Drivers of Financial Dollarization in Suriname

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Introduction

- Dollarization is a common feature of developing economies with a history of high inflation (Baliño et al, 1999) and can be defined as a portfolio shift away from domestic currency to foreign currency (Bogetic, 1999).
- Dollarization in Suriname emerged as a result of macroeconomic instability in the early eighties and continued, following the introduction of foreign currency deposits (1992) and loans (1995).
- With its acceleration since 2001, the country may have become one of the more highly dollarized economies in the region (Fritz-Krockow et al, 2009).

Objective

- The objective of this study is to determine if, or to what extent, dollarization theories hold in the small open Surinamese economy.
- The theories will be tested with respect to their validity in explaining financial dollarization in Suriname.
- The significance of these theories will be determined by testing associated indicators in two single equation models.

Financial dollarization

- Financial dollarization refers to deposit dollarization (foreign currency deposits as % of total bank deposits) and/or credit dollarization (foreign currency loans as % of total bank loans).
- Financial dollarization is considered high when exceeding 40 percent (Galindo & Liederman, 2005).

Literature review

- Theories explaining dollarization are:
- (1) Time inconsistency of monetary policy: This theory is based on the government's inclination to reduce the real value of its debt burden (Levy Yeyati, 2003) by monetizing fiscal deficits and eroding the value of money. Dollarization therefore ultimately reflects 'a lack of confidence in the sustainability of a monetary regime' (Ize & Parrado, 2002).
- (2) Small economy in a globalizing world: Countries that are more open to trade should be more dollarized, and dollarization should increase with trade integration (Ize & Levy Yeyati, 2003; Luca, 2002). Since smaller countries are likely to be more open, they are also likely to be more dollarized (Ize & Parrado, 2002).

Literature review (cont'd)

- (3) Increased confidence in the economy: When countries that have long been plagued by macroeconomic instability, show signs of improvement, often large amounts of foreign currency flow in (Menon, 2008).
- (4) Portfolio considerations: This theory assumes that economic agents also hold foreign currency assets and liabilities. In this regard, there is wide consensus that financial dollarization is a coping strategy to obtain insurance against surprise changes in domestic prices (Fernández-Arias, 2005).

Literature review (cont'd)

- (5) Risk miscalculation: Government warranties on the financial system stimulate the risk taking behavior of the private sector, resulting in excessive exchange rate positions. As the government covers the risk, it is not priced in the interest rate, and foreign currency credit is perceived as 'cheap' (Burnside et al, 2000).
- (6) Warranties: A (de facto) fixed exchange rate system can be considered a warranty that may give rise to the dollarization of credit under unstable macroeconomic conditions, especially since prudential regulation does not require that banks have more capital if they extend foreign currency credit to non-tradable borrowers (Broda & Levy Yeyati, 2003).

Literature review (cont'd)

- 7) Institutional changes: the relaxation of foreign exchange regimes (e.g. removal of foreign exchange surrender requirement), may also explain dollarization in small open developing economies with underdeveloped financial markets and a foreign exchange constraint. Incidentally, this theory is not mentioned in the literature, which is probably due to the fact that the dollarization literature is largely neoclassical in nature and therefore by implication market-oriented.

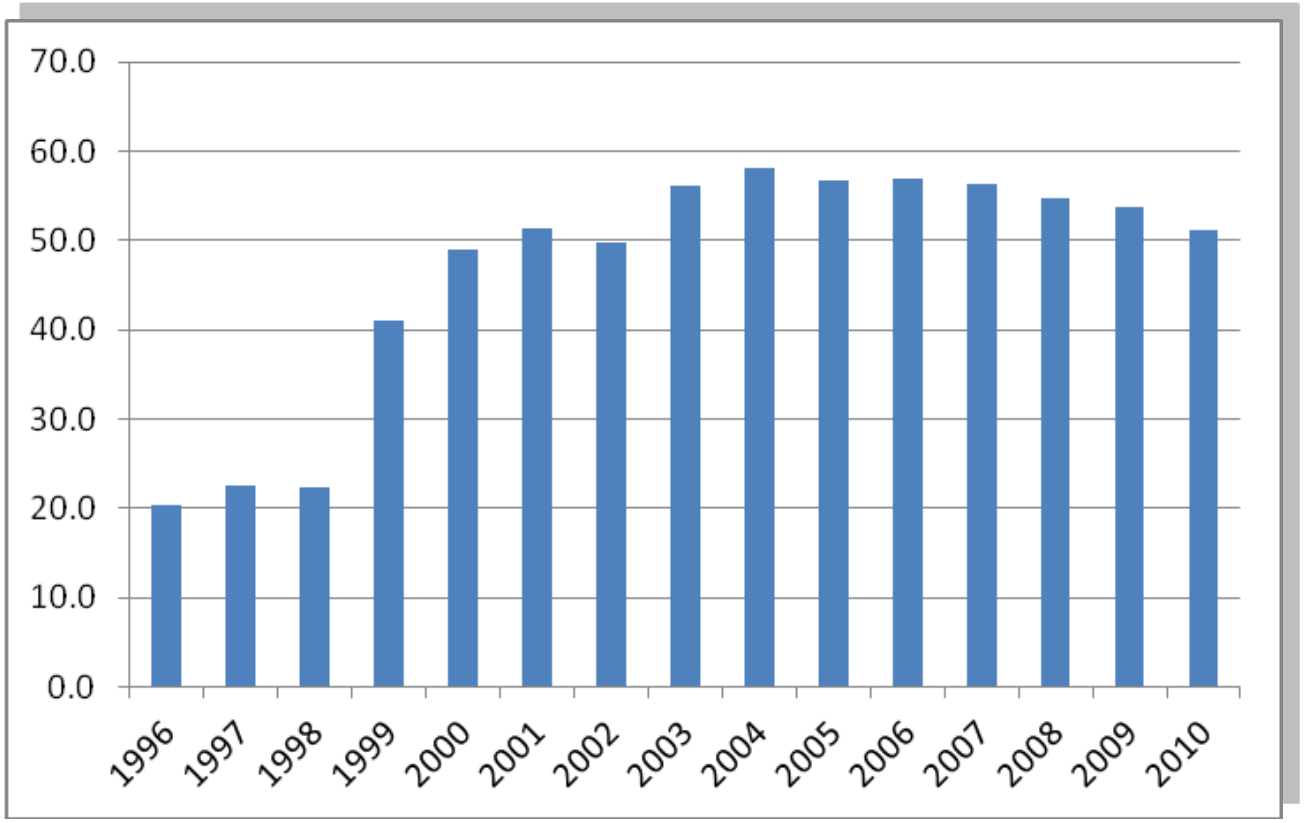
Financial system

- The financial system of Suriname is comprised of the Central Bank, 9 commercial banks, 14 insurance companies, 34 pension funds, 5 provision funds, 1 thrift fund, 28 credit unions and 12 other institutions. In addition, there are 26 licensed exchange offices.
- The commercial banks are the most important financial institutions, holding roughly 70 percent of the total assets of the financial sector.
- The banking sector is highly concentrated as the three largest banks account for more than 80 percent of total bank assets.
- One of these large banks is a subsidiary of a foreign bank. Another of the large banks is partially state-owned. Furthermore, there are three fully state-owned small commercial banks. Also, the government runs a fully-owned development bank.

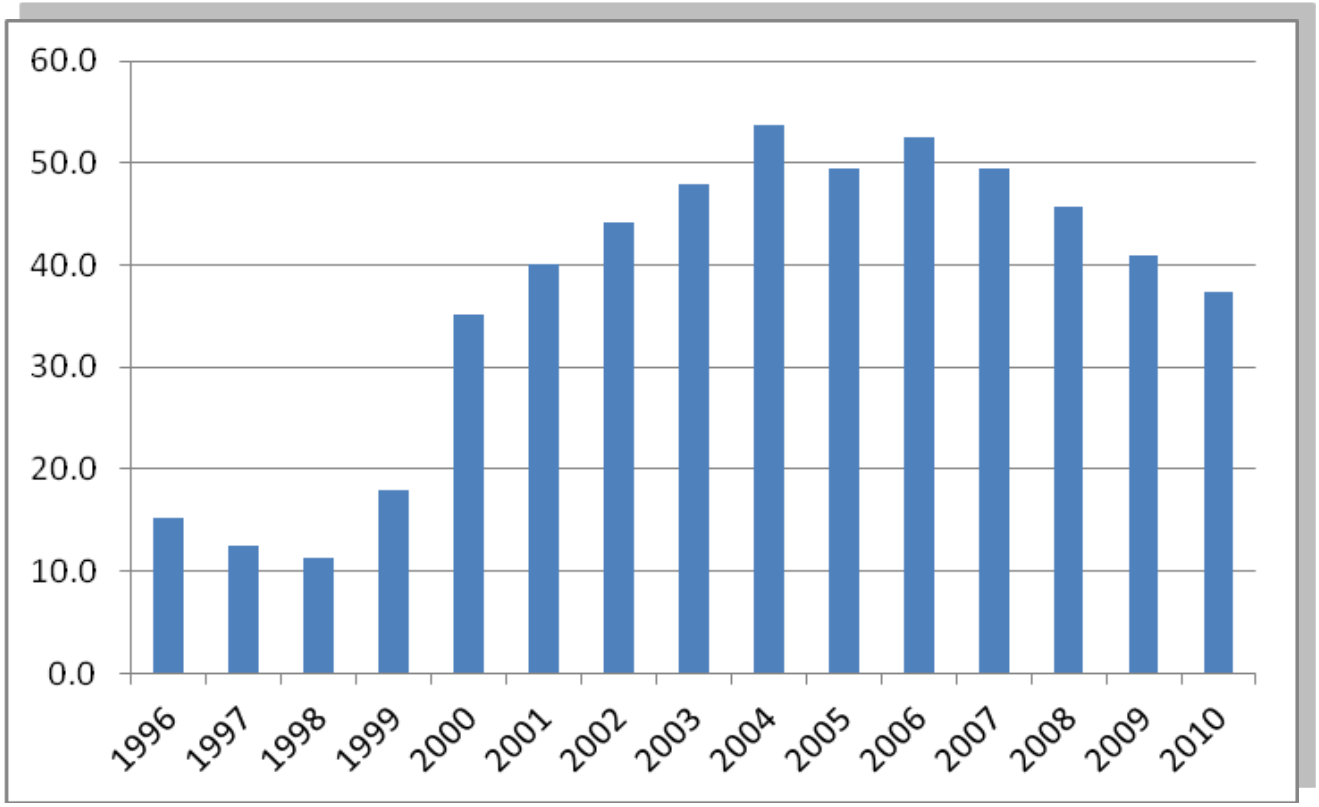
Macroeconomic developments

- Following more than a decade of severe macroeconomic imbalances as a result of expansionary fiscal and monetary policies in the 1980s and the beginning of the 1990s, a structural adjustment program (1992-1996) was implemented.
- In the 1990s sharp declines in the mining sector led to significant budget deficits, increased foreign debt, monetary financing and near-hyperinflation episodes.
- The average annual inflation rate was 83 percent during 1991-2003, accompanied by an exchange rate depreciation of 43 percent.
- In 2004, the currency was redenominated and the Surinamese dollar (SRD) was introduced. During 2004-2010 , the inflation performance improved markedly, resulting on average in single digit inflation and lower dollarization ratios.

Deposit dollarization
(in %)



Credit dollarization
(in %)



Model: DEPDOL

- $DEPDOL = f\,(CPI, GOX, XGDP, ECG, RDR)$
- $\qquad\qquad\qquad\quad +\quad +\quad +\quad +\quad -$

- $DEPDOL = \alpha + \beta_1 * CPI + \beta_2 * GOX + \beta_3 * XGDP + \beta_4 * ECG + \beta_5 * RDR + \varepsilon$
- where:
- CPI = consumer price index
- GOX = small-scale gold exports
- $XGDP$ = export-to-GDP ratio
- ECG = economic growth
- RDR = real deposit rate

Model: CREDOL

- $CREDOL = f\,(MDGP, LRD, OXR)$
- $\qquad\qquad\qquad\qquad + \qquad + \qquad -$

- $CREDOL = \alpha + \beta_1 * MGDP + \beta_2 * LRD + \beta_3 * OXR + \varepsilon$
- where:
- *MGDP* = import-to-GDP ratio
- *LRD* = lending rate differential
- *OXR* = official exchange rate

Data

- Even though dollarized deposits were introduced in 1992, and dollarized credit in 1995, reliable data regarding these financial variables only date back to1996.
- The basic data on bank deposits, bank credit, interest rates, exchange rates, imports and exports were taken from the data base of the Central Bank of Suriname .
- Figures on end-of-year inflation, GDP and economic growth were obtained from the General Bureau of Statistics.
- Deposit dollarization, credit dollarization, real interest rates, lending rate differentials and external sector scale variables based on GDP are calculated by the author.
- All data are on an annual basis over the period 1996-2010.

Unit root test results

DEPDOL Variables	KPSS	CREDOL Variables	KPSS
DEPDOL	0.447 *** **	CREDOL	0.410 *** **
CPI	0.598 ***	MGDP	0.327 *** ** *
GOX	0.528 ***	LRD	0.609 ***
XGDP	0.327 *** ** *	OXR	0.508 ***
ECG	0.349 *** **		
RDR	0.193 *** ** *		

Source: Author's calculation

Note: The 1%, 5% and 10% levels of significance are represented by ***, ** and * respectively.

Estimation procedure

- The KPSS test confirms that the variables of both equations are stationary.
- Since the stationary test results were positive, i.e. the data are integrated of order zero [I(0)], we continued with the estimation procedure using Ordinary Least Squares (OLS).
- The functional form of both equations is linear.

Results: DEPDOL

- In the estimation process of DEPDOL, the variables XGDP and ECG proved to be insignificant.

- The regression results are as follows (t-values in parenthesis):

- DEPDOL = 21.262 + 0.236*CPI – 0.051*GOX – 0.177*RDR
- (8.593) (10.186) (-5.145) (-2.363)
- R^2 = 0.924
- D-W = 2.601

- The residual diagnostics did not reveal signs of non-normality, heteroscedasticity or serial correlation.

Results: CREDOL

- In the estimation process of CREDOL, the variable MGDP proved to be insignificant.
- The regression results are as follows (t-values in parenthesis):
- CREDOL = 0.503*LRD + 15.996*OXR
- (3.708) (22.566)
- R^2 = 0.898
- D-W = 1.665
- The residual diagnostics did not reveal signs of non-normality, heteroscedasticity or serial correlation.

Conclusion

- Suriname is a highly dollarized economy as is reflected in relatively high degrees of deposit and credit dollarization.
- The initial cause of dollarization can be ascribed to large increases in the *consumer price index*, causing macroeconomic instability. As expected, the econometric results suggest that the price level is not only significant but also positively correlated to deposit dollarization.
- Institutional changes, such as the liberalization of the foreign exchange regime, have also played a role in the dollarization of the financial system. In this context, the value of *small-scale gold exports* indeed helps to explain deposit dollarization although not with the expected positive sign. This may be attributed to the fact that the regime changes did not occur until 2002 and stable monetary conditions since 2005 may have encouraged exporters to convert foreign exchange into local currency. In addition, there is evidence that export proceeds have only partially been transferred to Suriname in the period under consideration.

Conclusion (cont'd)

- Trade openness is a classic driver of dollarization in small economies due to the relatively large tradable sector which needs to maintain foreign currency balances to avoid exchange risk. However, due to Suriname's history of fixed exchange rates, the country was highly open long before the dollarization of the financial system. It therefore makes good sense that both the *export-to-GDP ratio* and the *import-to-GDP ratio* have failed to explain financial dollarization in Suriname.
- The indicator *economic growth* also proves to be insignificant in explaining deposit dollarization stemming from foreign direct investment and capital repatriation due to increased confidence in the economy. However, this result may have to do with the broadness of the chosen indicator.
- The *real deposit rate* on local currency deposits is significant and negatively correlated to deposit dollarization, as expected. After all, if there is a positive real return on local currency instruments, investors will be less inclined to flee into foreign currency.

Conclusion (cont'd)

- Of the three potential indicators to explain credit dollarization in Suriname, the *lending rate differential* and the *official exchange rate* proved to be significant with both coefficients carrying a positive sign. From the lending rate differential this was to be expected but if the exchange rate is assumed to function as a warranty, one would expect a negative correlation with credit dollarization. There is, however, evidence suggesting that the positive sign found must be attributed to currency devaluations having increased credit dollarization through valuation effects, thereby grossly overshadowing any volume effects of reduced foreign currency borrowing.
- Finally, based on the findings of this study, it would be prudent to address the drivers of financial dollarization through active dedollarization policies in order to reduce currency mismatches throughout the economy.

Thank you!