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Determinants of Export Capacity in Transition Countries of Eastern Europe, Caucasus and Central Asia

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Abstract:
The aim of this study is to explore the determinants of export capacity in a sample of Eastern Europe, Caucasus and Central Asia. This study uses data for the years 1990 – 2015. Using fixed effects and random effects estimator we find that economic growth, ICT development and quality of institutions have positive effects on trade facilitation. Therefore, these factors can serve as instruments for export facilitation of local firms.

Keywords: *exports, firms, instruments of export facilitation, institutions*

1. Introduction

Over the past decades, there has been ongoing research explorations on the role of trade liberalization and export promotion on economic development. Omoju and Adesanya (2012) tests the hypothesis that trade increases growth, using Nigeria as an evidence country. The authors rely on simple regression method for the period 1980 – 2010. The study comes to conclusion that greater trade openness, FDI, government spending and exchange rate have positive effect on economic growth. Kuo et al. (2014), departing from Das (2005) theoretical framework, create and equilibrium economic model to explore the effect trade freedom on economic growth. The authors report that when trade openness increases by greater margin, there are positive effects on GDP growth in small open economies. Jalles (2012) investigates the link between regional trade agreements, trade and economic growth using a panel of Asian countries for the years 1980 – 2004. The author comes to opposite conclusion that 'the impacts of RTA are unclear (if not detrimental to growth in some cases, once endogeneity is accounted for). Panel Granger-causality tests running from openness to growth yield mixed results and some conclusions depend on the particular subsample under scrutiny' (p. 63). Hur and Park (2012) investigate the economic effect for countries engaging in bilateral free trade agreements. Their study shows that although uneven 'a significant upward trend in the gap between the growth rates of per capita GDP within a bilateral FTA' (p. 1283). Considering the importance of export and trade and economic growth there is growing research on the determinants of export capacity across developing countries. We extend this research strand by focusing on a set of Central Asian and Eastern Europe countries. In this context, our findings and policy implications will be given in the context of economic development of Uzbekistan.

The process of expanding the range and increasing the scale of the export of any country requires institutional strengthening of the above-mentioned mechanism for enhancing country's export capacity. In this regard, existing in foreign literature interpretations of the mechanism of the export capacity building of the national economy are of interest, the composition of that are illustrated in Fig. 1.
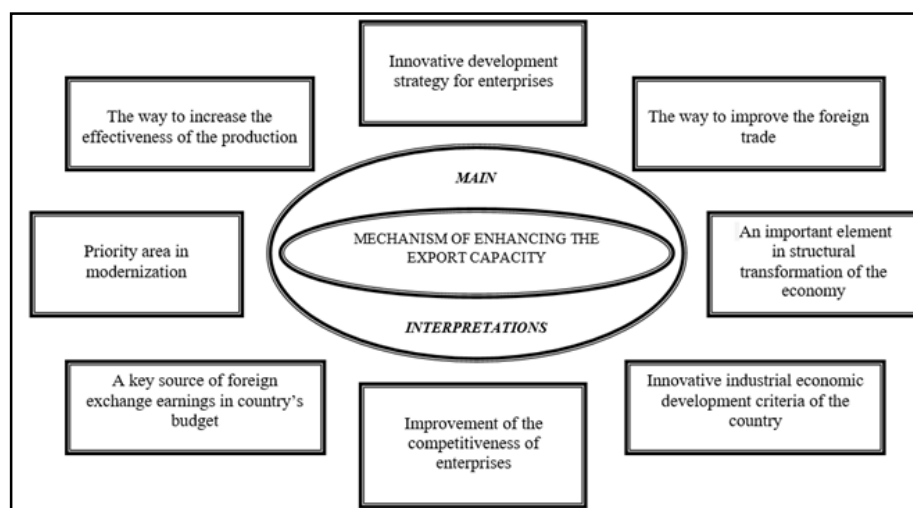

Figure 1: Different Interpretations of the Mechanism of Expansion of Building the Export Competiteveness of Enterprises

2. Data
The dependent variable in our research is exports as a share of GDP. Exports of goods and services represent the value of all goods and other market services provided to the rest of the world. They include the value of merchandise, freight, insurance, transport, travel, royalties, license fees, and other services, such as communication, construction, financial, information, business, personal, and government services. They exclude compensation of employees and investment income (formerly called factor services) and transfer payments. The data come from World Bank.

Fig 1 present evolution of exports for selected countries. For example, according to the data, exports as % of GDP in Kazakhstan decreased from 74% in 1992 to 28.5 in 2015. While at the same time, in Czech Republic increased from 40 to nearly 83%.
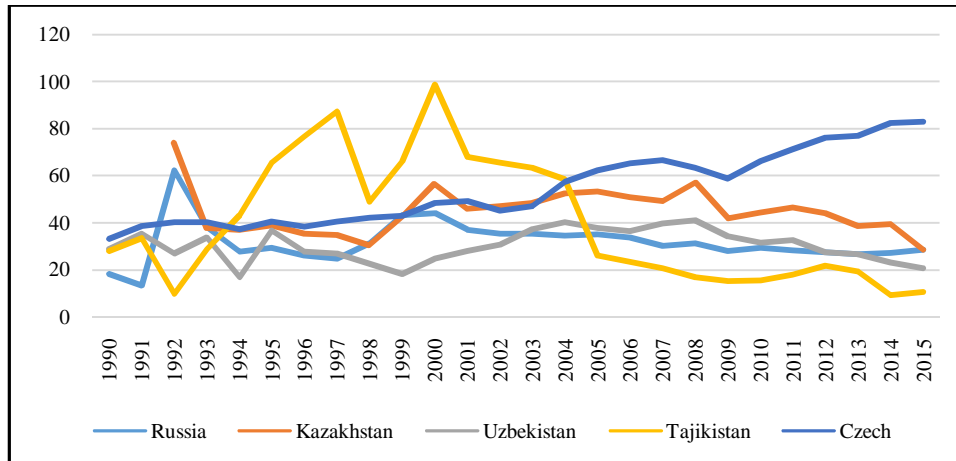

Figure 2: Exports as % of GDP
Source: World Bank

Our first independent variable is GDP per capita. GDP per capita in this study is used as a proxy for market size and economic development. While, according to gravity model, larger countries tend to trade more (De Benedictis & Taglioni, 2011), the opposite hold for exports. More developed countries tend to import more to meet the demand of large domestic market. Therefore, in this study we conjecture that as GDP per capita rises the share of exports in GDP will decrease. The data comes from World Bank. We logged GDP per capita to correct for skewedness.

Our next independent variable is GDP growth. Extant studies report that exports and GDP growth are positive correlated (Emery, 1967). Policymakers in rapid growing economies use export promotion as a tool to foster GDP growth. In the same vein, rapid growing economic create greater opportunities for local firm to use exports to enter new markets. The data for GDP growth comes from World Bank.

Next, we control for population growth as a proxy for demographic pressure. As population growth the domestic market increases, as a result the demand for locally produced goods rises decreasing export volumes. The data for population growth comes from World Bank.

Apart from GDP per capita, population and GDP growth, it is also important to control for the relative openness of economy. For this purpose, we use FDI as a share of GDP in our study. The data comes from World Bank.

Empirical literature reports that ICT technologies are instrumental to trade facilitation. According to World Bank there are a number of reasons why ICT has positive effects on trade. Yonazi (2012 p. 5) suggests that ICT 'improve [s] the efficiency with which trade transactions are handled, improving transparency and accountability, reducing the cost of human interfaces, eliminating delays and reducing the scope for corrupt interactions between traders and officials… [Moreover ICT] improve[s] coordination between different actors in the trade management process, particularly between government agencies within individual countries, and across national borders'. Therefore, we control for internet user per 100 population as a measure of ICT development. The data comes from World Bank. Finally, we control for democracy index from Freedom House as a measure of quality of institutions and domestic credit to private sector as a share of GDP from World Bank as a proxy for financial development. The descriptive statistics are presented in Table 1.

Variable	Description	Mean	Std. dev.	Min	Max
Exports	Exports as % of GDP	44.69	17.91	8.11	98.76
GDP per capita	GDP per capita at PPP, logged	9.14	0.81	6.95	10.35
GDP growth	GDP growth, %	2.85	8.44	-44.9	88.96
Population	Population growth, %	0.00	1.06	-5.81	3.73
FDI	FDI as a share of GDP	5.23	6.40	-16.07	55.08
ICT	Internet users per 100	24.15	25.75	0	88.41
Finance	Credit as a share of GDP	32.87	22.23	0.00	101.29
Institutions	Democracy index	3.65	2.03	1	7

Table 1: Descriptive stats

Model
To explore the antecedents of export capacity in a sample of Central Asia and Eastern European countries, we use the following methodology:

$Exports = f(GDP\_per\_capita, GDP\_growth, Population, FDI, ICT, Finance, Institutions)$

where exports as a share of GDP are expressed as a function of GDP per capita, GDP growth, population growth, FDI as a share of GDP, ICT penetration, financial development and quality of institutions. We use fixed effects and random effects as our baseline methods.

3. Results

The main results are presented in Table 2. Column 1 presents the estimates from fixed effects regression. First, we find that GDP per capita is negatively and significantly related to exports. On the other hand, GDP growth is positively linked to exports. For example, a 5-percentage point increase in GDP growth is associated with 2.9 percentage point increase in the share of exports in GDP. Population growth is negative and statistically significant at the 1% level. Quantitatively, a 2-percentage point increase in population growth is associated with nearly 6-percentage point reduction in exports.

It is also important to highlight that ICT is a significant factor in trade facilitation in Eastern Europe and Central Asia. An increase by 10 internet users per 100 population is associated with 3.3 percentage point increase in exports. This is important considering that internet penetration is very low in some countries such as Kyrgyzstan, Tajikistan and Turkmenistan. Another important finding of this study is positive estimate for quality of institutions. This implies that further institutional reforms will have positive effect on integration of this region into global economy.

Finally, we find that financial development and FDI are insignificantly related to exports in Central Asia, Caucasus and Eastern Europe.

Column 2 reports the results from random effects estimator. We observe that the results are nearly identical to the ones reported in column 1. Therefore, the results reported in Table 2 suggest that GDP per capita, GDP growth, population growth, ICT and quality of institutions are important antecedents of export potential.

	(1) FE	(2) RE
GDP per capita	-6.2811**	-4.0001*
	(2.7801)	(2.2314)
GDP growth	0.5777***	0.5591***
	(0.0990)	(0.0972)
Population growth	-2.8816***	-2.6371***
	(1.0022)	(0.9305)
FDI	-0.1393	-0.1340
	(0.0961)	(0.0955)
ICT	0.3277***	0.3120***
	(0.0364)	(0.0331)
Finance	-0.0273	-0.0375
	(0.0368)	(0.0366)
Institutions	4.3081***	3.6894***
	(0.7796)	(0.6666)
Constant	111.3859***	88.3255***
	(24.6008)	(20.1488)
N	427	427
adj. R^2	0.3141	0.2122

Table 2: Determinants of export capacity
*Standard errors in parentheses; * p<0.1, ** p<0.05, *** p<0.01*

4. Conclusion

The aim of this study is to explore the antecedents of export capacity in a sample of Central Asia, Caucasus and Eastern European countries. The data covers the period 1990 – 2015. Using fixed effects and random effects estimator we observe that economic growth, ICT and quality of institutions may foster exports from these countries. Thus, taking Uzbekistan as a case study we may provide some policy suggestions in this framework. On content, the modern institutional mechanism for providing the processes of enhancing the export capacity of national economies includes a set of activities on:

1) on developing, adopting and implementing of national legal acts aimed to expand the range and increase the scale of production of export goods and services, as well as the regulation of different forms of export goods and services;
2) creating and monitoring the functioning of the state apparatus that is responsible for increasing the export capacity and can ensure the implementation of the state policy in the sphere of foreign trade;
3) building up a state infrastructure for supporting export enterprises, as well as investors who participate in the process of implementation of programs to increase their export competitiveness;

4) creating of rules and procedures that regulate the processes of production and sale of goods of Uzbek exporters in foreign markets.

The key state interventions on the processes of enhancing the country's export capacity of economic entities of all type of ownership and sectors include the following:

1. developing, adopting and implementing of national legal acts aimed to expand the range and increase the scale of production of goods and services for export;
2. monitoring the functioning of the state apparatus that is responsible for enhancing the export capacity and can ensure the implementation of the state policy in the sphere of foreign trade;
3. the establishment of a network of special state institutions that support export-oriented enterprises which develop new types of goods or services for export;
4. creating incentives and preferences for foreign direct investors involved in implementation of programs aimed to increase the export capacity of export oriented enterprises;
5. implementing the rules and procedures that stimulate the processes of enhancing the production and sale of goods, which are produced by domestic exporters, in foreign market;
6. involvement in achieving the progressive rates of development of special infrastructural institutions network which supports the creation and development of new types of goods produced for export.

5. References

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