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Abstract

Based on a panel data set for 38 European countries over the period 1995-2014 and by using the definition of 'foundational competitiveness', which we operationalise as GDP per working-age individual at PPP, this paper analyses how much trading partners matter for the national competitiveness of European countries. Results based on a growth regression framework show that higher growth of trading partners' competitiveness has a positive impact on the growth of national competitiveness. We find evidence that there are diminishing national returns to increasingly competitive trading partners, but we cannot find strong evidence for a lock-in effect of Austria with the CESEE region. Furthermore, regression results on the determinants of the Austrian bilateral export market shares with European trading partners over 1995-2016 provide evidence that Austria's export performance is sensitive to changes in its trading partners' business cycle position, but not more sensitive than that for other selected eurozone countries.

Keywords: competitiveness, export performance, exports, trade, Austria, Europe

JEL classification: B5, F6, F45

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TABLES AND FIGURES

1. Introduction

Over recent years, the debate about the sources and determinants of competitiveness in Europe has been a major element of both academic and policy discussions. Given the strong integration of the Austrian economy into the European industrial core and into global value chains (Stöllinger, 2016), the question about the determinants of national competitiveness is of particular relevance. Specifically, the Austrian export economy has strong linkages to Central, East and Southeast Europe (henceforth: CESEE).[1] Figure 1 shows that the Austrian trade exposure to the CESEE region has increased over time. Since the Eastern enlargement of the EU, the Austrian export share with the CESEE region has risen from 18.2% in 2003 to more than 24%. Although Germany remains by far the most important export partner, the export share has declined by about 9 percentage points over the last 20 years. The rest of the EU-15 also remains important; nevertheless, the export share has also declined over recent years while we have seen a strong upward move for the CESEE region, which was only briefly interrupted by the repercussions of the recession that followed the financial crisis of 2008 (e.g. Gardo and Reiner, 2010; Astrov et al., 2010).

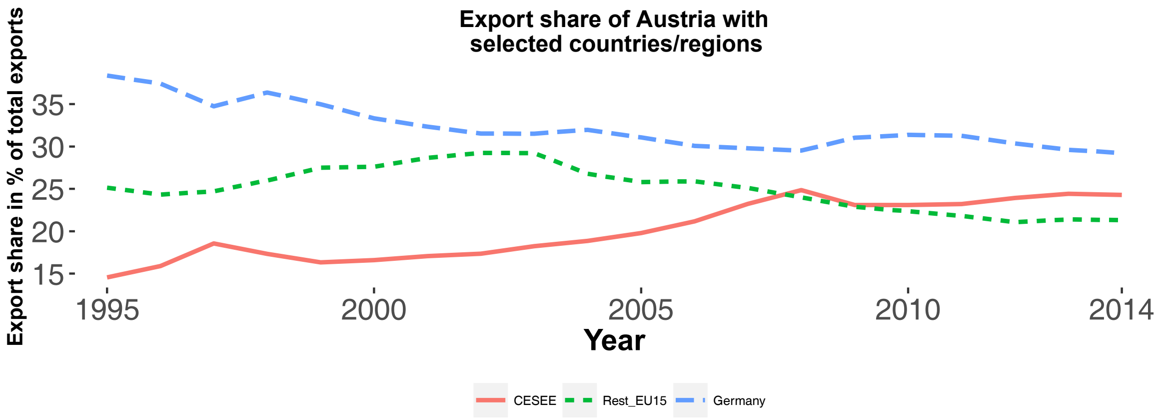
This paper contributes to the existing literature by linking the research question of how competitive European economies actually are with the question of how trading partners affect competitiveness. A major problem is that the literature has used quite different definitions of competitiveness (e.g. Krugman, 1994; Fagerberg, 1994; Peneder, 2017). Providing empirical evidence on how trading partners have an impact on national competitiveness, however, requires a well-grounded concept of competitiveness that can be operationalised. Delgado et al. (2012) develop a concept of competitiveness that 'directly ties to economic performance and encompasses the full range of factors that shape national prosperity' (Delgado et al., 2012, p. 2). Their concept is termed 'foundational competitiveness' and defined as output per potential worker – which can be operationalised as GDP per working-age individual at PPP. This definition accounts for an economy's productive production capabilities as well as for its ability to mobilise the available working-age population. In this paper, we use this definition of 'foundational competitiveness' and provide new econometric evidence on its determinants in a sample of 38 European countries by focusing on the period 1995-2014. We contribute to the existing competitiveness literature, which has not yet provided econometric evidence on how trading partners affect foundational competitiveness, by building on the literature regarding the determinants of economic growth (e.g. Barro, 1991; Akcigit, 2017). More specifically, we extend the growth regression framework developed by Arora and Vamvadikis (2005) which allows us to estimate the impact of (fast-growing) trading partners on national competitiveness while controlling for other relevant factors such as human capital, inflation, investment and population growth.

Has the increased economic openness to the East supported Austrian national competitiveness? Given Austria's increased trade integration with the CESEE as part of the European manufacturing core, we put particular emphasis on testing whether there is a lock-in effect – where initial contingencies are

[1] The CESEE country group in this paper includes: Albania, Bulgaria, Bosnia and Herzegovina, Croatia, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Macedonia, Moldova, Montenegro, Poland, Romania, Russia, Serbia, Slovakia, Slovenia, Turkey and Ukraine. Due to data limitations, we excluded Kosovo and Kazakhstan.

linked with an eventual state of 'hyperstability' that is very costly to change by policy means (Sydow et al., 2009; Dobusch and Kapeller, 2013) – of the Austrian economy with the CESEE region. The implicit hypothesis is that (due to loss aversion) large sunken (investment) costs could force the Austrian economy to stick to its commitment to the CESEE region (i.e. a lock-in effect). In general, substantial switching costs may exist related to shifting activities of export and investment activities if, for example, aggregate demand dynamics in fast-growing trading partners were to level off. If Austria was locked into the CESEE region, this could pose significant risks for the future of national competitiveness.

Figure 1 / Austria's export share in % of total exports



Notes: Rest of EU15 includes all of Austria's EU15 trading partners except Germany. CESEE includes: Albania, Bulgaria, Bosnia and Herzegovina, Croatia, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Macedonia, Moldova, Montenegro, Poland, Romania, Russia, Serbia, Slovakia, Slovenia, Turkey and Ukraine. Due to data limitations, we excluded Kosovo and Kazakhstan.
Data: IMF Direction of Trade Statistics on bilateral exports; own calculations. Export shares are defined as exports to the relevant country/region in % of total exports.

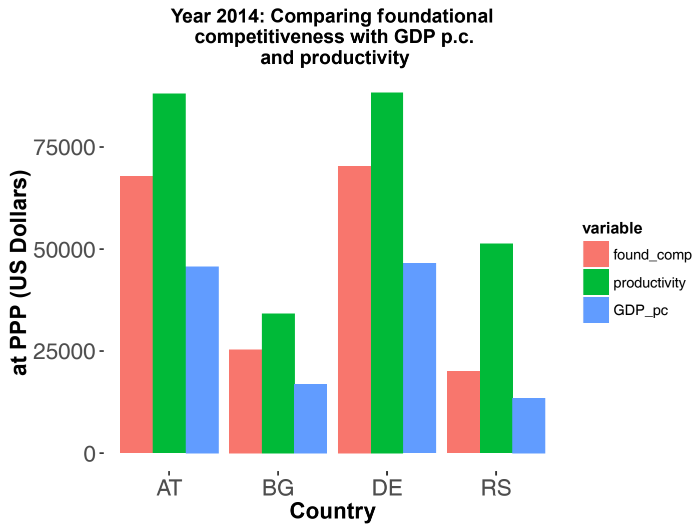
In the relevant literature on competitiveness, however, the question on the determinants of a country's international competitiveness is typically analysed by focusing on outcome measures of competitiveness like the export market share (e.g. Fagerberg, 1988; Carlin et al., 2001; Dosi et al., 2015). Therefore, Section 5.1 of this paper complements the evidence on foundational competitiveness in Europe by contributing to the literature regarding the determinants of export performance. We do so by providing evidence on how macroeconomic developments of trading partners have an impact on bilateral export market shares (as an outcome variable of international competitiveness) in our sample of 38 European countries. In particular, we analyse the impact of changes in trading-partners' business cycle position on bilateral export market shares while controlling for price competitiveness and non-price competitiveness variables by comparing Austria to its biggest eurozone trading partners.

The rest of this paper is structured as follows. Section 2 provides a literature review and theoretical preconsiderations. On this basis, Section 3 introduces the econometric approach and data sources used to analyse the role of trading partners. Section 4 presents the relevant econometric results regarding the determinants of foundational competitiveness with a special focus on Austria. To broaden the competitiveness perspective to the determinants of Austria's export performance, Section 5 provides estimates on the link between bilateral export market shares and changes in the trading partners' business cycle positions. Section 6 discusses the paper's findings and draws policy conclusions.

2. Competitiveness and path dependency: Theoretical and conceptual preconsiderations

We start by preparing the ground for the empirical estimations on competitiveness and export performance with some theoretical and conceptual preconsiderations. Both the academic as well as the policy debate have been confused by incompatible uses of the term 'competitiveness' (Porter, 1990; Boltho, 1995; Aiginger and Vogel, 2015). Hence, we start by making clear in which sense we use the term competitiveness. In a broad sense, one might want to follow the definition that competitiveness is 'the ability [of an economic system] to evolve in accordance with a long-term rise in living standards' (Peneder, 2017, p. 838). However, much of the literature following this broad definition has solely focused on productivity as the preferred measure of an economy's ability to produce (sustainable) high incomes (Hall and Jones, 1999; Aiginger, 2006; Peneder, 2017). Measuring productivity with an indicator such as GDP per worker, however, would neglect the fact that there is large cross-country variation in how economies are able to mobilise the working-age population. Against this background, Delgado et al. (2012) have proposed a definition of 'foundational competitiveness' as the expected level of output per working-age individual which captures the productivity of employed workers in an economy as well as its ability to employ a large share of the available work-force. In this paper, we use this definition of 'foundational competitiveness' which can be operationalised as GDP at PPP per working-age individual.

Figure 2 / Foundational competitiveness, productivity and GDP per capita: A comparison



Sources: Productivity: output per worker, i.e. GDP per employed individual at PPP; GDP per capita: output per population, i.e. GDP per capita at PPP; foundational competitiveness: Output per potential worker, i.e. GDP per working-age individual (15-64 years old) at PPP. Data: Penn World Table (version 9.0), World Development Indicators (World Bank); own calculations.

To provide a descriptive illustration on how foundational competitiveness, productivity and GDP per capita differ, Figure 2 compares relevant data for four European countries: Austria, the country that is central to this paper; Austria's most important trading partner Germany; Bulgaria – as an example of a CESEE country which is member of the EU; and Serbia – as an example of a CESEE country which is currently not a member of the EU. Three observations should be highlighted. First, in the year 2014 GDP per capita at PPP in Austria and Germany stood at similar levels and was obviously much higher than in Bulgaria and Serbia. Second, productivity, measured as output per worker, is higher than foundational competitiveness defined as output per potential worker (i.e. GDP per working-age individual). In Austria, productivity in 2014 was about 88000 (at chained PPP in 2011 USD), while foundational competitiveness stood at a lower 68000 PPPs; for Germany, the difference between productivity and foundational competitiveness is very similar to Austria. Third, Serbia is an example of a country which performs poorly when it comes to mobilising its working-age population: while output per worker stood at about 51000 PPPs, its level of foundational competitiveness was much lower (20000 PPPs). For Bulgaria, the difference between productivity and foundational competitiveness is less pronounced than for Serbia.

In this paper we are interested in testing the hypothesis that the growth in a country's national foundational competitiveness might be affected by growth in the foundational competitiveness of its (main) trading partners. On a theoretical level this research interest can be motivated by the concept of path dependency. The basic idea is that initial effects might lead over time to self-reinforcing feedback effects that end in a lock-in situation (Sydow et al., 2009; Dobusch and Kapeller, 2013). In the context of our research question, it can be argued that the CESEE economies initially had rather weak domestic suppliers of goods and services in quality terms. On these less competitive 'soft markets' ('soft' for the few potent suppliers), which are more often than not also small markets, Austria was exploiting a first mover advantage due to its geographical and historical vicinity and its own small economic size because the number of large entrants to the CESEE markets was limited; hence, it might be argued that Austria was initially able to avoid the more competitive 'tough markets'. Austria's competitive advantage, however, may be diminishing as CESEE economies transform themselves from 'soft' to 'tough' markets. Austria has become more of a price taker and firms' profits could be squeezed as the rent component in pricing declines. Moreover, for the rather small-sized Austrian firms, it might be quite difficult to tackle distant but high growth prospect markets. More specifically, a potential lock-in effect could arise if improvements in the foundational competitiveness of major (CESEE) trading partners were to trigger a path-dependent trajectory. First, aggregate demand dynamics of the trading partners might be levelling off in the (near) future. Switching-costs, however, might prevent a quick reorientation of export and investment activities, leading to a lock-in effect (e.g. Liebowitz and Margolis, 1995; Pierson, 2000). Second, increased (technological) competitiveness of a (main) trading partner might lead to replacements of the exports of an affected country on the export markets for third countries (e.g. Hidalgo et al., 2007). Both mechanisms could reduce the affected country's foundational competitiveness at least in the current period and potentially in the future. To develop a macroeconomic view on evaluating a potential lock-in effect of the Austrian economy, the next section develops a growth regression framework which will allow us to test whether there are increasing or diminishing returns of trading partners' growth on national competitiveness.

3. The determinants of foundational competitiveness in Europe: Econometric approach

To analyse the determinants of foundational competitiveness, we build on the work by Arora and Vamvadikis (2005) and estimate the following equation:

$$comp_{i,t} = \beta_1 tpcomp_{i,t} + \beta_2 tpcomp_{i,t}^2 + \gamma Z_{i,t} + \delta FE_i + \varepsilon_{i,t} \qquad (1)$$

where $comp_{i,t}$ represents the average growth rate of foundational competitiveness (i.e. growth of GDP at PPP per working-age population) over a 5-year period *t* for country *i*. $tpcomp_{i,t}$ is the main explanatory variable of interest, defined as the trading partners' average growth rate of foundational competitiveness of country *i* over a five-year period. $tpcomp^2_{i,t}$ is the squared term of $tpcomp_{i,t}$. The average growth rate of the trade partners was weighted by the export share, where the weights were constructed based on bilateral export data from the IMF's Direction of Trade database (see Section 3.2 for details on how we construct the export-share weights). $Z_{i,t}$ represents a vector of additional explanatory variables, which we introduce below. FE_i are country-fixed effects, which we include to account for unmeasurable, time-invariant country-specific characteristics that may influence *comp*.

Notably, we focus on those control variables which fit well with our growth regression approach (Arora and Vamvadikis, 2005) and are available over the whole period covered (1995-2014), with few missing observations for single countries. Against this background, the matrix of additional controls $Z_{i,t}$ includes the following variables. The logarithm of the initial level of foundational competitiveness ($log(COMP_{i,t})$) in the starting year of the respective 5-year period is included as a 'convergence variable' to control for how the starting level of foundational competitiveness affects the growth rate of foundational competitiveness over the 5-year periods. Population growth (pop growth) is included to control for developments of the population. We include the share of gross capital formation at current PPPs (inv share) to control for the evolution of investment. A human capital variable (index based on years of schooling and returns to education) is introduced to account for the role of human capital formation in determining foundational competitiveness (*log*(*hc*)). We control for the inflation rate (*inflation*) as a check for macroeconomic stability as changes in an economy's overall price level might also affect foundational competitiveness. Furthermore, we include a trade openness variable (*trade*), which captures the sum of exports and imports of goods and services measured as a share of GDP; by doing so, we control for the role of trade in determining the growth of foundational competitiveness. Additionally, we introduce several interaction terms between our main variable of interest ($tpcomp_{i,t}$) and some of the explanatory variables in our data set to test additional hypotheses, as we will explain below.

3.1. DATA SOURCES AND MAIN HYPOTHESES

The data sources for all the relevant variables are summarised in Table 1. The compiled data set builds on annual data over the period 1950-2014; all variables (except for the initial level of foundational competitiveness ($log(COMP_{i,t})$) were then constructed as five-year averages. However, we will mainly focus on the period 1995-2014 because this is the relevant period for our research question on how increasing trade integration of Austria with the CESEE region (see Figure 1) has affected national foundational competitiveness. The economic rationale for using 5-year period averages has two major aspects. First, 5-year averages take into account that foundational competitiveness as well as some of the explanatory variables might only change slowly over time. Second, using 5-year averages dampens possible effects of business cycle fluctuations on foundational competitiveness which should allow for more reliable causal interpretations. In econometric terms, 5-year averages also allow us to remove the autocorrelation from the residuals which are characteristic of the fixed-effects regressions with yearly data. Obviously, the construction of 5-year averages has the drawback that we lose some information in the data due to the drop in observations, which also lowers the power of statistical tests. Nevertheless, our preference is for eliminating the short-term cyclical variations in our variables of interest in order to allow for more reliable economic interpretations of the results.

The full country sample includes the following set of 38 European countries: Albania, Austria, Belgium, Bosnia, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Macedonia, Malta, Republic of Moldova, Montenegro, Netherlands, Poland, Portugal, Romania, Russia, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey, Ukraine, United Kingdom.

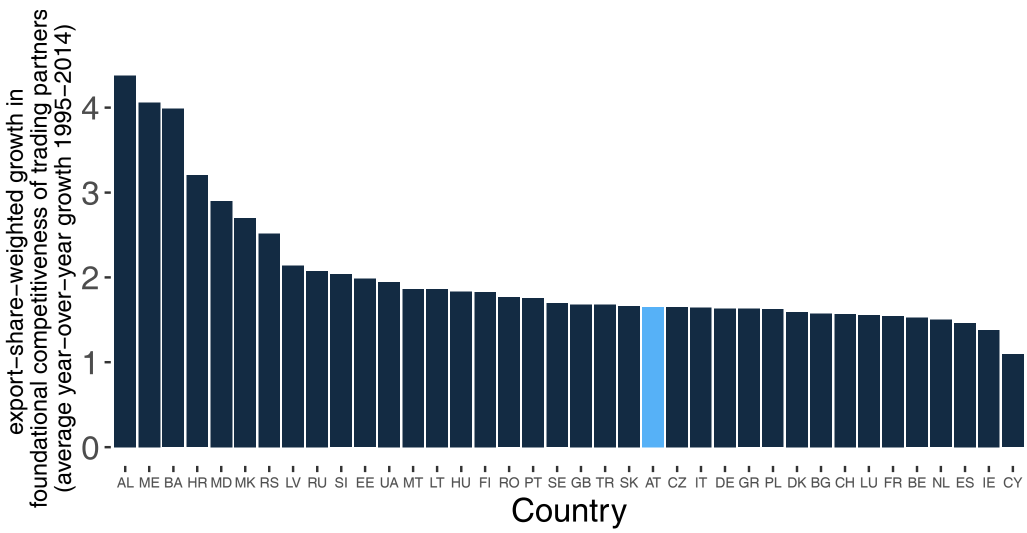
Table 1 / 5-year averages of the data were calculated from the sources listed in the table

	Data description	Data source
Dependent variable		
comp	foundational competitiveness (growth of GDP at PPP per working-age population), 5-year average	Penn World Table (version 9.0), own calculations
Explanatory variables ($Z_{i,t}$)		
log(COMP)	logarithm of the initial level of foundational competitiveness in the starting year of the respective 5-year period	Penn World Table (version 9.0), own calculations
tpcomp	average growth of foundational competitiveness of country *i's* trade partners (tp) over a five-year period *t*. The average growth rate of the trade partners was weighted by export shares where the weights were constructed based on bilateral export data from the IMF's Direction of Trade database	Penn World Table (version 9.0), IMF DOTS; own calculations
pop_growth	growth of population, 5-year average	Penn World Table (version 9.0); own calculations
inv_share	Share of gross capital formation at PPP, 5-year average	Penn World Table (version 9.0), own calculations
hc	human capital index based on years of schooling and returns to education, 5-year average	Penn World Table (version 9.0), own calculations
inf	Inflation rate, 5-year average	World Bank (WDI), own calculations
trade	Sum of exports and imports of goods and services measured as a share of GDP, 5-year average	World Bank (WDI), own calculations

3.2. TRADING-PARTNERS' EXPORT-SHARE-WEIGHTED FOUNDATIONAL COMPETITIVENESS: CONSTRUCTION OF EXPORT-SHARE-WEIGHTS AND DESCRIPTIVE STATISTICS

Following Arora and Vamvadikis (2005), tp_comp in Table 1 is based on using export-share- weighted calculations. In particular, we weight the growth rate of GDP per working-age individual at PPP of country *i*'s trading partner *j* with the respective export-share of country *i* to country *j* (in % of total exports). For each trading partner of a respective country, the export-share weights were constructed based on bilateral export data from the IMF's Direction of Trade database. Figure 4 plots the trading partners' average export-share weighted growth of foundational competitiveness for the period 1995-2014. The highest trading partner growth is recorded for Albania (4.4%), followed by Montenegro (4.1%) and Bosnia and Herzegovina (4.0%). Austria, with an average trading-partner growth rate of 1.7%, can be found in the lower-middle part of the pack of 38 European countries that belong to our data set. Notably, Germany's trading partners grew virtually as fast as in Austria, but other big European countries (like Spain and France) exhibit slightly lower rates than Austria. At the bottom of this European ranking of trading partners' growth in foundational competitiveness, we find Luxembourg, Ireland and Cyprus. In general, Figure 4 shows that trading partner growth in foundational competitiveness seems to be geographically clustered: while we find the highest growth rates in the CESEE countries, countries that are part of the European manufacturing core – in particular Germany, Slovakia, the Czech Republic and Austria (Stöllinger, 2016) – cluster in the lower middle part of the ranking. Furthermore, it is notable that the Netherlands, Luxembourg and Ireland – all countries in which the financial sector plays an outsized role (Gräbner et al., 2018) – belong to the group of countries with relatively low weighted trading partner growth in foundational competitiveness.

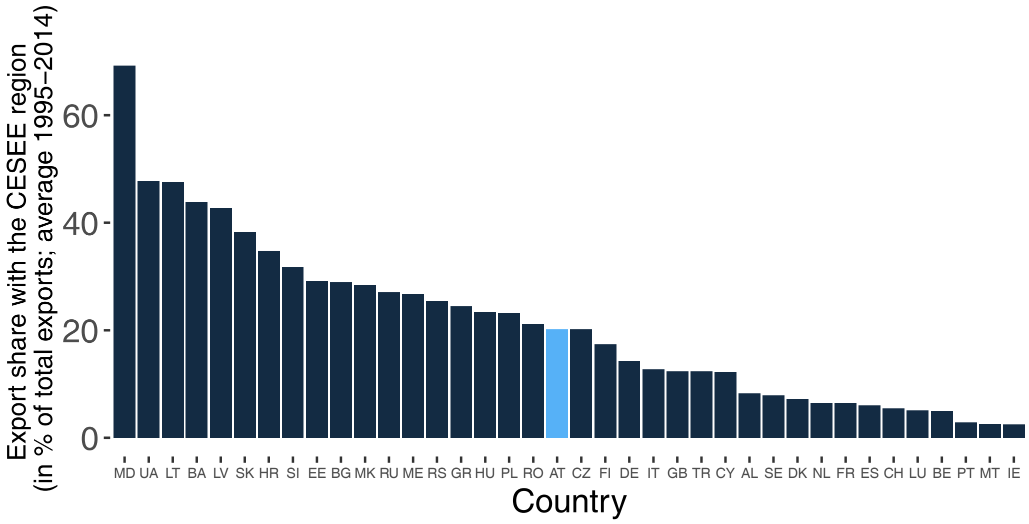
Figure 3 / Trading partners' (export-share weighted) growth of foundational competitiveness (average 1995-2014)



Sources: IMF Direction of Trade Statistics on bilateral exports, Penn World Table (version 9.0); own calculations. Export shares are defined as exports to the CESEE region in % of total exports.

In our empirical estimation, some of the specifications will particularly focus on how export shares with the CESEE region affect the relationship between foundational competitiveness (comp) and trading partners' growth in foundational competitiveness by including various interaction terms with a CESEE export share variable in our regression specifications. By doing so, we will be able to shed more light on a potential lock-in effect of Austria with the CESEE region. To provide a descriptive impression of the differences of export trade exposure to the CESEE regions across Europe, Figure 4 plots the average export share with the CESEE region (over the period 1995-2014) for the 38 countries in our data set – where the export share measures exports to the CESEE region in percentage of total exports and is calculated based on bilateral trade data from the IMF Direction of Trade statistics. From Figure 4, it can be seen that in general, the export share with the CESEE region is highest in countries which actually belong to the region. The Republic of Moldova exhibits the highest export share (69.2%), followed by Ukraine, Lithuania, Bosnia and Herzegovina and Latvia – all of which are characterised by CESEE export shares of more than 40%. Greece is the eurozone country with the highest CESEE export share. However, among the eurozone core countries, Austria had the highest average CESEE export share over the period 1995-2014 (20.1%), significantly higher than the export share of Germany (14.3%). Those numbers underscore the exposure of the Austrian industry to the CESEE region. The three countries with the lowest CESEE export shares are Portugal, Malta and Ireland.

Figure 4 / Export shares of the respective country with the CESEE region (average 1995-2014)



Sources: IMF Direction of Trade Statistics on bilateral exports; own calculations. Export shares are defined as exports to the CESEE region in % of total exports.

4. Regression results

By using the econometric framework introduced above, this section econometrically analyses how much trading partners matter for national competitiveness. Section 4.1 presents the baseline results in our panel of 38 European countries and provides a first discussion on some of the main findings. We present robustness checks in Section 4.2.

4.1. BASELINE RESULTS AND EXTENSIONS

Table 2 presents the baseline regression results on the determinants of the 5-year average growth rate in foundational competitiveness (*comp*). In the first Model, we regress comp on the trading partners' growth of foundational competitiveness and its squared term. Furthermore, we include additional controls which were already introduced in Section 3.1 (see Equation (1)) to control for other factors that might explain the growth of foundational competitiveness.

The results in Model (1) of Table 2 show that, even after controlling for other factors, a 1 per cent increase in trading partners' growth of foundational competitiveness is correlated with a 1.5 per cent increase in national growth of foundational competitiveness. Furthermore, the negative coefficient of the squared term (sq_tp_comp) suggests that as the trading partners' growth increases, the effect of tp_comp on the growth of national foundational competitiveness (*comp*) tends to decline. This result suggests that the rates of return for national competitiveness decrease with higher trading partner growth. All other variables in Model (1) are also signed as expected. We find that the initial level of foundational competitiveness is negatively correlated with the growth in foundational competitiveness which indicates that convergence is taking place in our sample of European countries. Inflation is negatively associated with *comp* while increases in the investment share have a positive impact (highly significant). The trade-to-GDP ratio and the human capital index are positively associated with foundational competitiveness, but only the former is weakly significant.

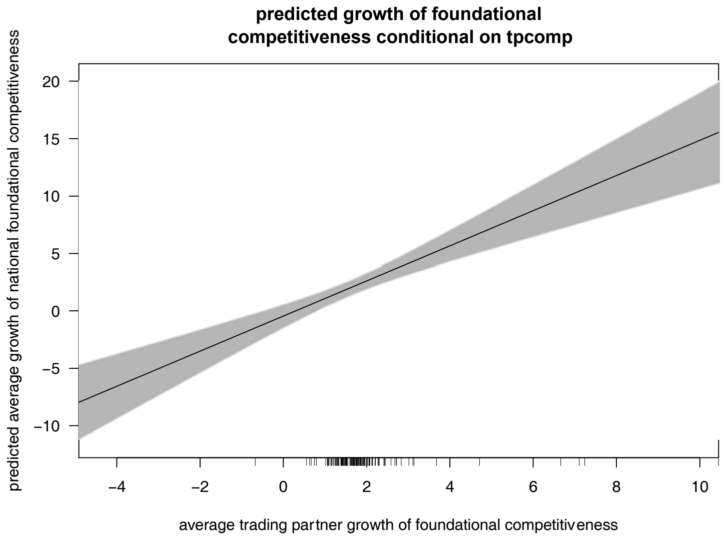
Table 2 / Baseline results: The determinants of foundational competitiveness

	Dependent variable: comp						
	(1) Baseline	**(2) tpcomp*COMP**	**(3) AUT**	**(4) FRA**	**(5) NLD**	**(6) ITA**	**(7) DEU**
log(initial_found_comp)	-3.409***	-5.549***	-3.399***	-3.383***	-3.275***	-3.545***	-3.551***
	(0.976)	(1.283)	(0.986)	(0.976)	(0.991)	(0.970)	(0.985)
tpcomp	1.530***	1.233***	1.531***	1.518***	1.524***	1.511***	1.525***
	(0.273)	(0.239)	(0.274)	(0.271)	(0.270)	(0.276)	(0.277)
sq_tpcomp	-0.118***	-0.136***	-0.119***	-0.116***	-0.118***	-0.116***	-0.117***
	(0.025)	(0.019)	(0.026)	(0.026)	(0.025)	(0.026)	(0.026)
inflation	-0.035**	-0.037***	-0.035**	-0.034**	-0.035**	-0.034**	-0.035**
	(0.013)	(0.014)	(0.013)	(0.013)	(0.013)	(0.013)	(0.013)
inv_share	0.163***	0.131**	0.159**	0.166***	0.160**	0.163***	0.168***
	(0.060)	(0.058)	(0.061)	(0.061)	(0.061)	(0.061)	(0.061)
trade	0.025	0.014	0.025	0.025	0.025	0.024	0.024
	(0.019)	(0.020)	(0.019)	(0.019)	(0.019)	(0.019)	(0.019)
pop_growth	0.408	0.700	0.428	0.422	0.396	0.444	0.407
	(0.419)	(0.465)	(0.423)	(0.423)	(0.424)	(0.425)	(0.422)
hc	0.802	0.945	0.731	0.921	0.724	1.385	1.069
	(3.293)	(3.356)	(3.332)	(3.407)	(3.336)	(3.617)	(3.326)
comp		0.034					
		(0.053)					
tpcomp*comp		0.038**					
		(0.016)					
tpcomp*dummy_AUT			0.172				
			(0.198)				
sq_tpcomp*dummy_AUT			-0.042				
			(0.060)				
tpcomp*dummy_FRA				-0.019			
				(0.148)			
sq_tpcomp*dummy_FRA				0.017			
				(0.049)			
tpcomp*dummy_NLD					-0.047		
					(0.066)		
sq_tpcomp*dummy_NLD					0.027		
					(0.023)		
tpcomp*dummy_ITA						-0.583	
						(0.478)	
sq_tpcomp*dummy_ITA						0.188	
						(0.146)	
tpcomp*dummy_DEU							0.593***
							(0.169)
sq_tpcomp*dummy_DEU							-0.186***
							(0.053)
Observations	136	136	136	136	136	136	136
R^2	0.483	0.521	0.484	0.487	0.487	0.487	0.485
Adjusted R^2	0.249	0.289	0.235	0.239	0.239	0.238	0.236
Number of countries	38	38	38	38	38	38	38
Number of periods	4	4	4	4	4	4	4
Country fixed effects	yes	yes	yes	yes	yes	yes	yes

Note: *p<0.1; **p<0.05; ***p<0.01
The specifications in this table were estimated by using OLS; see Equation (1) in the text for details. We report clustered (heteroskedasticity-robust) standard errors for all models.

Given that the results in Model (1) only allow inferences about the average impact of the variables in the model on comp, it is relevant to ask how the growth rate of national foundational competitiveness differs depending on how fast trading partners' foundational competitiveness is actually growing. To answer this question, we use a marginal effects analysis: Figure 5 plots the predicted growth rate of foundational competitiveness conditional on tpcomp. It can be seen that the predicted growth rate of national competitiveness clearly increases with faster-growing trading partners in terms of tpcomp. For tpcomp values in the range of 0 to 1.2, our regression results are statistically indistinguishable from zero. For higher tpcomp values, however, this picture changes markedly: the marginal effects results suggest that predicted national growth of foundational competitiveness increases markedly as trading-partner-weighted competitiveness goes up. As Austria records an average tpcomp value above 1.5 (see Figure 3) and features several tpcomp data points above 2.0 over the period 1995–2014 (see Figure 6), it can be expected to experience an overall gain for its national foundational competitiveness. Furthermore, the marginal effects results in Figure 5 indicate that the uncertainty around the predictions is quite low in the range of tpcomp estimates from 0 to 4, where most of the observations are to be found, and rises at both ends, where only some tpcomp outliers are to be found.

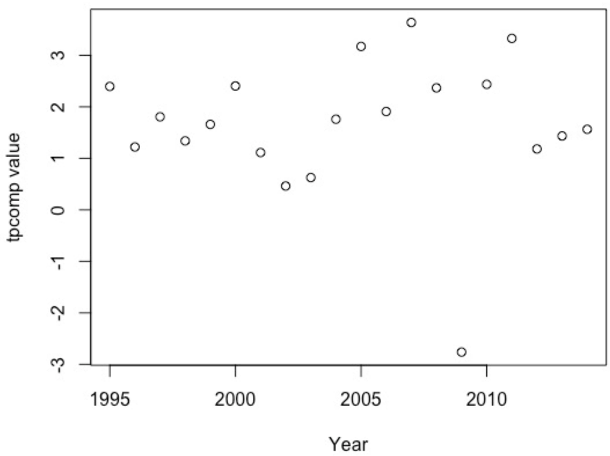
Figure 5 / Marginal effects: Predicted growth of national competitiveness conditional on tpcomp



Sources: Regression results based on Model (1) in Table 2. Grey-shaded areas indicate the uncertainty around the point estimates.

In Model (2) of Table 2, we introduce an interaction term between trading partners' growth in foundational competitiveness and the level of national foundational competitiveness. The interaction term is positive and statistically significant which suggests that countries with a higher level of national competitiveness benefit more from trading with increasingly competitive European countries. In Model 3, we take a specific look at the impact of fast-growing trading partners for Austrian national competitiveness. We do find that the effects of trading partners' growth of national foundational competitiveness in Austria are somewhat more pronounced than for the rest of the European countries in the sample. Formally, this interpretation is derived from the interpretation of *tpcomp* with a dummy variable for Austria which indicates that the tpcomp coefficient for Austria is about 0.17 percentage points higher than in the rest of the sample. However, the coefficient is not statistically significant. We also do not find evidence that the rates of national return to increasingly competitive trading partners are decreasing markedly faster in Austria than in the rest of the sample (see the interaction term of sqcomp with the Austria dummy). To check whether there is something special about the determinants of Austria's national competitiveness, we also run regressions by separately including dummy variables for four of Austria's biggest trading partners in the eurozone: Germany, France, the Netherlands and Italy. From Models (4)-(6), it can be seen that the impacts of trading partner growth on national competitiveness in France, the Netherlands and Italy are not found to be more pronounced than in the rest of the sample. Germany is the only country for which we find a positive coefficient of the interaction term that is also statistically significant. Those results clearly suggest that there is something special about Germany since its national foundational competitiveness is more reliant on trading partners' growth than in the rest of our European sample.

Figure 6 / Growth of export-share-weighted growth of trading-partners' foundational competitiveness for Austria: tpcomp values (1995-2014)



Sources: See Table 1.

As we are particularly interested in testing whether there is a lock-in effect of the Austrian economy with the CESEE region, we proceed by presenting extensions to baseline results described above. In Model (1) of Table 3, we include an interaction term of trading partner growth in foundational competitiveness with the CESEE export share. We find that as the CESEE export share increases, the impact of *tpcomp* on national competitiveness declines. In Model (2), we additionally introduce the interaction between *tpcomp* and the Austria dummy variable. After controlling for the CESEE export share, we do not find strong evidence that the impact of trading partner growth on national competitiveness is more pronounced for Austria than for the rest of the European sample: the relevant interaction coefficient is positive but not statistically significant. Notably, this result is consistent with the earlier results reported in Column (3) of Table 2. After including the China export share instead of the CESEE export share in Models (3) and (4) of Table 3, we also find a negative coefficient of the interaction term of the export share variable with *tpcomp* suggesting that with a larger export share to China, the impact of trading partner growth declines (on average).

Summing up, these results suggest that for our sample of 38 European countries over the period 1995-2014, it was beneficial on average to trade with increasingly competitive trading partners – although the national returns to higher trading partner growth are diminishing, as suggested by the negative coefficient of the squared term of *tpcomp*. However, once we include the CESEE export share and interaction terms with country dummies as additional controls, we do not find strong econometric evidence for a specific lock-in effect of Austria with the CESEE region. These results will be discussed further in Section 6.

Table 3 / Extensions: Including CESEE and China export shares

	Dependent variable: comp			
	(1)	(2)	(3)	(4)
log(initial_found_comp)	-2.932***	-2.918***	-3.436***	-3.329***
	(1.089)	(1.098)	(1.079)	(1.068)
tpcomp	3.657***	3.645***	1.101***	1.733*
	(0.876)	(0.888)	(0.179)	(0.985)
sq_tpcomp	-0.298***	-0.298***	-0.095***	-0.134*
	(0.078)	(0.079)	(0.017)	(0.077)
inflation	-0.033**	-0.033**	-0.034***	-0.033***
	(0.013)	(0.014)	(0.011)	(0.012)
inv_share	0.141**	0.138*	0.115*	0.142**
	(0.068)	(0.070)	(0.065)	(0.063)
trade	0.035**	0.035**	0.024	0.032**
	(0.014)	(0.014)	(0.016)	(0.014)
pop_growth	0.809	0.827	1.162*	0.889*
	(0.547)	(0.553)	(0.679)	(0.520)
hc	0.919	0.871	1.544	0.809
	(3.725)	(3.773)	(3.171)	(2.975)
exp_share_CESEE	-0.024	-0.024		-0.046
	(0.082)	(0.083)		(0.082)
tpcomp*dummy_AUT		0.278		0.308
		(0.220)		(0.213)
sq_tpcomp*dummy_AUT		-0.076		-0.086
		-0.066		-0.064
tpcomp*exp_share_CESEE	-0.032**	-0.032**		-0.009
	(0.013)	(0.013)		(0.011)
sq_tpcomp*exp_share_CESEE	0.002	0.002		
	(0.002)	(0.002)		
exp_share_China			-0.694***	-0.659**
			(0.218)	(0.326)
tpcomp*exp_share_China			-0.43	
			(0.591)	
sq_tpcomp*exp_share_China			0.444	0.240**
			(0.321)	(0.097)
Observations	136	136	136	136
R^2	0.528	0.529	0.58	0.585
Adjusted R^2	0.293	0.278	0.371	0.356
Number of countries	38	38	38	38
Number of periods	4	4	4	4
Country ftxed effects	yes	yes	yes	yes

Note: * $p<0.1$; ** $p<0.05$; *** $p<0.01$.
The specifications in this table were estimated by using OLS; see Equation (1) in the text for details. We report clustered (heteroskedasticity-robust) standard errors for all models.

4.2. ROBUSTNESS CHECKS

In this section, we apply a set of robustness checks to the baseline results reported above. First, we vary the country group by only considering the current 28 EU member countries, which means dropping the non-EU countries in the CEE region. Results based on Model (1) in Table 4 show that the signs and statistical significance of the coefficients do not change markedly. We find an even larger impact of trading partner growth on national competitiveness for our EU28 sample – again with decreasing rates of national return to higher trading partner growth (tpcomp coefficient of 2.4 compared to 1.3 in Model (2) of Table 2). For Germany, the impact of trading partner growth on national competitiveness is again found to be significantly higher than for the rest of the EU countries.

As a second robustness check, we investigate whether there is something special about the period 1995-2014, for which we have so far used data. In Model (2) of Table 4, we run our baseline specification for the much longer period 1950-2014; notably, the number of 5-year time periods for each of the 38 countries increases from 5 to 14 and the number of observations rises from 164 to 247. The regression results, however, remain quite stable compared to the 1995-2014 period; the only three marked differences are that a) in the longer timeframe, population growth is negatively associated with national foundational competitiveness which was not the case previously, b) the human capital variable has a more pronounced and statistically significant impact on foundational competitiveness and c) the coefficient of the interaction term $tpcomp*dummy_{Austria}$ is virtually zero when we look at the period 1950-2014; in comparison, the same coefficient in Model (2) of Table 2 was 0.17 (although statistically insignificant), which suggests that the period 1995-2014 was characterised by a slight shift towards Austrian competitiveness becoming more reliable on increasingly competitive trading partners. All other variables in Model (2) of Table 4 retain their sign and statistical significance. The results are qualitatively the same when we restrict the country sample to the period 1970-2014 in Model (3). Finally, the results are robust to using a pooled OLS estimation strategy, as reported in Model (4): the investment share and trade variables have smaller coefficients, which also loses their statistical significance; but the main variables of interest – especially *tpcomp* and its interaction with the Austria dummy variable – retain their sign.

5. How much do changes in trading partners' business cycle position matter for Austria's export market performance?

Positive developments in export performance are generally considered an essential outcome of international competitiveness (e.g. Carlin et al., 2001; Dosi et al., 2015). We have not looked at outcome measures of competitiveness so far as we were concerned with explaining changes in foundational competitiveness in our sample of European countries. We will, however, now switch the focus to the question: how important are trading partners for Austria's export performance? After having shown in the previous chapter that Austria's national foundational competitiveness is determined to a significant extent by increasingly competitive trading partners – although there are decreasing national returns which point towards potential risks for the future of national competitiveness – we provide an extended perspective on the relevance of macroeconomic developments in European trading partner economies for changes in Austria's bilateral export market shares.

There is a lot of literature on the determinants of export performance which basically uses different indicators of price and non-price competitiveness plus additional controls to explain export performance both in macro as well as in micro data sets (Landesmann and Pfaffermayr, 1997; Laursen and Meliciani, 2010; Dosi et al., 2015). The econometric approach which we will use in this section builds on Carlin et al. (2001) who estimated the relationship between export performance and indicators of price and non-price competitiveness in a sample of 14 OECD countries over the period 1970-1992. Consistent with Carlin et al. (2001), Dosi et al. (2015) and other studies, we measure performance by the export market share. However, we switch the focus since our explicit aim is to look at the comparative performance of Austria's (bilateral) exports in Europe. Hence, the export market share is calculated by dividing the bilateral export of Austria to a particular European trading partner country j by the sum of the Austrian exports to all the European countries in the sample. Notably, the resulting export market share indicator is 'an absolute measure of competitiveness (i.e. independent of the competitiveness of other sectors within the same country)'. (Dosi et al., 2015, p. 1810)[2]

We pose the question as to whether changes in the business cycle position of Austria's trading partners affect Austria's export performance. We use the European Commission's official output gap estimates to answer that question. The output gap captures the difference between actual real GDP and non-observable potential output (in % of potential output) which the European Commission calculates based on a Cobb-Douglas production function and statistical filtering procedures (Mourre et al., 2014; Havik et al., 2014). However, the estimation of potential output is fraught with severe difficulties that typically lead to substantial revisions in output gap estimates. Hence, one should always be aware that the output gap is an imperfect, potentially misleading measure of the business cycle position of an economy[3]. As an

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2 Note that, due to data limitations in the CESEE region, some countries drop out of our country sample.

3 This point has also been made by means of an in-depth analysis of the underlying European Commission's model-based estimation procedure (Heimberger and Kapeller, 2017). There are two advantages of using the Commission's output gap estimates: i) they are widely used by other researchers and policy-makers due to their special importance for

alternative to the Commission's output gap estimates we use our own calculation of the output gap for the respective trading partner country based on the Hodrick-Prescott filter (Hodrick and Prescott, 1997).[4] In accordance with the output gap literature, we interpret a positive output gap as an overheating of the respective economy while a negative output gap suggests underutilisation of production factors.

Table 4 / Robustness checks: The determinants of foundational competitiveness in Europe

	Dependent variable: comp			
	(1)	(2)	(3)	(4)
log(initial_comp)	-5.305***	-4.021***	-4.575***	-1.302***
	(1.448)	(1.108)	(1.140)	(0.428)
tpcomp	2.001**	1.122***	1.171***	1.650***
	(0.984)	(0.191)	(0.212)	(0.257)
sq_tpcomp	-0.170	-0.090***	-0.070**	-0.149***
	(0.112)	(0.022)	(0.027)	(0.022)
dummy_Austria				-0.219**
				(0.108)
inflation	-0.030***	-0.035***	-0.037***	-0.029***
	(0.008)	(0.009)	(0.010)	(0.008)
inv_share	0.180**	0.192***	0.202***	0.048
	(0.083)	(0.062)	(0.062)	(0.049)
trade	0.047***	0.025	0.025*	0.001
	(0.013)	(0.016)	(0.014)	(0.004)
pop_growth	0.208	−0.537	−0.423	−0.478
	(0.623)	(0.481)	(0.456)	(0.375)
hc	-1.531	3.295*	3.489*	0.110
	(2.432)	(1.710)	(1.797)	(0.619)
tpcomp*dummy_AUT	-0.082	0.003	0.005	0.231*
	(0.246)	(0.002)	(0.004)	(0.129)
sq tpcomp*dummy_AUT	0.035	-0.0003	-0.002	-0.059
	(0.074)	(0.001)	(0.002)	(0.038)
Constant				12.799***
				(3.150)
Observations	110	239	214	136
R^2	0.475	0.503	0.495	0.415
Adjusted R^2	0.205	0.391	0.364	0.363
Number of countries	28	38	38	38
Time periods	4	14	9	4
Country ftxed effects	yes	yes	yes	no

Note: *p<0.1; ** p<0.05; ***p<0.01
The specifications in this table were estimated by using OLS; see Equation (1) in the text for details. We report clustered (heteroskedasticity-robust) standard errors for all models.

coordinating fiscal policies in the EU (Heimberger et al., 2017); and ii) they are available for all EU countries based on the same potential output model with coverage over the whole 1995-2016 period. Note, however, that we had to drop the non-EU countries from our sample.

4 We are aware of the problems of using the Hodrick-Prescott filter which can produce biased estimates of potential output (Hamilton, 2017). Given the pronounced end-point bias in using the HP-filter, we only use the HP-based output gap estimates as a robustness check.

5.1. ECONOMETRIC APPROACH: THE DETERMINANTS OF AUSTRIA'S BILATERAL EXPORT MARKET SHARES

The focus of the econometric analysis is on explaining Austria's bilateral export market shares by measures of price competitiveness and non-price competitiveness plus our main variable of interest, namely the output gap variable that indicates the cyclical position of the respective trading partner economy. To estimate the determinants of Austria's bilateral export market shares with its EU trading partners, we follow the first difference specification in Carlin et al. (2001) and estimate the following equation:

$$\Delta\log(XMS_{i,t}) = \sum_{k=0}^{L} \alpha_k \,\Delta\log(REER_{i,t-k}) + \sum_{k=0}^{L} \beta_k \,\Delta\log(eci_{i,t-k}) + \gamma_k \Delta OG_{i,t} + \sum \zeta_i COUNTRY_i + \varepsilon_{i,t} \qquad (2)$$

where Δ denotes the first difference operator; k=0, ... L, and L represents the longest lag length considered. In the baseline regressions, we set L to 1, but the results are quite robust to variations in the lag length.[5] $log(XMS_{i,t})$ is the logarithm of Austria's bilateral export market share with trade partner i at time t (in % of total exports to the 27 EU countries). The calculations on XMS were performed on the basis of the IMF's Directions of Trade statistics. $REER$ is the real effective exchange rate, i.e. the nominal effective exchange rate divided by a price deflator or index of costs.[6] We would expect appreciations in the trading partner's $REER$ to have a positive impact on the bilateral export market share, since the home country's goods become comparably cheaper to export. *eci* is the average economic complexity index of the products exported by the respective trading partner country. We use this variable as a proxy for trading-partners' non-price competitiveness which can be traced back to a country's structural characteristics in terms of technological capabilities (Hausmann et al., 2013). Average economic country complexity was calculated based on data from the Atlas of Economic Complexity (2018). As explained by Hidalgo and Hausmann (2009), this variable is a useful proxy for non-price competitiveness.[7] $\Delta OG_{i,t}$ is the main explanatory variable of interest and is defined as the first difference in the output gap of Austria's trading partner country j at time t – which is supposed to capture changes in the trading partners' business cycle position. As already indicated above, the baseline results build on the European Commission's output gap variable as our preferred measure for capturing changes in the business cycle position of trading partner economies. However, as a robustness check, we also use alternative output gap estimates based on the HP-filter. $COUNTRY_i$ are country-fixed effects which we include to account for unmeasurable, time-invariant country-specific characteristics that may influence the bilateral export market share XMS. $\varepsilon_{i,t}$ is the error term.

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5 Results with different lag length are not reported here but available upon request.

6 Data were obtained from the World Bank.

7 The eci is an index that can take both negative and positive values, with lower values indicating a lower level of technological capabilities. As we want to take the log of all the variables (see Equation (2)), we need to transform all eci values into positive values. Therefore, we take the minimum value of eci in our data set (-0.708) and add its absolute value to every observation. After doing so, we can take the natural logarithm of our eci variable without losing observations.

5.2. REGRESSION RESULTS ON THE DETERMINANTS OF BILATERAL EXPORT MARKET SHARES

Table 5 shows the regression results based on Equation (2). Model (1) regresses the first difference in Austria's bilateral export market share ($\Delta log(XMS)$) on changes in the real effective exchange rate ($\Delta log(REER)$) and non-price competitiveness ($\Delta log(eci)$) of their trading partners as well as on changes in the trading partners' output gap measure (ΔOG) as an indicator of economic slack. We find that an increase in *REER* is positively associated with the export market share, i.e. an appreciation of trading partners, on average, improves domestic export performance. We do not find significant evidence that changes in trading partners' non-price competitiveness (measured in terms of the economic complexity index for exported products) are robustly linked to Austrian export performance. In terms of our main variable of interest (ΔOG), which captures changes in the trading partners' business cycle position, Model (1) in Table 5 does find a positive association: as expected, an improvement in the trading partners' output gap is associated with a positive change in the export market share. Note that the (ΔOG) coefficient is statistically significant at the 5% level.

Table 5 / The determinants of bilateral export market shares

			Dependent variable: ΔXMS_t		
	(1) AUT	(2) AUT	(3) FRA	(4) NLD	(5) DEU
Δ log(REER)$_t$	0.413*	0.430*	0.289**	0.462***	0.402***
	(0.235)	(0.230)	(0.134)	(0.111)	(0.100)
Δ log(REER)$_{t-1}$	-0.134	-0.164	0.191	0.174	0.067
	(0.231)	(0.227)	(0.131)	(0.109)	(0.098)
Δ log(eci)$_t$	0.109	0.094	0.025	0.072	0.062
	(0.159)	(0.153)	(0.095)	(0.079)	(0.071)
Δ log(eci)$_{t-1}$	0.096	0.155	-0.075	0.064	0.134*
	(0.158)	(0.151)	(0.095)	(0.079)	(0.070)
Δ OG$_t$	0.093**		0.084***	0.096***	0.173***
	(0.047)		(0.028)	(0.023)	(0.021)
Δ OG_HP$_t$		0.079**			
		(0.035)			
Observations	457	469	438	438	438
$R^2_{(within)}$	0.036	0.040	0.095	0.146	0.206
Time period	1995-2016	1995-2016	1995-2016	1995-2016	1995-2016
Country-fixed effects	yes	yes	yes	yes	yes

Note: * p<0.1; ** p<0.05; *** p<0.01
Pooled OLS regression in all specifications. See Equation (2) in the text for details.

To test for robustness of the results in Model (1) in Table 5, we perform several robustness checks. In Model (2), we reran the estimations for Austria by using the output gap estimates based on the Hodrick-Prescott filter. The results, however, are not markedly affected: we again find that an improvement in the trading partners' business cycle positions is related to an increase in the bilateral export market share. Furthermore, we are interested in whether there is something special about the determinants of Austria's export market share. Hence, Models (3) to (5) show the results for the bilateral export market shares for three of Austria's largest export trading partner countries in the eurozone: the Netherlands and Germany, two countries which have recorded significant current account surpluses over recent years (Gräbner et al., 2017) and France, the second largest eurozone country behind Germany. Although the details of the regression results differ across those countries, three common observations can be taken away from the interpretation: a) By estimating Models (3)-(5), we consistently find that an appreciation in the real effective exchange rate of trading partners is associated with a positive change in the domestic bilateral export market share. b) Consistent with the results for Austria in Models (1)-(2), results for France, the Netherlands and Germany suggest that (lagged) changes in trading-partners non-price competitiveness are not robustly linked to ΔXMS. c) Crucially, we find that changes in business cycle movements of trading partners (measured in terms of changes in the output gap) are statistically significant determinants of ΔXMS for all three countries (France, the Netherlands and Germany). The coefficient of ΔOG for Austria is of a very similar size as for France and the Netherlands; we find that the impact of changes in the trading partners' output gap on the bilateral export market share is only larger in Germany than in Austria. Summing up, according to the econometric evidence we found Austria's export market performance is indeed sensitive to an economic boom or bust in its trading partners' economies; in comparison to three other selected eurozone countries, however, we have seen that this sensitivity is not atypical.

6. Conclusions

This paper has linked debates about how competitive European economies actually are with the question of how trading partners affect competitiveness. We have been specifically interested in whether Austria's increased economic openness to the East has supported Austrian national competitiveness. Given Austria's increased integration with the CESEE region, we have put particular emphasis on testing whether there is a lock-in effect of the Austrian economy with the region in terms of a situation that could be costly to change by policy measures due to the high switching costs of reorienting Austrian export and investment activities. Building on a panel data set for 38 European countries and focusing on the relevant period 1995-2014, we have followed Delgado et al. (2012) by using 'foundational competitiveness' as our preferred definition of competitiveness since this measure accounts both for an economy's productive capabilities as well as for its ability to mobilise the available working-age population and therefore goes beyond the usual focus on productivity measures as the highest-order competitiveness goals at the macro level (Peneder, 2017). By operationalising foundational competitiveness as GDP per working-age individual at PPP, our growth regression results do not provide strong evidence for a lock-in effect of Austria with the CESEE region. Results suggest that it has typically been beneficial for European countries to trade with increasingly competitive countries. However, our regression results also robustly show that there are decreasing national returns to increasingly competitive trading partners. Furthermore, the econometric results presented in Section 5 suggest that business cycle developments in trading partners matter for export market shares. Avoiding large boom-bust episodes of trading partners might therefore bring about significant benefits in terms of export market performance. This point underscores the importance of well-coordinated monetary and fiscal policies that allow for proper management of aggregate demand at the European level.

Against the background of the results discussed so far, one can pose the question: how could competitiveness be fostered from the Austrian policy-makers' perspective? Policy measures could be taken in four areas. First, to raise foundational competitiveness – defined as output per potential worker – policy-makers could improve the mobilisation of the working-age population. In Austria, the population of 15-64 years old grew by 9.7% between 1995 and 2016; in comparison, working-age population in Austria's most important trading partner, Germany, declined by 2.5% over the same time period.[8] Furthermore, the Austrian unemployment rate in 2016 stood at 6% which is high relative to historical standards. In 1995, when the country joined the EU, Austrian unemployment was at a significantly lower level (4.2%) while the unemployment rate in Germany in the same year was nearly twice as high at 8.2%. However, German unemployment has declined strongly over recent years, especially since the financial crisis of 2008 (e.g. Storm and Naastepad, 2015) and stood at 4.1% in 2016,[9] where the decline in unemployment has been partly supported by a muted development of the working-age population due to demographic trends (e.g. Elsner and Zimmermann, 2016; Hoffmann and Lemieux, 2015). These numbers show that the Austrian working-age population has grown markedly over recent years (in contrast to Germany); and, as unemployment is still elevated, measures such as the reduction of working hours (e.g. Gerold et al., 2017) – which could help to allocate working hours over more working-age individuals

8 Data: World Bank; own calculations.

9 Unemployment data: AMECO (European Commission, Autumn 2017 forecast vintage).

– as well as active labour market policies (such as qualification measures for the currently unemployed) could help to improve the mobilisation of the working-age population, thereby supporting growth in foundational competitiveness.

Second, to counteract dependence of national foundational competitiveness on increasingly competitive single countries or regions as trading partners, industrial policy should aim at ensuring a diversified economic structure that strengthens the production base for complex products. Technological capabilities are of prime importance for assessing the future developmental trajectories within given political and institutional constraints (Cristelli et al., 2015). Countries that are able to produce and export more complex products typically have a favourable development in terms of increasing incomes (Hidalgo et al., 2007; Hidalgo and Hausmann, 2009). Recent research has shown that the capabilities for producing complex products are very unequally distributed among European countries. As one of few European core countries, Austria has managed to sustain its strong technological position since the financial crisis (Gräbner et al., 2017, 2018). Strengthening Austria's technological capabilities, which are of prime importance for its future developmental trajectory, will require targeted policies entailing investments into knowledge policies that support technological, organisational and institutional innovations. Furthermore, policy-makers should work to ensure a national supply of a highly-skilled labour force (e.g. Hausmann and Rodrik, 2003; Cimoli and Dosi, 2017).

Third, productivity growth is essential to ensure high living standards and sustainable national competitiveness (Peneder, 2017). Long-term productivity growth can be fostered by policies that support aggregate demand because demand growth also yields positive supply-side effects (e.g. McCombie and Spreafico, 2016). In this context it is essential to ensure that wage policies aim at keeping wage growth in line with productivity growth. In Austria this will require the continued cooperation of social partners and the government within the corporatist system which should allow for adequate bargaining power of the employee side. Sufficient wage growth can not only be expected to foster long-term productivity (Ederer and Schiman, 2018), it may also give policy-makers additional room to implement measures aimed at reducing unemployment.

Summing up, a set of active policy interventions could support national competitiveness in Austria and help avoid a lock-in effect with the CESEE region in the future. As outlined, domestic policies could focus on: a) improving the mobilisation of the working-age population by measures such as working-time reductions and active labour market policies; b) strengthening technological capabilities by knowledge and investment policies; and c) ensuring sufficient domestic wage growth to support long-term productivity growth that allows a competitive economy to evolve sustainably.

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