

Abstract: This article focuses on dollarization, a situation in which a foreign currency (often the U.S. dollar) replaces a country's currency in performing one or more of the basic functions of money. The article discusses the distinction between official dollarization and endogenous dollarization, and the concepts of currency substitution and liability dollarization. Implications for monetary and exchange rate policy are emphasized.

Dollarization

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Thus in Ortiz (1983) the term dollarization refers to the widespread usage of U.S. dollars for transaction purposes in Mexico. More recently, Ize and Levy Yeyati (2003) use *financial dollarization* for episodes in which domestic financial contracts are denominated in dollars or another foreign currency.

In some countries, dollarization has been the outcome of official government policy. Recent examples are Ecuador and El Salvador, where the domestic currency was retired from circulation and the U.S. dollar became the official currency. An immediate implication of such *official dollarization* is that domestic prices of tradable goods are tied to world prices, so domestic inflation is closely related to U.S. inflation. Hence official dollarization has been advocated for countries suffering from chronic, high, and volatile inflation.

On the other side of the ledger, official dollarization implies the surrender of independent monetary policy, leaving only fiscal policy available as a stabilization tool. In addition, the domestic government gives up seigniorage, or the revenue from money creation, which accrues to the U.S. Federal Reserve. While both effects are widely regarded as costly for the domestic economy, their welfare implications depend on details about the policymaking process and, in particular, on whether the monetary authorities can credibly commit to implement optimal policy (see Chang and Velasco, 2002, for a discussion).

Finally, official dollarization implies that the domestic central bank is no longer available as a lender of last resort, which may be conducive to financial fragility and crises. Calvo (2005) argues, however, that last resort lending can be provided by alternative arrangements.

Impetus for official dollarization as a policy alternative was greatest at the turn of the millennium, as emerging economies had to cope with a sequence of financial and exchange rate crises while several European countries were getting rid of their national currencies in favor of the newly created Euro. Support for official dollarization appears to have subsided since, however.

More frequently, dollarization has emerged as a spontaneous response of domestic agents to inflation. The special case in which such a process has resulted in the dollar becoming a widespread medium of exchange is known as *currency substitution*. Currency substitution has been the subject of a large literature, much of it focused on the determinants of the relative demand for domestic vis a vis foreign currencies and on implications for monetary management. Early research followed Girton and Roper (1981) in postulating ad hoc aggregate demand functions for domestic and foreign currency, in the portfolio balance tradition. Somewhat later, Calvo (1985) derived similar demand functions from an optimizing model in which domestic and foreign currency entered the representative household's utility function. Those approaches emphasized the possibility that increasing substitutability between the domestic and the foreign currency would lead to monetary and exchange rate instability. However, they did not identify the basic determinants of substitutability, which was buried in the specification of the postulated demand function for foreign currency or the properties of the representative agent's utility function. Hence the early studies were of little use in understanding how to cure the ills associated with dollarization and, in particular, failed to trace the consequences of common policies designed to deal directly with currency substitution, such as outright prohibitions on the holdings of foreign currency.

Subsequent studies have attempted to address these shortcomings by modeling more explicitly the fundamental frictions underlying currency substitution. Thus Guidotti and Rodriguez (1992) developed a cash-in-advance model of currency substitution on the assumption that using foreign currency entailed fixed transaction costs, while Chang (1994) studied the implications of a similar assumption in an overlapping generations setting. These models still left unexplained where the assumed transactions costs were coming from. Therefore, the most recent work on this area models currency substitution entirely from first principles, in the search theoretic tradition (see, for instance, Craig and Waller, 2004).

Recent literature has turned attention to the increased use of the dollar as the currency of denomination of the debts of domestic residents in emerging economies, a problem that Calvo (2005) terms *liability dollarization*. A substantial degree of liability dollarization places an economy in a vulnerable situation, since presumably many of the agents with the dollar debts have assets denominated in domestic currency. Such a *currency mismatch* situation means that a depreciation of the domestic currency reduces the net worth of domestic agents. If, in turn, aggregate demand depends on net worth (as would be the case in the presence of financial imperfections), a currency depreciation may lead to a reduction in income and employment. In other words, liability dollarization may render depreciations contractionary, not expansionary as assumed by conventional analysis (Aghion, Bachetta and Banerjee, 2001; Cespedes, Chang and Velasco, 2004). The combination of liability dollarization and net worth effects has been blamed for the severity of the income and output contractions in recent emerging markets crises.

At this point, no consensus exists as to the causes of liability and financial dollarization, although research on this question is rather active. Ize and Levy Yeyati (2003), in particular, have examined the choice of currency denomination of assets and liabilities

from a Capital Asset Portfolio Model (CAPM) perspective, while Jeanne (2005) models liability dollarization as the private sector response to the lack of credibility in monetary policy. Finally, several studies estimate how measures of financial dollarization depend empirically on other characteristics of an economy. For example, Arteta (2005) has found that the dollarization of bank deposits is empirically more frequent in countries with higher degree of exchange rate flexibility.

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