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Oil shock in the Caspian Basin: Diversification policy and subsidized economies

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ABSTRACT

The recent oil price shocks of 2014 resulted in a substantial economic slowdown in the oil-exporting countries of the Caspian Basin, namely Russia, Kazakhstan and Azerbaijan. These resource-reliant countries have encountered a contraction not only in the commodity sector, but also in the non-oil sector due to poor diversification of the economy, and cuts in budget expenditure amid plunging oil prices. By analyzing the underlying causes of the current crisis, this paper concludes that, the economies of these countries are "*subsidized economies*", or based on government spending financed by resource windfalls. The non-resource sectors in these oil-exporting countries were poorly developed prior to the crisis and failed to act as an avenue for diversification, lacking the potential to be export-oriented and sustainable. Russia, Kazakhstan, and Azerbaijan need to implement various reforms to support the diversification of the economy, including liberal measures such as eliminating barriers to market entry and promoting competition.

1. Introduction

The oil price slump in the second half of 2014 occurred after five years of relative stability, and resource-reliant countries worldwide encountered substantial economic slowdown driven by the deterioration of the terms of trade. The oil exporting countries of the Caspian Basin, namely Azerbaijan, Kazakhstan, and Russia, also saw their current account balances weakened as the average oil prices dropped by 47% to $51 in 2015 (World Bank, 2016a). Consequently, export receipts and government revenues declined, and sharp devaluations of the respective national currencies were inevitable in these countries following the depletion of foreign exchange reserves.

This paper studies the underlying causes of the recent economic slowdown in the post-Soviet region by analyzing the cases of Azerbaijan, Kazakhstan, and Russia. For this purpose, dynamics of major economic indicators are analytically assessed and relevant data are collected to explore the drivers behind the current crisis. It was found that all three countries failed to achieve a diversified economy in terms of both domestic and export markets prior to the plunging oil price.

These Caspian Basin countries have consistently been ranked among the most corrupt countries in the world by Transparency International (2016). It should be noted that, despite rampant corruption and rent-seeking practices, all three were able to sustain high economic growth. During 2003–2008 all three resource-rich countries grew at an average rate of around 10% annually, but their growth was mainly driven by high commodity prices (Esanov, 2012). Plunging oil prices in June of 2014 triggered subsequent currency devaluations in these countries.

This paper argues that the underlying cause of recent economic slowdown in the resource-abundant Caspian Basin countries was heavy reliance on resource windfalls to finance government expenditure and to invest in non-resource tradable sectors. Moreover, non-oil growth dependency on the international crude oil price hampered the achievement of a diversified economy in these countries. The funds directed to infrastructure spending failed to bring about a competitive or self-sustaining non-oil sector, capable of generating a compatible value added. Consequently, non-resource tradable sectors became dependent on resource revenues, providing a poor avenue for diversification. That is to say, non-oil sectors fell short of significantly contributing to national output and demonstrating competitive export potential.

The sanctions imposed on the Russian Federation were significant blow to its economy and is considered one of the key causes of economic slowdown. Moreover, these sanctions also did not pass by Azerbaijan and Kazakhstan, major trade partners of Russia. But this paper mainly concentrates on resource-dependence of government expenditures in explaining the oil shock.

It should be underlined that, since the economy was based on public spending in the Caspian Basin during the boom period, the oil price shock deprived the governments of their major source of funding for the

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already existing *"subsidized economy"*. Thus, Azerbaijan, Kazakhstan, and Russia formed a *"supply-based economy"* reliant on government expenditure both in the short term as government consumption expenditure, and in the long term as gross capital formation. The failure to achieve a diversified economy can also be attributed to poor diversification of infrastructure investment under budget expenditures.

The paper is organized as follows: Literature Review includes an overview of recent literature on economic diversification, currency crises and oil shocks in Azerbaijan, Kazakhstan, and Russia; the next section titled as "Measuring Diversification" assesses the level of both export and economic diversification in these countries using Herfindahl-Hirschman index and Concentration Ratios (CR_n); the fourth section on "Oil Shock in Caspian Basin and Subsidized Economies" includes the cases of each three countries by discussing the main trends in several major macroeconomic variables before oil shock and their current state. Main findings for each country is presented here; fifth section covers concluding remarks of the study.

2. Literature review

This section includes an overview of recent literature on economic diversification and encountered devaluations in Azerbaijan, Kazakhstan, and Russia. The reports published by the Revenue Watch Institute (RWI) provide an insightful analysis on economic diversification in these countries. To start with, the RWI report by Heuty (2012) emphasizes that Russia needs to change its approach to managing resource revenues to achieve economic diversification. The Russian economy resembles a "*Potemkin façade*", as resource windfalls make the situation appear better than it actually is. Moreover, ad-hoc changes to the budget should be avoided and government expenditure should be in line with the medium and long-term development strategy supporting a more diversified economy.

The underlying causes and consequences of the currency crisis and the outcomes of the recent devaluation in Russia were analyzed by Rodionov et al. (2015) and Mironov (2015). According to them, the slowdown in economic growth, plunge in oil prices, and speculative attacks on the national currency amidst the Ukraine conflict should be considered major drivers of the resulting devaluation of the ruble. The latter also underlines the significant structural problems in the economy. In other words, structural challenges are still pervasive, and must be overcome in order to alleviate the potential threat of devaluation.

Some studies recognize the impact of the 2014 economic crisis in Russia on Central Asia (Schenkkan, 2015; World Bank, 2015a), via a close link to the Russian ruble. Hence, further potential devaluations could have a destabilizing effect on Central Asia.

Economic diversification efforts in Kazakhstan and its current state were studied in Felipe (2015) and Esanov (2012). Diversification is stated to be a major challenge to ensure economic transformation in Kazakhstan, as the country is vulnerable to declining commodity prices. Esanov (2012) states that the Kazakh government relied greatly upon the East Asian experience in designing its economic diversification scheme, and the failure of sufficient consideration to country-specific factors explains why the country failed to meet its intended diversification goals.

Though Kazakhstan and Azerbaijan were able to maintain macroeconomic stability, diversification efforts in both countries proved to be mostly futile. The underlying reasons for achieving sufficient economic diversification vary owing to differences in policy design, implementation, and the degree of commitment by government. Similarly, Bayramov et al. (2011) study the managing of oil revenues in Azerbaijan and argue that detrimental institutional quality undermined effective and efficient management of resource windfalls in the country.

The relationship between export diversification and currency devaluation in Azerbaijan was assessed by Bahmani-Oskooee and Jamilov (2014), and the results dictate that non-oil exports respond positively to a depreciated manat. Notwithstanding, their research is based on only export diversification and product diversification, and therefore should not be generalized in the face of slight implications for economic diversification policies. Furthermore, Aslanli et al. (2013) use the Herfindahl Index to assess economic diversification in Azerbaijan by calculating the value-added created by each sector, but do not explain empirically the factors affecting the trend of this indicator.

The underlying reasons of for ineffective economic diversification in Azerbaijan is identified as poor governance, lack of strategic approaches, and restricted involvement of social actors in the process (Aslanli et al., 2013). Similarly, Esanov (2012) states that, Azerbaijan needs to design a feasible diversification scheme, invest in its human capital, and overcome prevailing institutional barriers to ensure a more diversified economy.

3. Measuring diversification

3.1. Export diversification

In this section, the diversification level of the Caspian Basin countries is measured using a diversification index both for assessing the extent of export diversification and economic diversification. The Herfindahl-Hirschman index (HHI) is used to measure export diversification and lies between 0 and 1, with lower values pointing to higher diversification. HI is calculated by summing the squared shares of various categories of exports, thereby, ***s*** is the share of ***i***th industry in total exports.

$$HHI = \sum_{i=1}^{N} s_i^2 \tag{1}$$

The shares of eight product categories based on the Standard International Trade Classification (SITC) in total exports is used for each country to compute the index. These product categories include: agricultural raw materials, chemical, food, fuel, machinery and transport equipment, manufactures; ores and metals; textiles. In advanced economies the HHI is reported to be lower than 0.05 due to a diversified distribution of products in total exports, while the values higher than 0.4 signal a higher concentration in this regard (Chandra et al., 2007).

As can be seen from Fig. 1, all three resource-rich countries are highly dependent on their mineral exports, which is manifested through higher values of HHI diversification index. The value of this index hovered around 0.4 both in Russia and Kazakhstan until the 2014 oil crash, indicating poor diversification of exports, and no considerable shift is recorded in this respect. Azerbaijan demonstrates the highest reliance on minerals concerning to its exports, as HHI exceeds 0.8 during the period between Global Financial Crisis and the recent oil shock, revealing an alarming level of resource-dependence and very poor diversification in the country. It should be underlined that, despite being a high priority of the Kazakh government, the exports structure reported worsening diversification when commodity prices were high. Only the recent oil shock led to the share of minerals shrinking in 2015 in Kazakhstan.

Mineral fuels, lubricants and related materials constitute the largest share in total exports in all three resource-abundant countries (Azerbaijan-92.5%; Kazakhstan-68.5%; Russian Federation-70.5% in 2014) (Federal State Statistics Service of Russian Federation, 2016a; Statistical Office of Kazakhstan, 2017; Statistical Committee of the Republic of Azerbaijan, 2017a). The following product groups account for relatively smaller shares in their export structures. For example, in Kazakhstan and Azerbaijan the rest of the product groups fall under 5%, while in Russia only chemical products are reported to exceed this threshold (5.9% in 2014).

Moreover, to provide robustness checks, the Concentration Ratio (CR) of top four export groups is calculated for all three countries. This ratio is considered a relatively simple measure of diversification and calculated by summing up the shares of top product categories as