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# Real exchange rate dynamics in transition economies

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#### Abstract

The paper analyzes the phenomenon of real exchange rate appreciation that has characterized transition economies. It is shown that the real exchange rate—measured as the relative price of tradables in terms of non-tradables—is affected by adverse initial conditions and structural reforms only in the first 5 years of the transition process. After that period, the so-called Balassa–Samuelson effect seems to dominate the real exchange rate determination. The paper discusses the implications for exchange rate policy and concludes that while for countries of the former Soviet Union a flexible exchange rate regime seems desirable, for Central and Eastern Europe countries a stable exchange rate and even an early move to the adoption of the euro should be considered. © 2003 Elsevier B.V. All rights reserved.

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### 1. Introduction

In spite of the importance that real exchange rates have attained in policy discussions, there are only few attempts to analyze empirically the forces behind real exchange rate behavior in transition economies<sup>1</sup>. The works by Halpern and Wyplosz (1996), Krajnyak and Zettelmeyer (1998) and Richards and Tersman (1996) provide a noteworthy exception, which calls for further research in this direction. Transition has brought about important

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<sup>&</sup>lt;sup>1</sup> The research on the behavior of the real exchange rate in developing countries is summarized in Edwards (1989, 1994), Aghevli et al. (1991) and Hinkle and Montiel (1999).

changes in production and productivity, and these changes should also influence the equilibrium exchange rate. The evidence suggests that the experience of all transition economies with respect to productivity growth, trade liberalization, and capital inflows has not been the same. By contrast, real exchange rates in transition countries have followed similar paths (Brada, 1998; Drabek and Brada, 1998).

Despite such similar paths, it is useful to ask whether the initially distorted economic environment in these economies have played any role in determining the real exchange rate behavior since the beginning of the transition process. Also, one should ask whether the real exchange rate path in transition economies was indeed determined only by supply side factors, such as the productivity differential known as the Balassa–Samuelson effect, or by demand factors, such as the increased demand for non-tradables, which were previously not available on the market in transition economies, or by changed government consumption, which as a result of market reform now redirected its final destination to the market for non-tradables.

Recent studies on the behavior of the real exchange rate in transition economies support the argument for using the productivity approach to explain the trend appreciation of the real exchange rate in transition economies. There is a vast potential for gains in productivity in transition economies both through more efficient use of existing resources and technologies and through upgrading technology. However, this approach should also take into account the initial conditions in transition economies at the beginning of reforms. Decades of central planning have resulted in distorted structures of these economies. The emphasis of central planners on material production gave to industry an overwhelming weight in the composition of output, while services were largely neglected. The structure of the economy was reflected in distorted price levels as empirical studies on price development in transition economies indicate. Transition and the introduction of market-determined prices along with other market-enhancing reforms have brought about massive changes in output, employment, and last but not least, in relative prices. In this paper we try to disentangle the pure Balassa–Samuelson effect from the transition effects associated with the reallocation of labor across sectors.

The aim of this paper is to present a model for a real exchange rate determination in transition economies and verify it empirically. Section 2 contains a simple characterization of the relative price of non-tradable in terms of tradable under central planning. It is argued that the central plan determined relative prices and the labor market in such a way that it was inevitable for the real exchange rate to appreciate once the structural reforms in transition economies began. Section 3 incorporates the characteristics of the pre-transition period into a model of real exchange rate determination based on the productivity approach to the real exchange rate. It is shown that differentials between labor productivity in the tradable and non-tradable sector, private demand for non-tradable goods, real government consumption, and structural reforms implemented to correct for distortions inherited from the pre-transition period of central planning, negatively affect the real exchange rate, and as such, contribute to the real exchange rate appreciation. Section 4 describes data and outlines the econometric approach used in the empirical part of this paper. Section 5 presents key results and conducts some specification tests. Empirical findings seem to confirm that transition—when looking only at the real exchange rate behavior—is over once the progress in structural reforms does not affect the real exchange rate determination relative to other factors. In other words, it is shown that structural reforms affect the level of real exchange

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