Collateral damage: Dollar strength and emerging markets' growth

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ABSTRACT

We document a negative relation between the strength of the U.S. dollar and emerging markets' growth: when the dollar is strong, emerging markets' real GDP growth decreases—and vice versa. The main transmission channel is through (i) an income effect owing to the impact of the dollar on global commodity prices, and (ii) capital/production-inputs imports. As the dollar strengthens, dollar-commodity prices fall, depressing domestic demand growth via lower dollar income, thus reducing emerging markets' growth. Domestic demand decelerates in countries relying on importing capital/inputs for domestic production, as their cost increases when their currencies weaken, despite any expansionary expenditure-switching effect.

1. Introduction

We document the existence of a negative relation between the strength of the U.S. dollar and growth in emerging market over the last half century. Specifically, we show that, at least since 1970, during periods of a strong U.S. dollar, emerging markets' real GDP growth decreases—and vice versa. The main transmission channel is through (i) an income effect owing to the impact of the U.S. dollar on global commodity prices, and (ii) imports of capital or production inputs.[1] As the dollar strengthens, dollar-commodity prices fall. In turn, weaker commodity prices lower real (dollar) income, reducing domestic demand and real GDP growth in emerging markets and developing countries. Domestic demand growth also slows in countries that rely on importing capital or inputs for domestic production—as the cost of importing capital and inputs increases when their currencies weaken against the U.S. dollar. The above effects hold despite any expansionary expenditure-switching effect of weaker emerging market economies' currencies as the dollar strengthens.

We also document that despite controlling for the effects of a stronger U.S. dollar and faster real GDP growth, higher U.S. interest rates further reduce growth in emerging markets.[2] Therefore, at the time of writing, emerging markets' growth is likely to remain subdued for some time reflecting, in part, the expected persistence of the strong dollar and the ongoing normalization of U.S. monetary policy.

Why the U.S. real effective exchange rate? One the one hand, this is an exogenous variable for emerging markets. On the other hand, most international transactions are priced in U.S. dollars, including commodity prices and countries' real GDP. Moreover, most emerging markets do not affect the U.S. multilateral exchange rate. Thus, developments in the United States do affect emerging markets, but not vice versa.[3] Further, U.S. macroeconomic policy is independent of less developed countries' policies, which suggests

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[1] Although not necessarily the only transmission channel. Some countries are not net commodity exporters. For the latter, either other income effects (such as remittances and trade) could play a role. Many emerging markets might benefit from a stronger growth in the U.S. and for most emerging markets, monetary policy in U.S. impacts on the cost of international financing costs. We elaborate on these below.

[2] For example, owing to higher international borrowing costs.

[3] Calvo, Lederman, and Reinhart (1993, 1996) discuss the relevance of push over pull factors to emerging markets.
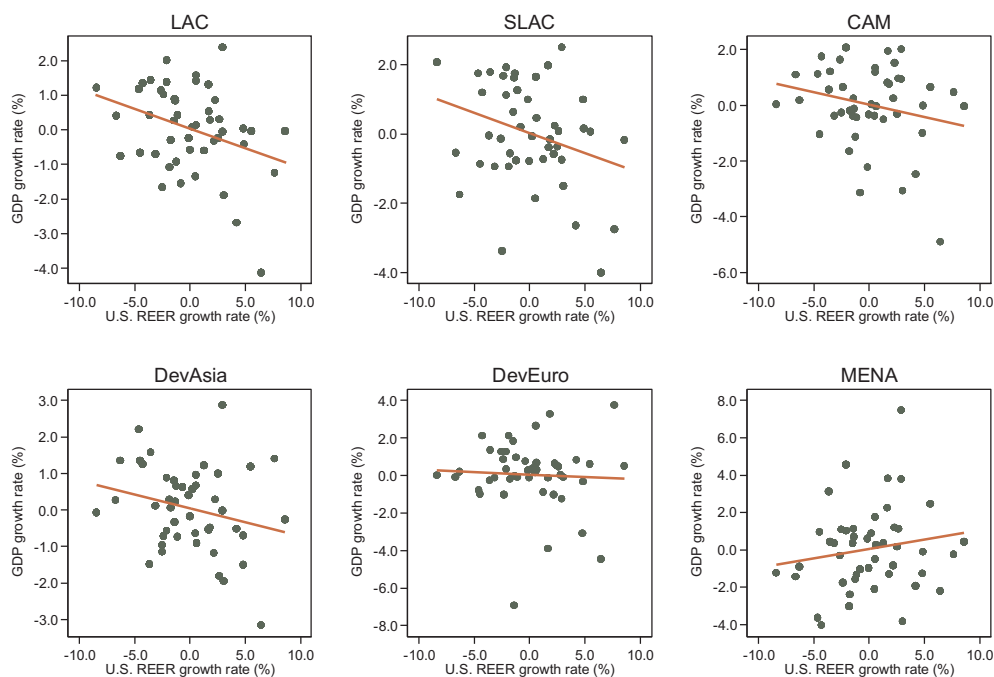
Fig. 1. Panel A. Real GDP growth and the strength of the U.S. dollar. Trend growth rates are based on filtering through the Christiano-Fitzgerald band-pass filer for cycles lasting between 2 and 8 years; annual data 1970–2016.

that the U.S. real exchange rate is likely to be as relevant as, and even possibly more exogenous than, the terms of trade. In fact, we show that the latter is true.[4]

Some related literature. Frenkel (1986) shows that U.S. monetary easing—usually related to a more depreciated U.S. dollar—results in higher commodity prices, and vice versa, providing theoretical support that the transmission channel suggested above can operate, for example, through commodity prices. Dornbusch (1986), Borensztein and Reinhart (1994), and Akram (2009) document that nominal and real commodity prices depend negatively on the U.S. real exchange rate. Zhang, Fang, Tsai, and Wei (2008) show that a stronger U.S. dollar lowers the real price of oil.

Engel and Hamilton (1990) have long ago documented the long swings in dollar values.[5] However, we are not aware of any systematic evidence of the link between the strength of the U.S. dollar and economic activity in emerging markets over the dollar cycle—less so of any study documenting the transmission channel. We try to bridge this gap in this paper.

The rest of the paper is organized as follows. The following section first present some descriptive evidence suggesting a negative relationship between the strength of the U.S. dollar and emerging markets output, domestic demand, and import demand growth. Then, it systematically identifies U.S. dollar strong and weak phases of its. Section 3 tests these negative relations econometrically, while Section 4 concludes.

2. Preliminary evidence and U.S. Dollar cycles

2.1. Data and background

In this section, we document the impact of a stronger/weaker dollar on economic activity in less developed countries using annual data for 63 emerging market and developing economies spanning over the period 1970–2016.[6] To this end, first we present some basic correlations indicative of this association. Next, we identify U.S. dollar strong and weak phases using a Markov regime-switching framework.

We first document cross-section correlations of U.S. real effective exchange rate with real GDP growth, real domestic demand growth, and real demand for imports growth in emerging markets.[7]

Splitting emerging markets by regions (Fig. 1), we observe the negative relationship between the strength of the U.S. dollar and real activity growth for Latin America (LAC), emerging Asia (DevAsia), emerging Europe (DevEuro), and the Middle East and North

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[4] Furthermore, countries can at least temporarily affect their terms of trade through domestic policies such as trade restrictions, (see Galiani et al.), exchange rate policies, or monetary and fiscal policies.

[5] For a recent update see Chinn's (2015) Econobrowser piece.

[6] See the Appendix for a list of countries.

[7] The Appendix provides a detailed definition of the sources, data span, and definition of each of the variables.