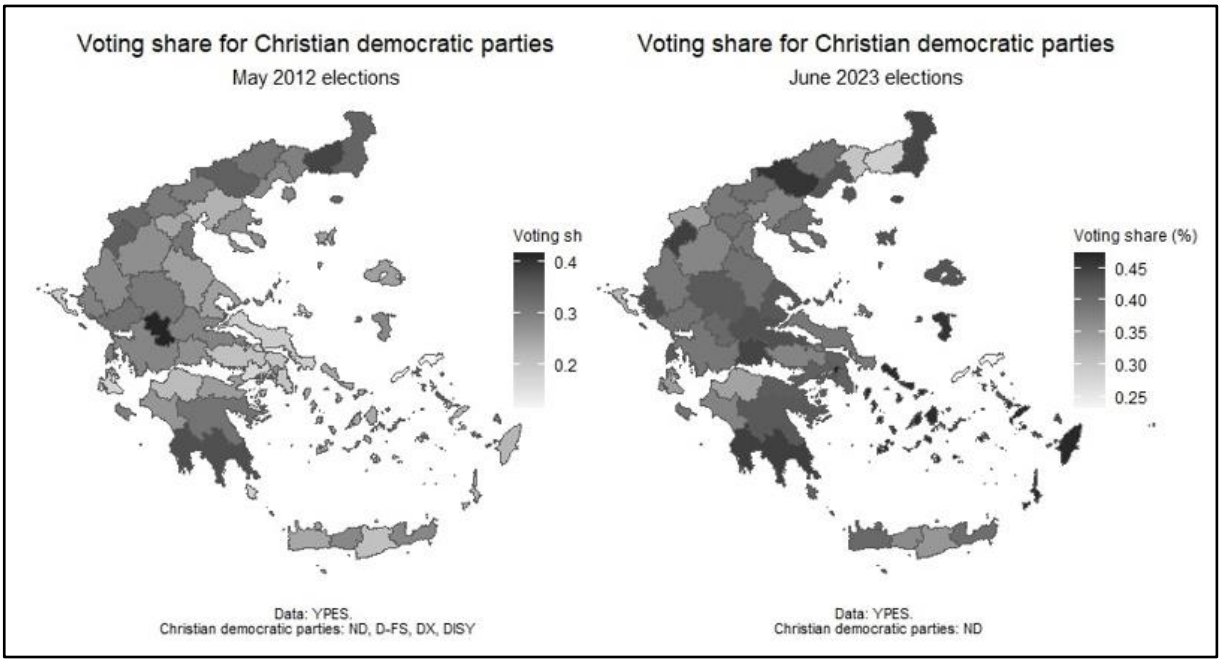
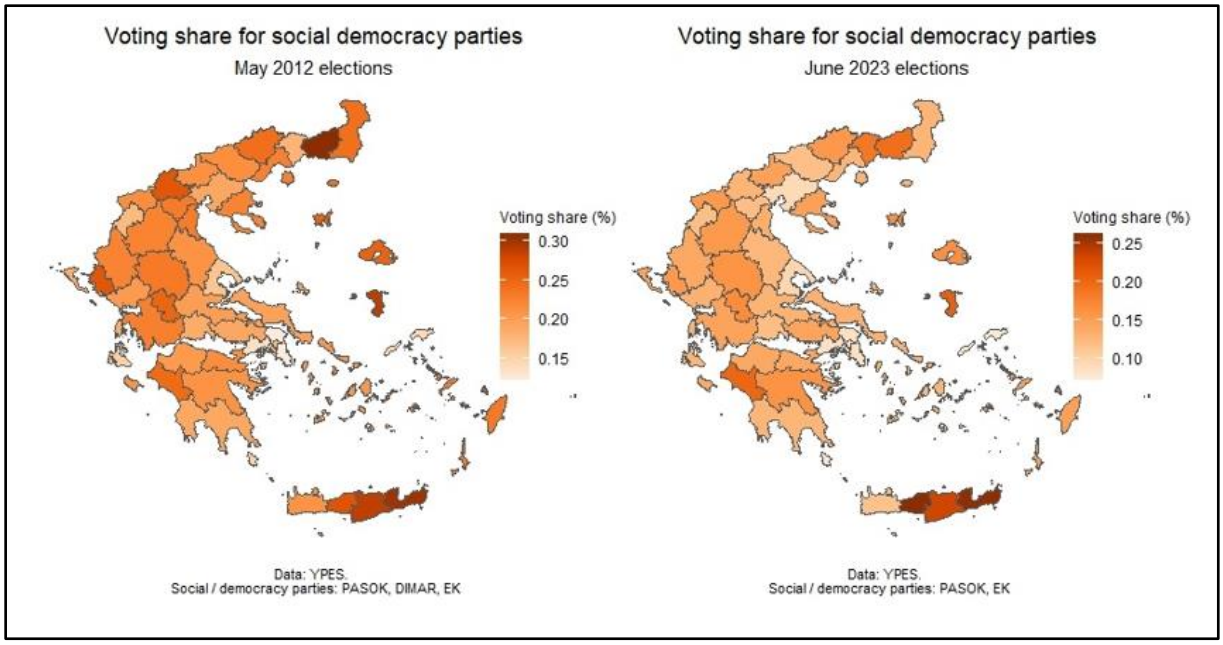


Figure 8. Regional voting shares for social democratic parties



3. Empirical strategy

To investigate the relationship between the local exposure to import competition from China and the electoral outcomes, we estimate the following fixed effects model (Eq. 2):

$$\ln y_{rt} = \alpha_0 + \beta_1 lnTrExp_{rt}^{CHN} + x'_{rt}\gamma + \lambda_t + \delta_r + \varepsilon_{rt} \qquad (2)$$

Where the dependent variable is the share of regional votes for each group of parties described in Table 3 for each of the five election periods in our analysis (t = May 2012, January 2015, September 2015, July 2019 and June 2023). The main explanatory variable ($lnTrExp_{rt}^{CHN}$) approximates the local exposure to imports from China and X_{rt} are the socio-economic and demographic controls described in Section 2, controlling for observable differences across regions. The time (λ_t) fixed effects control for changes in the political preferences at the national level and the region fixed effects (δ_r) control for any time-invariant unobserved factor. Finally, ε_{rt} is the time-varying part of the error term, while robust st. errors are clustered at the regional level. y

Besides the capacity of the fixed effects models to deal with unobserved time-invariant heterogeneity, they are typically used in the relevant literature (Barone et al. 2016; Caselli et al. 2019), thus safeguarding the international comparability of our results.

4. Empirical results

Table 4 reports the estimates of Eq. (2) at the regional level. All our regressions include a full set of control variables, year and regional fixed effects. The models are highly significant overall and their predictive power is very high, ranging from 0.85 to 0.95. Nevertheless, the reported fixed effects estimates assume that there are no endogeneity concerns.

Table 4. Empirical results at the regional (NUTS-3) level

	Extreme left VS Extreme right		**Libertarian / post-materialist VS Traditional / authoritarian**			
	Extreme Left (1)	**Extreme Right (2)**	**Communist/ Socialist (3)**	**Social Democracy (4)**	**Christian Democracy (5)**	**Green/ Ecologists (6)**
Panel A – 5 election periods						
$lnTrExp_{rt}^{CHN}$	-1.525**	1.162**	0.368	0.014	-1.686***	-0.238
	(0.762)	(0.420)	(0.253)	(0.380)	(0.271)	(1.034)
Observations	260	260	260	260	260	208
Controls	yes	yes	yes	yes	yes	yes
NUTS-3 f.e.	yes	yes	yes	yes	yes	yes
Year f.e.	yes	yes	yes	yes	yes	yes
R^2	0.958	0.922	0.884	0.854	0.854	0.952
F-stat (p-val)	0.000	0.000	0.000	0.000	0.000	0.000
Panel B – 4 election periods						
$lnTrExp_{rt}^{CHN}$	-1.938**	0.973**	0.475*	-0.147	-1.808***	0.659
	(0.855)	(0.394)	(0.270)	(0.400)	(0.305)	(0.892)
Observations	208	208	208	208	208	156
Controls	yes	yes	yes	yes	yes	yes
NUTS-3 f.e.	yes	yes	yes	yes	yes	yes
Year f.e.	yes	yes	yes	yes	yes	yes
R^2	0.963	0.944	0.873	0.863	0.853	0.970
F-stat (p-val)	0.000	0.000	0.000	0.000	0.000	0.000

Notes: Voting data are aggregated at the NUTS-3 level (52 regions). The dependent variable in each column is the share of regional votes for each category of political parties (in natural logs). The explanatory variable is the per capita regional exposure to imports from China measure (in natural logs). Control variables included: (at the NUTS3 level) Net migration, (natural log of) gross value added per worker, (natural log of) population density, old age dependency ratio, (at the NUTS2 level) (natural log of) number of deaths per capita, (natural log of) unemployment rate, labor force participation, share of upper secondary and share of upper tertiary educational attainment, (natural log of) infant mortality per capita.

The estimates in panel A utilize all the 5 election periods in our sample, as opposed to the ones in panel B, where the September 2015 election is excluded on the grounds of being in the same year with the January 2015 election. Nevertheless, the results are quite similar.

Considering the *extreme right* against the *extreme left* classification, the estimated models point towards a negative correlation between import competition from China and support for extreme left parties. The reported elasticity is highly significant and indicates that a 1% increase in the per capita imports from China is associated with a 1.52% decrease in the support for extreme left parties. The estimated elasticity might seem large, however it needs to be evaluated against the low voting shares of extreme left political parties (2.9%) on average. Column 2 illustrates that regional trade exposure in Greece is positively related with support for extreme right parties. The estimated elasticity (significant at the 5% level) points that a 1% increase in the per capita imports from China is linked with a 1.16% higher voting shares for extreme right parties. Taken together the results so far depart from the political polarization pattern often discussed in the literature for the US (Autor et al. 2020). Instead, our result is more aligned with evidence

from Italy (Caselli et al. 2019), showing that the disruptive effects from trade integration in Greece are associated with a shift towards the extreme right of the political spectrum, at the expense of the extreme left.

The *libertarian / post-materialist* vs *traditional / authoritarian* classification provides a more nuanced description of voting realignments[6]. The primary stand-out outcome is the negative correlation between the rising import competition and support for the Christian democratic parties (Col. 5). In particular, we document that a 1% increase in the per capita imports from China is associated with a 1.69% decrease in the support for Christian democratic parties. This is somewhat surprising, given that the main political party in that category (ND) is the party which won the elections in 2019 and 2023. We account for this in a two-fold manner. First, the increase in the voting share of ND occurred before the January 2019 elections, which corresponded with the decrease in the voting share of Syriza, which was the ruling party since then, capitalizing on the anti-EU establishment agenda. As a result, we consider that voters from the center of the political spectrum moved to the center-right, motivated by the need to form a government with an increased parliamentary majority. Secondly, the increase in the voting shares of right-wing parties starting during the 2019 elections indicates a possible shift of traditional right-wing voters towards the extreme end of the ideological spectrum.

Our analysis at the regional level fails to establish any significant relationships between the rising trade exposure and support for communist-socialist, social democratic or green parties. The only exception refers to communist-socialist parties, where our analysis indicates a positive correlation, albeit weakly significant and only when we omit the September 2015 elections; therefore, we place less emphasis on this outcome.

Table 5 reports the results of estimating Eq. (2) at the municipality level. The estimated models are overall significant and exhibit high predictive power. The significant evidence discussed at the regional level (Table 4) holds at the municipality level as well, albeit the reported elasticities are substantially smaller. Furthermore, the analysis at the municipality level provides strong evidence for a significant correlation between rising trade exposure and support for communist-socialist (Col. 3) and social democratic (Col. 4) parties. The reported elasticities for the former indicate that a 1% increase in the per capita imports from China are correlated with a 0.14% increase in the voting shares of communist-socialist parties. The reported elasticities for the social democratic parties are somewhat larger, at the range of 0.21. Assuming that political parties from the above two categories draw support from the left-center electorate, we consider that those results indicate that the losers from globalization earlier positioned in the extreme left of the political spectrum now shifter closer to the center. Furthermore, in the early periods of our analysis (between 2012 and 2015), communist-socialist parties exhibited a substantial increase in their voting shares, illustrated by Syriza winning the elections in 2015 mainly propelled by an anti-establishment rhetoric.

[6] Note that for brevity, the 'right-wing' category is not reported in the tables, since it corresponds perfectly to the 'extreme right' category in the first classification (column 2).

Table 5. Empirical results at the municipality level

	Extreme left VS Extreme right		**Libertarian / post-materialist VS Traditional / authoritarian**			
	Extreme Left (1)	**Extreme Right (2)**	**Communist/ Socialist (3)**	**Social Democracy (4)**	**Christian Democracy (5)**	**Green/ Ecologists (6)**
Panel A – 5 election periods						
$lnTrExp_{rt}^{CHN}$	-0.351***	0.085***	0.140***	0.202***	-0.121**	-0.629***
	(0.070)	(0.014)	(0.005)	(0.044)	(0.036)	(0.173)
Observations	1582	1589	1590	1589	1589	1257
Controls	yes	yes	yes	yes	yes	yes
NUTS-3 f.e.	yes	yes	yes	yes	yes	yes
Year f.e.	yes	yes	yes	yes	yes	yes
R^2	0.911	0.865	0.842	0.741	0.760	0.914
F-stat (p-val)	0.000	0.000	0.000	0.000	0.000	0.000
Panel B – 4 election periods (excluding the September 2015 elections)						
$lnTrExp_{rt}^{CHN}$	-0.329***	0.058**	0.147***	0.229***	-0.114***	0.508**
	(0.067)	(0.020)	(0.006)	(0.034)	(0.037)	(0.153)
Observations	1271	1271	1272	1271	1271	939
Controls	yes	yes	yes	yes	yes	yes
NUTS-3 f.e.	yes	yes	yes	yes	yes	yes
Year f.e.	yes	yes	yes	yes	yes	yes
R^2	0.920	0.881	0.821	0.761	0.761	0.912
F-stat (p-val)	0.000	0.000	0.000	0.000	0.000	0.000

Notes: Voting data are expressed at the municipality level (318 municipalities). The dependent variable in each column is the share of votes for each category of political parties (in natural logs). The explanatory variable is the per capita regional exposure to imports from China measure (in natural logs). Control variables included: (at the NUTS3 level) Net migration, (natural log of) gross value added per worker, (natural log of) population density, old age dependency ratio, (at the NUTS2 level) (natural log of) number of deaths per capita, (natural log of) unemployment rate, labor force participation, share of upper secondary and share of upper tertiary educational attainment, (natural log of) infant mortality per capita.

The municipality-level analysis provides inconclusive evidence with respect to the relationship between import competition and support from green parties. Based on the differences in the signs of the estimated elasticities, depending on whether the September 2015 elections are included in the sample and the very low shares of green parties (1.5% on average), no safe arguments can be made.

5. Conclusions

(TO BE ADDED)

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Data appendix

Appendix A. The spatial units of analysis

A.1 NUTS-3 regions

The only differences refer to the transition from the 2010 classification (used for the 2012 elections) and the 2013 classification (used for all the elections thereafter), as explained in Table A1.1.

Table A1.1 Crosswalk between the 2010 and the 2013 NUTS classifications

Code 2010	Code 2013	Label	Change
EL131	EL531 (part)	Grevena	Merged
EL133	EL531 (part)	Kozani	
EL211	EL541 (part)	Arta	Merged
EL214	EL541 (part)	Preveza	
EL141	EL611 (part)	Karditsa	Merged
EL144	EL611 (part)	Trikala	
EL251	EL651 (part)	Argolida	Merged
EL252	EL651 (part)	Arkadia	
EL254	EL653 (part)	Lakonia	Merged
EL255	EL653 (part)	Messinia	
EL300 (part)	EL301	Northern Sector (Athens)	New region
EL300 (part)	EL302	Western Sector (Athens)	New region
EL300 (part)	EL303	Central Sector (Athens)	New region
EL300 (part)	EL304	Southern Sector (Athens)	New region
EL300 (part)	EL305	Southern Athens	New region
EL300 (part)	EL306	Western Athens	New region
EL300 (part)	EL307	Piraeus and Islands	New region

A.2 Municipalities

Table A2.1 reports the municipalities changing regions between 2012 and 2023, while Table A2.2 reports the municipalities which split.

Table A2.1 Municipalities changing regions between 2010 and 2023

Municipality	NUTS-3 (2010)	NUTS-3 (2023)
Galatsi	Central Athens	Northern Athens
N. Filadelfeia-N. Chalkidona	Central Athens	Northern Athens
Vironas	Central Athens	Southern Athens
Dafni-Imittos	Central Athens	Southern Athens
Zografou	Central Athens	Southern Athens
Ilioupoli	Central Athens	Southern Athens
Kaisariani	Central Athens	Southern Athens

The empirical analysis is based on the 2023 NUTS-3 classification.

Table A2.2 Splitting municipalities between 2010 and 2023

NUTS-3 (2010)	NUTS-3 (2023)
Kefallonia	Argostoli Lixouri Sami
Kerkyra	Northern Kerkyra Central Kerkyra Southern Kerkyra
Servia-Velvento	Servia Velvento
Lesvos	Mitilini Northern Lesvos
Samos	Eastern Samos Western Samos

To ensure consistency, the municipalities mentioned in Table A2.2 are dropped from the analysis.

Appendix B. Political parties by election period

Table B.1. Participation of political parties in each election

Political Party	Elections				
	May 2012	**January 2015**	**September 2015**	**July 2019**	**June 2023**
PASOK	*	*	*	*	*
ND	*	*	*	*	*
KKE	*	*	*	*	*
LAOS	*	*			
SYRIZA	*	*	*	*	*
ANTARSYA	*	*	*	*	*
EK	*	*	*	*	*
DIMAR	*				
DX	*		*	*	
OP	*	*			*
GD	*	*	*	*	
ANEL	*	*	*		
D-FS	*				
DISY	*				
KIDISO		*			
TP		*	*		
Tel		*			
LAE			*	*	
EL				*	*
Mera25				*	*
LE|PE				*	*
Sp					*
NIKH					*

Appendix C. Correlation matrices

Table C.1. Correlation matrix for the trade exposure and the electoral variables

	(1)	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**	**(7)**	**(8)**
(1) $TrExp_{rt}^{CHN}$	1.000							
(2) $Rad\_left\_sh_{rt}$	0.232 0.000	1.000						
(3) $Rad\_right\_sh_{rt}$	-0.282 0.000	-0.315 0.000	1.000					
(4) $Com\_soc\_sh_{rt}$	-0.203 0.001	0.103 0.078	-0.620 0.000	1.000				
(5) $Right\_sh_{rt}$	-0.282 0.000	-0.315 0.000	1.000 0.000	-0.620 0.000	1.000			
(6) $Green\_sh_{rt}$	-0.265 0.000	0.075 0.280	0.179 0.010	-0.070 0.313	0.179 0.001	1.000		
(7) $Soc\_dem\_sh_{rt}$	0.054 0.384	-0.602 0.000	0.479 0.000	-0.579 0.000	0.479 0.000	-0.101 0.148	1.000	
(8) $Conserv\_sh_{rt}$	0.359 0.000	0.393 0.000	-0.320 0.000	-0.130 0.032	-0.320 0.000	-0.414 0.000	-0.223 0.000	1.000

Table C.2. Correlation matrix for the control variables

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
(1) $lnGVApw_{rt}$	1.000								
(2) Net_migr_{rt}	-0.345 0.000	1.000							
(3) $Old\_age\_dep_{rt}$	-0.438 0.000	0.118 0.057	1.000						
(4) $lnDeaths\_pc_{rt}$	-0.306 0.000	-0.007 0.911	0.705 0.000	1.000					
(5) $lnInfMort\_pc_{rt}$	-0.092 0.139	0.021 0.733	0.137 0.027	0.034 0.582	1.000				
(6) $Lab\_force\_part_{rt}$	0.065 0.295	0.057 0.357	-0.057 0.356	-0.002 0.974	-0.010 0.875	1.000			
(7) $lnUnempl_{rt}$	0.151 0.015	-0.171 0.002	-0.111 0.073	-0.274 0.000	0.175 0.005	-0.453 0.000	1.000		
(8) $Upper\_Sec_{rt}$	0.055 0.380	0.046 0.463	0.090 0.147	0.178 0.004	-0.050 0.420	0.558 0.000	-0.604 0.000	1.000	
(9) $Tertiary_{rt}$	0.179 0.004	-0.102 0.100	-0.109 0.080	-0.001 0.980	0.192 0.002	0.197 0.001	-0.172 0.005	0.312 0.000	1.000