



The link between trade openness, export diversification, institutions and output volatility in transition countries



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ABSTRACT

This paper investigates the role of trade openness, export diversification and institutions as potential predictors of output volatility in 25 transition economies in the period 1996–2010. Our results suggest that diversification may not attenuate the output volatility effects of openness for transition countries already at medium or higher levels of diversification, but nonetheless may have this effect at lower levels of diversification. Further, while inflation volatility and conflict both increase output volatility, better political institutions contribute to output stability in transition countries. In addition, we find that differences between diversification at the export margins are not just conceptual, but also substantive: the effect of openness is conditional on export diversification at the intensive margin but not at the extensive margin. These findings are robust to different assumptions regarding the potential endogeneity of openness and institutional quality as well as to alternative proxies for institutions and output volatility and additional control variables.

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1. Introduction

While the growth prospects of transition economies have been investigated in the literature, the volatility of output has attracted little attention. This paper analyses a panel of annual data (1996–2010) from 25 transition countries to contribute the first empirical analysis of the trade and institutional determinants of output volatility in the context of transition. Negative effects of output volatility in the forms of decreased economic growth (Martin and Rogers, 2000; Imbs, 2007), lower private investment in human capital (Aizenman and Marion, 1999; Hnatkovska and Loayza, 2005) and increased income inequality (Hausmann and Gavin, 1996) are held to widen the differences in economic development between developed and developing countries and to contribute to a persistent development gap. Moreover, output volatility may have particularly adverse effects on the poor. Lower investment in human capital increases income inequality, especially among low-income individuals. Poorer households face larger credit constraints and can rely only on very limited private funds for education purposes (Aizenman and Pinto, 2005). Moreover, volatility increases poverty by leaving individuals without liquid assets for

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consumption even if it has no effect on growth. However, a different strand in the literature highlights the positive effects of volatility. The growth-cycle literature suggests that recession might reduce the opportunity cost of research (Aghion and Saint-Paul, 1991) and drive out inefficient firms from the market (Caballero and Hammour, 1994), which is likely to support technological changes and economic growth. In spite of these different perspectives, the aim of this paper is not to assess the costs and benefits of volatility but rather to achieve a better understanding of the determinants of volatility in the context of transition.

Some authors argue that developing countries have substantially larger volatility than developed ones (Hakura, 2009). In both developing and emerging countries, volatility is mainly the consequence of external shocks (Reinhart and Rogoff, 2009, 2014). External shocks take the basic forms of trade shocks and international capital flow shocks. Trade is becoming an important transmission mechanism of external shocks throughout the world economy, especially in developing countries. These countries usually concentrate their exports in a small number of sectors, particularly volatile sectors, which exposes them to greater risk and uncertainties. Such concentration makes them more vulnerable to external shocks and thus induces greater volatility. Therefore, export diversification should alleviate the volatility effects of external shocks. Furthermore, developing and transition countries are characterised by poorly developed financial markets and weak monetary and fiscal policy, which lower the capacity to hedge against volatility compared to developed countries. Hence, they are facing more serious economic consequences from volatility compared to developed countries (Jansen et al., 2009). However, diversification of the sectoral composition of the economy may enhance the development of financial markets and decrease uncertainty in the economy. Considering all of this, it is important to discover which policy measures should be used to promote diversification and thus reduce volatility.

Countries in transition are particularly susceptible to output volatility. At the economic level, transition is a process of radical restructuring. Unless the Schumpeterian output and employment effects of destruction and creation were to be continuously in balance, a corollary of growth-enhancing restructuring is corresponding output volatility, even at the aggregate level. In particular, transition encompasses increasing openness. Yet unless the decline of import-competing industries is exactly offset by the rise of exporting industries, increased openness not only enhances growth but also increases output volatility. In this investigation, we also highlight the diversification of production and export lines. The literature suggests that diversification may influence output volatility not only *directly*, in its own right, but also *indirectly*, by moderating the influence of openness.

This paper also contributes to the small literature analyzing output volatility by estimating fixed effects panel models not only by ordinary least squares (OLS) but also by the general method of moments (GMM) system approach. GMM estimation is particularly appropriate for panel models, because this approach enables us to address the possibility that openness is potentially endogenous without recourse to “external” instruments. The potential endogeneity of openness may arise because both openness and output volatility are jointly determined as aspects of a broader restructuring process under transition. However, to the extent that the transition process in each country is conditioned by unobserved factors that are either time invariant (such as the particular initial conditions) or at least “slowly moving” (such as the degree of national consensus and the quality of policymaking), we address the potential endogeneity of openness by estimating the determinants of output volatility conditional on country fixed effects. The possibility that openness is potentially endogenous to output volatility because of simultaneity is much weaker. Nonetheless, we allow for this possibility by using system GMM estimation to exploit the “internal” instruments made available by the time-series depth of our panel data. The same approach is used to address the potential endogeneity of our measure of institutional quality.

2. Literature review

Before the latest financial and economic crisis, only a few studies focused on volatility. The crisis opens up the question as to how to manage volatility (Haddad and Shepherd, 2011). Hence, the sources of volatility need to be understood. Volatility of output is primarily related to shocks that hit the economy. According to Cavallo (2008), the shocks could be domestic or external in origin and, in the case of external shocks, transmitted through trade and/or financial channels. Our investigation focuses on trade shocks, which are the primary external source of shocks to transition economies (see Section 2.1 below). Since trade openness exposes countries to trade shocks, we will explore the effects it has on output volatility together with strategies for moderating such effects.

While the literature examines the relationship between openness and growth in detail, the openness and growth volatility relation has not been completely clarified (Haddad et al., 2013). Although many studies investigate the trade openness–volatility relationship (Easterly et al., 2001; Calderón et al., 2005; Cavallo, 2008; Jansen et al., 2009; Malik and Temple, 2009; Haddad et al., 2013), openness remains the most controversial of all volatility determinants. It is well-known that trade exposes countries to external shocks (Jansen et al., 2009; Di Giovanni and Levchenko, 2009) and that external shocks are a source of macroeconomic volatility (Easterly et al., 2001; Kose et al., 2003), yet greater openness decreases the sensitivity to internally induced shocks (such as domestic demand shortage), as more open sectors are less correlated with the rest of the home economy.

Di Giovanni and Levchenko (2009) find two possible effects of openness on volatility: on the one hand, openness is correlated with sector volatility and export specialization (*volatility-enhancing effect*); on the other, trade could have a

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