Capital mobility in the Caucasus

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This paper examines the degree of capital mobility in the countries of the Caucasus. I estimate a simple model developed in the seminal paper by Feldstein and Horioka (1980). I construct a panel of 6 countries of the Caucasus – Armenia, Azerbaijan, Georgia, Kazakhstan, Russia, and Turkey – and employ a panel cointegration approach. To that end, I make use of the Dynamic OLS (DOLS), Fully Modified OLS (FMOLS), and Pooled Mean Group (PMG) techniques for heterogeneous panels. Preliminary cross-dependency tests reject the presence of cross-sectional dependence. Panel unit root and cointegration tests confirm that investment and saving are non-stationary and cointegrated. The estimated long-run saving retention ratios using DOLS, FMOLS, and PMG are 0.90, 0.73, and 0.83, respectively. These results suggest that capital mobility in the Caucasus is very low. I put these findings in an international context and confirm that the Caucasus is considerably financially restrained compared to other regions. I also look at the country ratings of the Index of Economic Freedom (IEF) and find that my results work well in predicting the IEF rank. Finally, I discuss some implications for the region’s policy-relevant issues such as financial integration, human capital mobility, cross-border trading, fiscal and monetary policy, solvency management, responsive consumption smoothing, and recession resistance.

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1. Introduction

Capital mobility, especially in the case of developing countries, is a valuable area of research – particularly from the practical point of view. The degree of capital mobility sheds light on the historical “policy trilemma” – the choice between monetary independence, capital mobility, and exchange rate

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stability. With concrete practical relevance, capital mobility is important for determining the optimal fiscal and monetary policy (Mundell, 1968), managing the exchange rate (Levich, 1985), setting the tax induced by inflation (Easterly et al., 1995), and for numerous other purposes as well.

There are multiple ways in which capital mobility can be estimated. Caprio and David (1984), Penati and Dooley (1984), Obstfeld (1986), and Calvo et al. (1992) have suggested a simple method of analyzing the aggregate values of capital flows. Others, such as Haque and Montiel (1991), Faruqee (1991), and Reisen and Yeches (1991), claimed that a good methodology for capital mobility estimation is the uncovered interest parity formula. The chief proposition of this method is that expected returns from domestic and foreign assets are equalized via the inter-border arbitrage.

Another approach, and the one which I will adopt in this paper, is the Feldstein and Horioka (1980) assertion that a good measurement for capital mobility can be the interplay between domestic investment and saving. The logic behind the Feldstein–Horioka (FH) model is that for a small open economy which is very strongly integrated with the international financial markets, the correlation between domestic investment and saving rates will be minimal, if not completely zero. This occurs because regardless of how much the population decides to save, investment rates are determined on the global markets and are “imported” home.

More broadly speaking, an economy for which there exists a perfect co-variation between aggregate investment and saving does not exhibit signs of capital mobility because the country seems to be investing only the capital which has been accumulated within its own borders. If there is a substantial gap between domestic investment and saving, then the country is allowing capital to flow in from abroad, permitting the accounting mismatch. Of course, in a very long run, it is fiscally impossible to continue to maintain that gap, since nations must meet the basic solvency constraint. However, over specific periods of time, it is interesting to observe whether certain countries or regions show any significant tendencies toward capital mobility or financial closeness.

In general, the discussion on saving and investment is important in its own right, even if I discard the capital mobility prism. There is little doubt in the conventional belief that domestic saving is an important factor of economic growth. Even the most basic of all economic growth models show that decreasing saving rates have a negative effect on the gross domestic product. The theoretical relationship between saving and growth builds on the long-run congruence of the investment and saving rates. Rising domestic saving improves the investment climate, which in turn spurs the financial dynamic and ultimately leads to higher income growth. A natural response, therefore, is to try to estimate the relationship between saving and investment. Not only for the sole purposes of description and observation, but in order to derive important policy-relevant recommendations and implications.

This paper will compute the saving–investment relationship, as a measurement of capital mobility, for six countries of the Caucasus. These are Azerbaijan, Armenia, Georgia, Russia, Kazakhstan, and Turkey. Although Turkey is sometimes geographically excluded from the Caucasus, its economic ties to the region are substantial enough for me to decide to include it in this analysis. To some extent, the same logic applies to the inclusion of Russia and Kazakhstan. While Azerbaijan, Armenia, and Georgia constitute the Caucasian “core”, often referred to as the “Southern Caucasus”, I wish to extend the discussion by bringing Russia, Kazakhstan, and Turkey (all with significant economic ties with the region) into the picture.

The Feldstein–Horioka model has been estimated very extensively, using a plethora of various econometric methods, with datasets ranging from OECD countries to the sub-Saharan states. The model itself is quite straightforward and takes the form of the following regression equation:

\[ \frac{I}{Y}_t = \beta_0 + \beta_1 \frac{S}{Y}_t + \varepsilon_t \]  

in which \( I/Y \) is the ratio of aggregate domestic investment over GDP, \( S/Y \) is ratio of aggregate domestic saving over GDP, and \( \varepsilon_t \) is the error term.

The purpose of the FH regression is to estimate the saving retention ratio \( -\beta_1 \). In an extreme case of complete financial autarky, the coefficient is equal to unity. This scenario implies that all investment that occurs in the country of discussion comes from domestically accumulated savings, as no capital at all arrives from abroad. In an alternative extreme case of perfect capital mobility, the coefficient would
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