“Protectionism and non-resource economic growth: Evidence from Azerbaijan”

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Abstract
In the modern world, many developing countries take protective measures to develop domestic industries and diversify their economies to ensure economic sustainability. This issue is a priority, especially in those countries where economic development is provided mainly through the export of natural resources. This article aims to assess the impact of protectionist measures on the development of non-resource sectors of the economy. The object of the study is the non-oil sector of the Azerbaijani economy, where oil revenues account for over 80% of the country’s total exports. The study covers the 2005–2019 years. Granger Causality test in the VAR environment was used to identify and assess the causal relationship between protectionist measures and the non-oil sector development. It was revealed that such indicators as “customs revenues” and “exchange rate” do not increase non-oil GDP. The study results suggest that increasing the effectiveness of protectionism (in terms of economic growth) requires more reasonable and consistent regulatory measures. Targeting priority sectors and establishing monitoring mechanisms on the results of protectionist measures is also a priority for assessing their feasibility.

INTRODUCTION

Today, one of the surprising facts is that Hornik’s rules (Reinert, 2011, pp. 346-349), which appeared at the end of the 17th century, seem to be an attractive approach for developing national economies, especially in developing countries.

The issues of the effectiveness of protectionism from the point of view of the local production development are of particular relevance for countries rich in natural resources, in which market institutions are still in their primary stages of development. It is no secret that many developing countries often resort to temporary protective measures of domestic production to ensure economic security, but not all of them manage to achieve the desired results. And here, questions arise before the theory: What tools for protecting the internal market are more effective? What factors influence the effectiveness of protectionist measures? What conditions are required to achieve the desired results?

This article is intended to highlight the effectiveness of protectionist instruments. In this regard, the assessment of the impact of such protective instruments as customs tariffs and the exchange rate on the development of non-resource sectors of the economy was taken as the goal of the study. The economy of Azerbaijan with formative market institutions and rich in natural resources is chosen as the object of research.
The development of market and state institutions of Azerbaijan has been going on for almost 30 years. A private sector has formed in the country, whose share in GDP reached 85% in 2019 (SSCRA, 2020b). At the same time, government agencies have acquired extensive experience in regulating the economy. The oil boom that began in 2004 had a very strong impact on the country’s economic development and led to a significant increase in its positive foreign trade balance.

However, the oil boom has brought with it a strong dependence of the Azerbaijani economy on oil revenues. Despite numerous government support measures, the bulk of domestic demand for manufacturing products is met by imports. The domestic industry, once supplying more than 30 countries of the world with mining equipment, metallurgy products, household appliances, textiles, and processed agricultural products, is now in crisis. The weakening of industrial potential led to a radical change in the structure of the economy. The number of employees in the manufacturing industry in 2019 decreased by 37% compared to 1990. Today, the bulk of the country’s labor force is employed in sectors with diminishing returns (in the agricultural sector (36%), in construction (7.4%), in trade and transport (18.6%), etc.) (SSCRA, 2020a).

The above facts also show the practical significance of the results of the studies devoted to the analysis of the protectionism effects.

1. LITERATURE REVIEW

There is an opinion in modern economic theories that trade policy and quality of economic management have a huge impact on the economic development of a country.

Bown and Crowley (2014) using the negative binomial distribution (based on explanatory variables such as real GDP growth, changes in bilateral exchange rates, real GDP growth in partner countries, changes in the unemployment rate, growth in bilateral imports (1995–2010)) investigated changes in trade policies of 13 WTO members (Argentina, Brazil, China, Colombia, India, Indonesia, Malaysia, Mexico, Peru, Philippines, South Africa, Thailand, Turkey) during macroeconomic shocks. They found that import restrictions in these countries are countercyclical and that trade policies of these countries become more sensitive over time to sharp fluctuations in the real exchange rate.

Aggarwal and Evenett (2013) argue that after the 2008 financial crisis, protectionist tendencies increased in global trade, and regional trade agreements became more preferred. The growing role of China (where government intervention in trade is still significant) in international trade has prompted many countries to revise their trade policies.

O’Rourke and Taylor (2006), using the Rogowski model and the three-factor model, investigated the effects of the level of democracy in 35 countries (developed and developing) on trade openness. The results showed that the influence of democracy on the degree of trade openness could be multidirectional: if employees benefit from the open economy, they will support free trade; if employees take advantage of trade restrictions, they will support protectionism. If one considers the benefits from the trade policy of the state change depending on the conjuncture of world markets, then one can argue that these benefits are super-dynamic and relative.

Abboushi (2010), based on a literature review (published in 1967–2018) and the results of empirical studies, as well as based on a descriptive statistical analysis of data from international organizations, concluded that protectionism serves the interest of certain groups of the population and does not support social welfare. Protective measures by governments that are in line with the interests of internal political groups lead to large losses for other segments of the population.

Mayda and Rodrik (2001), using the ordered logit model and the results of surveys conducted in more than 20 countries, determined a close correlation between the development of human capital and the support of free trade. They found that
people working in non-tradable sectors support free trade, while employees in those sectors of the economy that engage in international trade based on comparative advantage prefer import restrictions. Relative economic status, moral values, and mentality also affect people's attitudes toward an open economy.

Barber et al. (2004) calculated the losses of developing countries from import restrictions on textiles and apparel applied in North America and the European Union at 27 million jobs and USD 40 billion in annual exports. They suggest that developed countries can provide tremendous support for reducing global poverty by reducing import restrictions.

Grundke and Moser (2019) collected the data on 93 groups of goods imported from 2002 to 2014 from 167 countries in the USA and, with the help of the Arellano-Bond GMM estimator, revealed that non-tariff restrictions on imports negatively affect US exports. They argue that there is latent countercyclical protectionism in the United States and that non-tariff barriers have intensified during the crisis years.

Costa et al. (2019) examined the effects of a depreciation of the pound sterling on trade, wages, and company training costs in the UK. They found that in sectors where intermediate import prices increased, the pound sterling decline resulted in lower wages and lower training costs for employees.

Alege and Osabuohien (2015), based on data from 40 African countries for the period 1980–2008 and using a partial-equilibrium relative price approach, compiled equations for the dependence of exports and imports on the exchange rate, real GDP, capital, and technology. Using the panel cointegration test, they found that the volume of exports and imports is not elastic concerning the exchange rate.

Osabuohien et al. (2018), using the logistic regression model, investigated the relationships between propensities for protectionism and indicators such as economic growth, infrastructure development, economic openness (the ratio of net exports to GDP), and the quality of institutions in 107 countries of the world. The study showed that the degree of a country’s economic development does not play a decisive role in applying trade restrictions. They suggest that as institutions improve, protectionist tendencies diminish. Another interesting finding of this study is that as trade increases, a country’s propensity to protect itself increases.

Kinzius et al. (2019) argue that the number of non-tariff trade barriers is growing in the modern world, and these restrictions lead to a 12% reduction in imports.

Park (2018) notes that since 2016, the US has seen a transition from “free trade” to “fair trade” (which is the basis of high tariff barriers and the revision of trade agreements). He argues that the application of high tariffs will lead to higher consumer and export prices in the United States, which is fraught with large losses for the economy. In his opinion, protectionism is a double-edged sword, even for the US economy. Such a policy will lead to large losses for Northeast Asia economies, which are more dependent on export volumes.

Panagariya (2004) examined the practice of those countries that have experienced a decline in GDP per capita in the past 40 years and concluded that the economic crisis in these countries is not associated with an increase in imports. He found a parallelism between the rapid growth and development of trade (with declining trade barriers) and showed the inconsistency of the idea that free trade leads to income loss.

Egoro and Daddy (2017), using multiple regression estimation, estimated the dependence of GDP on non-oil imports, oil imports, non-oil exports, and oil exports in Nigeria (1981–2015). They found that international trade significantly affected economic growth and indicated the need for export diversification.

Seipati and Itumeleng (2014), using VECM, investigated the relationships between such indicators as GDP, inflation, exchange rate, exports, and imports in South Africa (1990–2013). The results of the study show that there is cointegration between all variables and, except imports, all indicators have a positive effect on economic growth.
Keho (2017), using Toda-Yamamoto and Granger causality tests and ARDL, studied the Ivory Coast data for the period 1965–2014 and concluded that the trade openness in both the long-term and the short-term has a positive effect on economic growth. Besides, he determined that there is a positive relationship between economic openness and capital accumulation.

Benita (2019) investigated the relationship between trade openness and GDP per capita in Latin America. He showed that if the model uses data on mutual trade only between Latin American countries, then there is a weak but positive impact of economic openness on economic growth. However, when data covering all trading partners are included in the model, these relationships are reversed.

Ng and Yeats (1999), based on an analysis of the index of the integration rate of African countries (below the Sahara) into the world economy, investigated the impact of trade policy on the economic development of a country. Using the cross-country regression method, they concluded that those countries that apply good governance and softer trade policies achieve better economic results.

Zaman et al. (2018), using fixed effect and pooled OLS techniques, investigated the relationship between trade openness and FDI inflows in India, Iran, and Pakistan based on data spanning 1982–2012. It was found that there is a statistically significant and positive influence between these indicators. Another finding of the study was that the exchange rate, inflation, and GDP per capita also influence foreign investment inflows.

Lewis and Monarch (2016), Gallagher (2012), Carstens (2018), Constantinescu et al. (2015), Ojo and Alege (2014), IRC (2016), and others have shown that protectionist trends play an important role in slowing down the world trade.

2. DATA AND METHODOLOGY

GDP in US dollars for Azerbaijan’s non-oil economy (NGDP) is considered an indicator of his sector’s development. “Customs revenues” (CR) and “exchange rate” (ER – AZN per unit of USD) were taken as indicators characterizing protectionist measures. Unfortunately, it was impossible to find available information on anti-dumping, compensating, and non-tariff barriers. Therefore, the structure of customs revenues includes budget revenues from import taxes (VAT, excise, and road tax) and revenues from customs import duties. The theoretical rationale for this choice is that customs tariffs and taxes are both fiscal and regulatory. The literature review showed that the exchange rate is also widely used as a protection tool. Therefore, the exchange rate is included in the model as the second explanatory variable.

The time series uses monthly data on the NGDP of the non-oil sector and customs revenues in USD. The inclusion of variables in the model in dollar terms allows us to ensure comparability of results and somewhat reduce inflationary influences caused by changes in the national currency exchange rate. Primary data on NGDP of the non-oil sector and at the exchange rate are taken from statistics of the Central Bank of Azerbaijan (CBAR, 2020), and data on customs revenues are taken from statistics of the State Statistical Committee of the Republic of Azerbaijan (SSCRA, 2020 b).

The Granger causality test in the VAR environment (Granger & Newbold, 1986) was selected to identify causal relationships between the model variables. The quality of relationships and predictions explanations in time series depends on the correct postulation of the VAR model and estimation of its parameters. This study examines whether customs revenue and exchange rate growth are the reason for the non-oil economic growth. The Granger causality test in the VAR environment is performed in the following sequence (Lütkepohl, 2005):

- stationarity assessment of time series for non-oil GDP, custom revenue, and exchange rate;
- lag selection;
- Johansen cointegration test;
- construction VAR model;
- assessment of the model quality;
- Granger causality test (Granger, 1969; Granger & Newbold, 1986).
3. RESULTS

Augmented Dickey-Fuller – ADF method (Dickey & Fuller, 1981) was used to determine the stationarity of time series. The results showed that all three variables are non-stationary at level but stationary at the first difference. Lag 2 was selected based on the minimum values of the Akaike info criterion.

These results allowed us to apply the Johansen cointegration test (Johansen, 1988).

<table>
<thead>
<tr>
<th>Hypothesized No. of CE(s)</th>
<th>Eigenvalue</th>
<th>Max Eigen statistic</th>
<th>0.05 critical value</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>None *</td>
<td>0.070884</td>
<td>12.42512</td>
<td>21.13162</td>
<td>0.5063</td>
</tr>
<tr>
<td>At most 1</td>
<td>0.035207</td>
<td>6.057281</td>
<td>14.26460</td>
<td>0.6059</td>
</tr>
<tr>
<td>At most 2</td>
<td>0.000189</td>
<td>0.031950</td>
<td>3.841466</td>
<td>0.8581</td>
</tr>
</tbody>
</table>

The results from Table 1 show that there are no cointegration relationships between the variables in the model. Therefore, the unrestricted VAR model was adopted as the method for the evaluation of causality relationships.

Table 2 shows the test results for checking the existence of autocorrelation in the model residuals.

<table>
<thead>
<tr>
<th>Lags</th>
<th>LM stat</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>8.528634</td>
<td>0.4819</td>
</tr>
<tr>
<td>2</td>
<td>16.45233</td>
<td>0.0580</td>
</tr>
<tr>
<td>3</td>
<td>13.11577</td>
<td>0.1574</td>
</tr>
</tbody>
</table>

The test results confirm that there is no autocorrelation in the model residuals at the 5% level of statistical significance.

The results of the VAR Granger causality test are shown in Table 3.

<table>
<thead>
<tr>
<th>Dependent variable: D(NGDP)</th>
<th>Excluded</th>
<th>Chi-sq</th>
<th>Df</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>D(CR)</td>
<td>2.245847</td>
<td>2</td>
<td>0.3253</td>
<td></td>
</tr>
<tr>
<td>D(ER)</td>
<td>2.871253</td>
<td>2</td>
<td>0.2380</td>
<td></td>
</tr>
<tr>
<td>All</td>
<td>6.153950</td>
<td>4</td>
<td>0.1879</td>
<td></td>
</tr>
</tbody>
</table>

The results from Table 3 show that the growth of customs revenues and the exchange rate (USD in AZN) are not the cause of the non-oil economy growth.

These results are also indirectly confirmed by comparing the foreign trade surplus and income from oil exports.

As one can see from Figure 1, in the period under study, the country’s foreign trade surplus line was always below oil exports, and they move in an almost parallel manner. This fact confirms the strong dependence of the country’s foreign trade surplus on oil revenues. In recent years, the increase in oil market volatility and the strengthening of downward trends in oil prices have led to a sharp decline in the trade balance, which increases the pressure on the national currency.

For the development non-oil sector in the Republic, numerous state programs have been developed.

Source: CBAR (2020).

Figure 1. Dynamics of Azerbaijan’s quarterly foreign trade surplus and oil exports (2000–2019, in USD million)
and implemented. However, statistics show that the import substitution and export potential of the non-oil sector has not yet reached the desired level. Figure 2 shows the dynamics of quarterly non-oil export and non-oil import in 2000–2019.

Facts such as the trade deficit in the non-oil economy, the persistence of this trend over the past 15 years, and the satisfaction of growing domestic demand mainly due to imports in the non-oil economy show that there are unresolved problems on the non-oil economy growth in Azerbaijan. Various studies have been carried out to investigate these problems.

4. DISCUSSION

Hasanov et al. (2018) found that the non-oil sector of the Azerbaijani economy has a weak but positive response to fiscal measures in the long and short term. They recommend improving the fiscal environment and saving those government spending that has a weak impact on the development of the non-oil sector.

Aliyev et al. (2016) show that government spending in the long-run has a positive effect on the non-oil sector, but tax revenues to the budget limit this positive impact.

Aliyev and Mikailov (2016) studied the impact of different types of government spending on the non-oil sector, found that capital and other spending have a negative, and social spending has a positive and statistically significant impact on the growth of the non-oil economy.

Mukhtarov et al. (2019) found that bank loans and the exchange rate in the long-run have a positive and statistically significant impact on the development of the non-oil sector in Azerbaijan.

Mukhtarov et al. (2020) showed that oil prices in Azerbaijan positively affect economic growth, exports, and inflation but negatively reflected in the exchange rate.

Humbatova et al. (2019) investigated the dependence of GDP, NDP, CPI, exchange rate, and other macroeconomic indicators on oil prices, identifying complex regression relationships between them in Azerbaijan.

Dehning et al. (2016) assessed the impact of government spending in Azerbaijan before and after the oil boom and concluded that the impact of budget spending before the oil boom was positive and statistically significant, and after the oil boom, this influence significantly weakened.

A comparison of the results obtained allows us to conclude that protectionist measures in Azerbaijan have not yet yielded the desired result. The reason for this situation may be the following:

- regulatory measures do not have sufficient purposefulness and precise targeting;
- shortcomings in the consistency of protective and supporting measures in the non-oil economy;
- lack of a clear mechanism for monitoring the results of regulation.
CONCLUSION

The study showed that customs revenues and exchange rates (depreciation of AZN against USD) has not a positive effect on the growth of Azerbaijan’s non-oil economy. And the absence of such influence allows us to draw two conclusions: the influence of protective measures is not yet sufficient or adequate for domestic production development; Azerbaijan’s non-oil sector of the economy does not yet have sufficient potential for an appropriate and quick response. In this context, one can argue that customs tariffs and taxes in Azerbaijan are more fiscal than regulatory. Azerbaijan’s currency policy is more effective in ensuring macroeconomic stability.

The article is the first attempt to assess the impact of customs revenue and the exchange rate on developing the Azerbaijani non-oil economy.

On the other hand, studies of certain non-resource sector reactions to government protective measures could shed more light on the effectiveness problems of protectionism as a tool to support domestic production. Such studies can also provide new ideas for improving the targeting, consistency, effectiveness, and efficiency of protective government regulations. Furthermore, studies assessing the level of internal competition, linking supportive and protective measures to productivity gains, targeted education, transparency, and focus in public procurement (including in state-owned enterprises) may reveal deeper reasons for the low effectiveness of supportive measures.

AUTHOR CONTRIBUTIONS

Conceptualization: Ilgar Seyfullayev.
Data curation: Ilgar Seyfullayev.
Formal analysis: Ilgar Seyfullayev.
Funding acquisition: Ilgar Seyfullayev.
Investigation: Ilgar Seyfullayev.
Methodology: Ilgar Seyfullayev.
Project administration: Ilgar Seyfullayev.
Resources: Ilgar Seyfullayev.
Software: Ilgar Seyfullayev.
Supervision: Ilgar Seyfullayev.
Validation: Ilgar Seyfullayev.
Visualization: Ilgar Seyfullayev.
Writing – original draft: Ilgar Seyfullayev.
Writing – review & editing: Ilgar Seyfullayev.

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