

ECONOMIC WATCH

International experiences of De-dollarization: What could be done in the Turkish case?

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Executive Summary

Financial dollarization exposes countries to shocks which can trigger severe financial and economic problems. In this note, we describe a few successful country experiences of de-dollarization according to the empirical literature. These include countries that have developed inflation-indexed instruments while attaining macroeconomic stability (Chile and Israel), countries which combined macroeconomic stability measures with macro-prudential ones (Peru and to a lesser extent Poland), successful experiences in public debt de-dollarization (Mexico) and countries introducing measures to curb corporates FX exposures despite the absence of a heavy dollarization (Indonesia).

A key lesson from these experiences is that macroeconomic stability and particularly price stability and low inflation is a pre-condition for starting a successful de-dollarization process; a necessary but not sufficient condition as some countries were unable to bring down dollarization even in a context of macroeconomic stability. Reducing dollarization requires comprehensive actions by the authorities combining macroeconomic and microeconomic policies to enhance the attractiveness of the local currency. Economic agents should internalise the dollarization costs of dollarization to voluntarily promote a shift to local currency transactions. Forced de-dollarization relying on financial repression forbidding the use of foreign currency and/or imposing a mandatory conversion of foreign currency into local have proven to be wrong policies and should therefore be avoided.

Some macro-prudential measures could complement the macroeconomic policies, (i) an active management of reserve requirement (RR) differentials between FX and local currency deposits/other liabilities or to disincentive FX deposits; (ii) the introduction of higher capital or provision requirements for foreign currency loans, and tighter limits on the banks' net open positions (introducing higher risk weights for high dollarized portfolios); (iii) the introduction of asymmetric liquidity requirements for foreign and domestic currency liabilities penalising FX liabilities (iv) exploring the possibility of lower deposit insurance for deposits in FX (v) the promotion of hedging through officially supported mechanisms as the one recently introduced by the Central Bank. Finally, (vi) it is important to foster the development of financial markets in local currency to facilitate the funding of corporates and banks in local currency.

While measures to prohibit the corporate borrowing in FX to some firms could be considered, it would be important to ensure that: (i) there are exceptions to the prohibition for naturally hedged activities, such as trade credits and any other sectors/companies that have revenues in FX; (ii) there is a transitioning period for corporates to gradually accommodate higher funding costs and not translate into delinquencies that could generate an asset quality problem in the country and ultimately financial instability and lower economic growth; (iii) the size of the firm is not on its own a discriminating factor while the focus should be on the type of revenues, sector and hedging strategies in place.

1. Introduction

Dollarization is the characteristic of typically emerging economies in which a large portion of economic agents (public and private) borrow and hold dollars. It is generally associated with distrust in the domestic currency whose “store of value” feature is somewhat questioned. Dollarization proliferates in periods of high inflation or hyperinflation and it is a process difficult to revert.

It can have adverse effects on macroeconomic policies and financial stability. It can exacerbate vulnerability to shocks, particularly external shocks, as sharp exchange rate depreciation, coupled with sudden stops in capital inflows and economic deceleration can have a very damaging effect on private borrowers, the financial sector and in the public sector, as the debt burden can suddenly increase. There might be a loss of control of monetary and exchange rate policy and loss of seigniorage. The banking sector is likely to experience mismatches between foreign currency assets and liabilities leading to losses when exchange rates depreciates which in turn can lead to bank runs. Therefore it increases the likelihood of liquidity crisis and the monetary authorities cannot act as lender of last resort for foreign currencies given their inability to print them. Dollarization can also reduce the efficiency of payments.

Table 1 World deposits and loan dollarization

	Deposits		Loans	
	(FX deposits over total deposits)		(FX loans over total loans)	
	2001	2012	2001	2012
East and South Asia and Pacific	20.9	18.1	20.1	17.8
Europe and Central Asia	59.7	45.8	58.7	37.3
Latin America & the Caribbean	29.9	26.5	26.7	24.0
Middle East and North Africa	19.5*	11.7	11.4*	13.1
Sub-Saharan Africa	27.6	31.6	26.2	34.8

Source: IMF International Financial Statistics

The literature covers the process of financial dollarization and although there is not unanimity around dollarization causes there is wide agreement that macroeconomic stability is a necessary condition (although not sufficient) to de-dollarize. Some also argue that dollarization can weaken the effectiveness of domestic monetary policy although in the literature this direct linkage is also questioned. The relationship between exchange rate volatility and dollarization is also mixed. It can foster dollarization but some also argue that exchange rate volatility makes very explicit the risks of dollarization, promoting de-dollarization.

Worldwide, dollarization has been high in Latin American countries, in some Eastern European countries and in Sub Saharan Africa. In Latin America this was due to several episodes of macroeconomic turbulence, although there is a generalized trend of de-dollarization since then. In Europe and Central Asia despite the largest progress in terms of de-dollarization it remains as the most dollarized region. Conversely, Africa has made less progress in de-dollarization with levels similar to Latin America. Finally in Asia dollarization has always been lower than in other regions.

Overview of current situation in Turkey

Since the early 1970s, dollarization has been a topic in developing countries as a partial replacement of their domestic currencies by a foreign currency as a store of value and a medium of exchange. It is usually perceived as hedging strategy against high inflation. Turkish economy has been experiencing dollarization since the introduction of FX deposits in December 1983. High and volatile rates of inflation and depreciating exchange rate in addition to unsuccessful stabilization efforts have been the main reasons behind this process. After letting Turkish Lira float, the Central Bank of Turkey started inflation targeting with an “implicit” version in 2002 as a certain set of conditions was not satisfied; and then it gradually converged to a full-fledged targeting in 2006 where the inflation target was set as a point target.

Turkey has experienced a de-dollarization trend between 2003-2009 following the inflation targeting regime. The whole sector's FX credit ratio fell from around 60-70% levels to 33% which according to the literature can be still called as “moderate”. On the deposit side, the ratio stands at 45%. Local retail and corporates accumulated a sizable USD 24bn of FX deposits in 2017, taking FX holdings to an all-time high of USD 195bn in September. The banking sector foreign currency net open position exposure of the banks is reduced to regulatory requirements. The regulations limit net foreign currency open position to 20% of equity capital.

Following the introduction of macro prudential measures in late 2009 and early 2010, lending in FX to households is prohibited. Households have significant FX deposits and limited external liabilities as FX borrowing is restricted. (While some households continue to have some outstanding FX indexed debt, the amount is small in comparison to their FX deposits).

Starting in 2015, reserve requirement ratios and remuneration rates were differentiated across several dimensions, providing incentives for the banking system to prefer (i) core liabilities over non-core liabilities, (ii) long-term over short-term liabilities, and (iii) Turkish Lira (TL) over FX liabilities. Currently, the TL RR is 10% and the FX RR is 12.5%.

With respect to liquidity, the CBRT has defined two minimum legal liquidity coverage ratios determined for total liabilities and FX liabilities. Since 2014, the BRSA has requested from the banks to calculate their LCR and has set the legal rate as 60% for the total and 40 %for the foreign currency (FX) as of January 1, 2015. It is stated that these legal limits will be increased by 10 points each year and that in 2019, the level of 100 % and 80% will be implemented as legal ratios for the total and FX, respectively. The Reserve Option Mechanism which allows banks to keep a certain ratio of their Turkish lira required reserves at the CBRT in FX is an important buffer to fluctuations in FX liquidity as well.

2. De-dollarization strategies

The analysis of several episodes of de-dollarization leads us to consider two broad types of strategies. The first relies on forced dollarization exerting some sort of financial repression. It was employed by several Latin American countries in the 80s when they forced the conversion of foreign currency deposits to local currency. This usually leads to capital flight and financial disintermediation. In some countries, such as Brazil individuals' borrowing in foreign currency was simply forbidden and this prohibition continues nowadays.

The second sort of strategies are market friendly, combining macroeconomic policies that ultimately result in low inflation, anchored inflation expectations, gradual appreciation of the currencies, and generally stronger fundamentals, with other measures which make agents to internalise the risks of dollarization. These can range from macroprudential policies (active management of reserve requirements with differences between domestic and foreign currency requirements, different provisions or capital requirements for domestic and foreign currency loans) and/or (iii) policies to promote the development of local currency financial markets (issuance of long term treasuries in local currency that facilitate banks' long term funding). With regards to macroeconomic policies it is worth mentioning that the establishment of inflation targeting regimes in several Latin American countries in the 90s has contributed to deliver low and stable inflation, helping to strengthen the domestic currency as a store of value. Examples of successful market-friendly de-dollarization processes include Bolivia, Paraguay, Peru and Uruguay.

It is also important to have in mind that external factors play a very important role in the process of de-dollarization. For example, domestic currency appreciation favours deposits de-dollarization. A rise in commodities prices can help an economy to de-dollarize as it usually leads to currency appreciation. On the other hand, world low interest rates which are historically at minimum levels favour foreign borrowing and thus further dollarisation. Risk-aversion in financial markets can also drive dollarization as a global rise in risk aversion make investors/agents to flight into safe haven currencies. A main policy implication is that being open to global factors helps de-dollarization when international liquidity is abundant, commodity prices are strong, and global volatility is low.

3. Case studies

This section provides an overview of some successful cases of dollarization following the definition of Galindo and Leiderman (2005): i) having initial high dollarization (over 40% of deposits or loans), ii) reducing dollarization to 20% or less and iii) maintaining those levels for at least 5 consecutive years. In that sense, Chile, Israel, Mexico and Poland are described as successful de-dollarizers. We also include Peru given its recent successful experience in reducing dollarization although it remains above the 20% threshold and Indonesia due to the introduction of measures to curb corporates FX exposures.

3.1 Chile

Chile is described as one of the most successful cases of de-dollarization. It managed to de-dollarize a partially dollarized financial system in the early 80's, bringing down the share of dollar denominated loans from 45% to less than 10% by the end of the 1990's. Indexation of financial contracts (both public and private) which became widely used in the 70s, was key in this process, as the existence of a well-grounded and credible indexing unit -the UF- allowed overcoming the lack of confidence of local currency denominated contracts in moments in which monetary credibility was far from adequate. Apart from indexation, it is worth mentioning other policies implemented as the success of the Chilean experience relies on both the credibility of the index and policy credibility.

Public Debt Management: Switch from dollar-denominated bonds to inflation-indexed debt

The origins of indexation started with deposit indexation in the 60s. Savings accounts in Banco del Estado, the state owned bank, were indexed to the CPI with annual restatements. At the same time the government created a system where both private and public savings & loans associations were grouped to receive savings from the public through

indexed instruments and offer indexed loans. This was followed by a quick surge of both indexation in several other financial transactions and financial savings¹. In the meantime one key innovation was the creation of the “unidad de fomento” (UF-CPI indexed unit) by the government - the key indexing unit used until today in financial transactions in Chile. Indexed transactions by private banks had to use this unit.

At the same time, authorities pursued liberalization and macroeconomic stabilization, strong fiscal consolidation, periodic adjustments in the exchange rate similar to cumulative past inflation. Wages were also indexed to past inflation. Hence the UF unit grew in a context of low inflation and a credible fiscal and monetary policy which all together reduced inflation from 90% in 1977 to less than 10% in 1981. In fact, once the financial crisis was resolved in the early 1980s² domestic financial intermediation grew consistently in a stable macroeconomic environment.

More importantly, CPI indexation rules did not change since the adoption of the UF and this commitment by the authorities to an indexation rule allowed the rapid development of CPI indexed financial markets. In this sense, monetary, exchange rate and public debt policies actively supported indexation and non-dollarization of Chilean financial markets. Monetary operations were carried out to stabilize the money market UF interest rate, foreign exchange operations to target the UF/US\$ exchange rate, and public debt in domestic markets was largely issued in UF. In turn, the indexation of Central Bank policies helped the liquidity and deepening of indexed financial markets and locked-in the use of the UF as the main unit of account in Chilean financial markets. Moreover, the indexation of monetary policy encouraged the surge of an active money market for UF-denominated Central Bank short term bills and deposits. This left no room for dollarization.

Through the 1990s, the Central Bank started a gradual program to reduce inflation to international levels. Despite significant progress toward price stability, financial intermediation continued to be carried out mostly in UF. Monetary, exchange rate and debt policies continued to be indexed to the CPI. The Central Bank continued to issue most of its domestic debt in UF.

After 2001, the indexation of the interest rate policy target was no longer practical in the context of low inflation and declining interest rates. The Central Bank started to normalize its monetary policy. Financial indexation started to decline and peso operations started to increase, deposits faster than loans because of their maturity differences. Chile’s experience shows that indexation introduced to avoid dollarization may persist even after macroeconomic stabilization has been achieved. In the 1990s it was ultimately reduced by targeting a fixed nominal interest rate instead of the inflation indexed “real” interest rate. Subsequently, peso deposits increased and reached 90% of total deposits in 2010.

1: Total private savings increased from less than 1% of GDP in 1965 to almost 2% of GDP in 1971, with indexed savings explaining much of the action. In the early 70s almost all financial savings were indexed. This was followed by the issuance of indexed bonds (CARs) in 1966 by the Central Bank. They were indexed to the CPI with yearly adjustments. The proceeds were first loaned to the private sector and later on, these became a source of government financing.

2: One key point to understand the significant prevalence of indexation which led to non-dollarization in the system in the 90s is the resolution of the banking crisis of 1982-83. The UF was the preferred unit to denominate almost all the operations intended to rescue and clean up the banking system. Furthermore, the fact that the costs of the crisis were paid by the public through a fiscal burden—and not through a change in the mechanics of the UF—, produced great confidence in this unit of account. During the crisis resolution, the Central Bank offered a program whereby dollar-denominated debtors were given access to a subsidized exchange rate. Specifically, the Central Bank defined a special exchange rate that debtors could use to pay for their dollar-denominated obligations. Lending banks would ask the Central Bank for the difference between this exchange rate and the market rate when a customer chose to use the subsidy. Later on, because of the monetary consequences of the procedure, the Central Bank compensated banks by giving them 3- to 5- year UF-indexed bonds to cover larger operations. The big push to financial indexation came after the intervention of the banking system. Loans increased to 60% and deposits to 55% in 1983. Afterwards, they increased slightly up to 70% and 65% respectively. Depositors shifted rapidly into indexed contracts as they were already familiar with the UF.

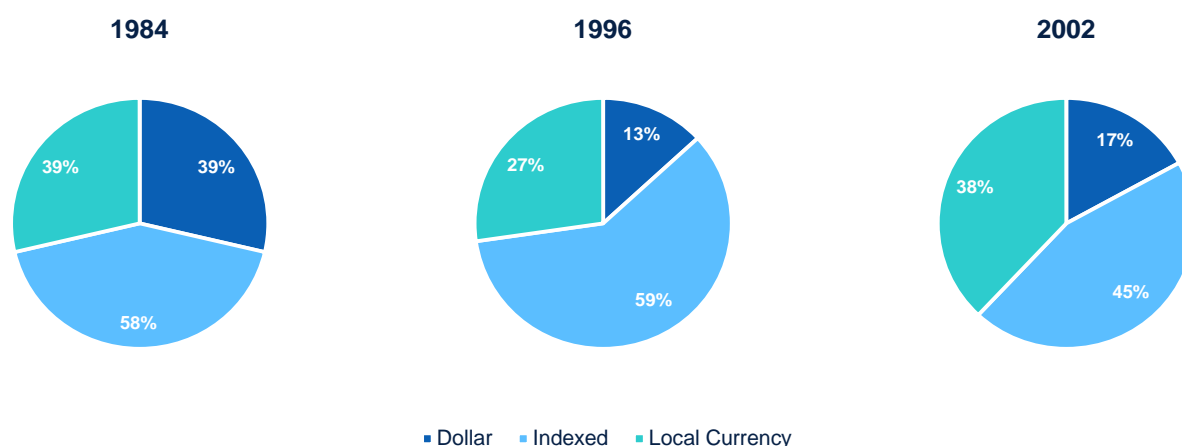
In summary, indexation succeeded thanks to the early development of the UF, indexed loans & deposits in the mortgage market, the intense use of UF-denominated debt by the government following the 1982 banking crisis, and the widespread acceptance of the UF as a unit of account. Besides, the control of inflation, very high interest rates in pesos that allowed peso-denominated deposits to compete, the design of macroeconomic policy taking indexation as given, some effective exchange controls and capital account restrictions, and the slow convergence to low inflation are all important to explain why dollarization ended up to be a successful process.

Macro prudential policies: In the 90s the **regulation on currency mismatches** was perfected requiring banks to hold an open FX position no greater than 20% of their Tier-1 regulatory capital. Banks had no restrictions to take deposits or lend in authorized foreign currencies except housing loans. **Ceilings on banks' FX exposure**, specifically on pension funds' currency exposures. Since 2006, depending on the type of the pension fund, unhedged FX denominated assets may range from 10% to 40% of its total resources. It changed from 10% to 45% in 2008.

3.2 Israel

Israel is another successful de-dollarizer which experienced a gradual stabilization process sharing many common elements with those seen in some Latin American countries, in terms of its disinflation process, and the dollarization structure. Interestingly, there was no comprehensive policy directly attempting to de-dollarize the economy.

- i. **Public Debt Management:** De-dollarization has been stronger in the deposits side than in the liability side. First, the gradual stabilization program in Israel brought down the inflation from about 400% in 1984 to single digits in the late 1990s. In addition to macroeconomic stabilization, it was conducted an active policy in the composition of public sector issuance. Government tried to deepen the market for local currency denominated bonds by decreasing the FX denominated part of the public debt (1995-2002) and supported the introduction of hedging instruments to manage FX risks (1990-2002). These policies were reflected in the lengthening of the maturity of the public debt and a larger share public debt denominated in domestic currency.
- ii. **Prudential Regulation:** Israel also implemented higher reserve rates on FX deposits, and offered alternative investment possibilities by introducing dollar indexed deposits and inflation indexed bonds (1990-2002). As a result, dollar-denominated deposits declined from 39% of total deposits in 1984 to 17% in 2002. Banking supervision played also a key role requiring limits on open FX positions and ensuring adequate hedges for FX activities. In 2006 the share of dollarized credit was 37%, while 24% was indexed to the CPI and 39% was denominated in domestic currency, non-indexed, terms. The large share of FX denominated credit in part reflected the openness of the economy, with a relatively large sector of importers and exporters. For borrowers whose activities do not directly deal with foreign exchange, banks are typically asked to require active hedging of the currency risks or a more rigid set of collateral requirements on the loans.

Figure 1 Deposit Dollarization in Israel


Source: Central Bank of Israel

The Central Bank of Israel (BOI) was also very active in promoting markets in financial derivatives by actively participating in derivative transactions, and in particular the ones designed to deal with exchange rate risk. The BOI has twice played a role in developing markets by issuing new instruments. The First attempt in 1989 involved the use of options but the success was only relative. Part of the reasons is that Israel functioned at that time under a managed exchange rate regime and agents perceive that hedge was a matter for authorities rather than them. However, once the managed system was abandoned the use of options started to generalize so in that sense the BOY acted as catalyst to promote the use of hedging. In fact, It issued hedging instruments to kick-start markets in new instruments such as forwards, futures, options and swaps, leading to a substantial growth in trading volumes in FX derivatives. The annual volume raised from USD 5.5 billion (5.7 %of GDP) in 1996 to USD 130 billion in 2003 (117%t of GDP). While the Bank of Israel had a leading role in initiating this market, right now the vast majority of the trading is done within the private financial sector.³

3.3 Peru

The process of dollarization started in the 70s alongside macroeconomic instability and an inflationary process. It was partially reverted in the mid-80s with forced de-dollarisation (the government forced the conversion of foreign currency deposits to local currency) and peaked once the restriction was lifted in 1988-1990, in the period of hyperinflation, with around 80% of credit and deposits denominated in dollars. Since the early 2000s Peru started a successful period of de-dollarization. In the first decade credit and deposits in dollars fell by 30 p.p. to around 50%. However, after the global financial crisis, de-dollarization came to a halt as very low international interest rates and the appreciation of the domestic currency (sol) favoured borrowing in dollars. Therefore, in 2013 the Central Bank initiated a more ambitious program of credit de-dollarization that led to a further decline of around 20 p.p. to reaching the current 30%.The recent process of de-dollarization has been a coordinated effort by the Central Bank (which addresses mainly liquidity risks), the Supervisor, SBS, (which focus on strengthening the capacity of the financial system to absorb shocks) and the Ministry of Economy and Finance. The details of the measures adopted are as follow:

3: See Otker (2007) Moving to Greater Exchange Rate Flexibility Operational Aspects Based on Lessons from Detailed Country Experiences.

- **Introduction of inflation targeting in 2002 with a target of 2% with a tolerance range of 1-3%.** The regime implemented in Peru, factored in the impact of dollarization on the transmission mechanism of monetary policy and on financial stability. Reserve requirements and precautionary accumulation of international reserves were employed to limit liquidity and solvency risks associated with exchange rate fluctuations and FX market intervention aimed to limit exchange rate volatility
- **Active management of reserve requirements.** Reserve requirements were calibrated to increase the cost of lending and curb the use of funding in FX. Since 2008, average and marginal reserve requirements were increased in periods of capital inflows and decreased in periods of capital outflows. Also, the remuneration of FX reserves is lower than that of reserves in local currency. In February 2013, the Central Bank established different limits for FX mortgage and auto loans growth rates and in September 2013 it established limits for total loans in FX excluding trade operations⁴. Additional reserve requirements were activated if banks exceeded those pre-defined limits⁵. In December 2016, total credit in foreign currency fell beyond the objectives of the program and all banks achieved the targets set by the Central Bank.
- **Introduction of a repo market in local currency.** In September 2008, the Central Bank responded to the turbulence caused by the collapse of Lehman Brothers with the provision of liquidity through repo operations and currency swaps. In December 2014, it introduced two new types of repos: **repos for credit substitution**⁶ and **repos aimed at fostering credit expansion in local currency**⁷. These instruments contributed to swap the excess of banks' funding in foreign currency into more funding in domestic currency, which allowed them to rapidly expand credit in domestic currency without creating pressures on domestic interest rates.
- **Higher capital requirements for FX loans.** In November 2012, the Supervisor increased capital requirements for loans in dollars from 102.5% to 108%. Also since 2013, it established larger capital requirements for mortgage loans in dollars with LTV > 80%.
- **Higher provisioning requirements.** Since mid-2006, banks have to set up a reserve ranging from 0.25% to 1% of the credit in foreign currency that has not been assessed (banks have to carry out a routine assessment of currency risks).
- **Limits to net open FX positions.** There are in Peru capital requirements on open foreign exchange positions. The limit to banks' long (short) open position was changed to 75 (15) % of capital in February 2010, from a previous limit of 100 (10) % of capital.

4: In February 2013, dollarization of mortgage and car loans was 47,7% and 79,6%, respectively.

5: If a bank grew its FX lending above that threshold it would have to increase its reserve requirements up to a maximum of 5 p.p. In December 2014, the Central Bank modified the framework and established straight reductions in FX lending. If banks did not reduce their FX lending to 95% of its outstanding balance as of September 2013, they would face additional reserve requirements for all their FX liabilities. The targets implied a reduction (from the outstanding level in the beginning of 2013) of up to 10 p.p. for total loans in FX and 15 p.p. for mortgage and auto loans. In 2016, new reduction targets were introduced implying a total reduction of 20 p.p. for total loans and 30% for mortgage and auto loans by December 2016.

6: which supported the conversion of loans in foreign currency into loans in domestic currency because the reduction in FX loans exposed banks to drastic currency mismatch (short position in FX loans as FX assets fell drastically but FX liabilities didn't).

7: Banks could use part of their reserve requirements in foreign currency (up to an amount equivalent to 10% of their total liabilities, later extended to 20%) to make currency repos with the Central Bank, obtaining long-term funding in domestic currency.

- **Development of capital markets in local currency.** In 2003, Peru launched a market-making program with the objective of developing a market for domestic public debt, consisting mainly of fixed-rate instruments in domestic currency. In line with this objective, Peru's public debt management strategy has been focused on developing a yield curve of government bonds in soles and reducing the share of public debt denominated in foreign currency. Private bond issuances in local currency have also increased substantially in recent years.

3.4 Poland

As in Chile and Israel, the de-dollarization process in Poland was a by-product of macroeconomic stabilization. It proceeded in line with a disinflation program and a tight monetary policy coupled with financial sector liberalization, opening of the capital account and changing to a floating exchange rate regime. The authorities introduced several measures in monetary policy and in prudential risk management to cope with the dollarization in the system:

- **Monetary Policy:** To fight deposit dollarization, domestic interest rates were raised above foreign currency interest rates (1989-1993). This interest rate deregulation created a positive real interest rate in favour of the local currency. At the same time, the composition of public debt was shifted away from FX-denominated bonds. This resulted in an increase of local currency deposits to 50% of total deposits, while FX deposits declined to 30% of broad money in 1993 from 72% in 1989. Another regulation towards discriminating against FX accounts was that agents became obliged to require administrative approval for the opening of local foreign currency accounts (1996-1999).
- **Prudential Policy:** It targeted raising currency risk awareness and management. From 2001 onwards, in order to monitor banks' FX risk management quality the authorities developed a credit information database and set up a unit to monitor vulnerabilities from credit risk associated with FX denominated lending. In order to enhance the offsite and onsite monitoring of banks' unhedged FX exposures, the Supervisor required banks to participate in periodic surveys of FX exposures to obtain specific information on borrowers' appetite for FX loans, numbers of customers hedging their exchange rate risks, the hedging strategy offered to customers, FX loans protected by guarantees, costs for hedging loans, loan classification and provisions made, FX positions by currency, receipts/costs of FX transactions, extent of engagement in arbitrage transactions. Despite these measures during the global financial crisis the banking sector experienced significant asset quality problems as result of high proportion of mortgage loans granted in FX (particularly in CHF).

3.5 Indonesia

In Indonesia, the private sector was highly exposed to short-term FX denominated debt, which was more than the country's international reserves. As these loans were mainly used to make investments in the nontradables sector, the large exchange rate devaluations during the crisis led to the explosion in the domestic currency value of the dollar debt and thus to severe balance-of-payment problems.

Private sector external debt has increased threefold from US\$50.6 billion at the end of 2005 to US\$156.2 billion in 2014 accounting for 54% of total external debt in Indonesia. The majority of private external debt was utilised to

finance domestic-oriented companies that generate earnings in rupiah but repay their external debt in a foreign currency. Vulnerability to currency risk was also high due to lack of hedging instruments in the corporate sector. At the same time, an increasing debt-to-income ratio was indicative of an increase in over-leverage risk. In 2014, the Bank Indonesia announced a regulation on “Prudential Principles for the Management of Corporate External Debt” requiring the corporate borrowers to adhere to some principles in order to be permitted to seek external debt. Specifically, Bank Indonesia required corporations holding external debt to fulfil 3 requirements:

- **A minimum hedging ratio in order to mitigate currency risk:** The hedging ratio is defined as the ratio between the total value hedged and the net short-term foreign liability position. The minimum hedging ratio was 20% for 2015 and 25% for 2016, and is applied to the net foreign currency liabilities with a maturity period up to three months, and those that mature between three and six months. Exemptions are made for export-oriented corporates—corporates with a ratio of export revenue to total revenue exceeding 50 %of the previous year—with financial statements issued in U.S. dollars.
- **A minimum FX liquidity ratio to mitigate liquidity risk:** The liquidity ratio is defined as the ratio between short-term foreign currency assets and short-term foreign currency liabilities. The minimum ratio was 50% for 2015 and 70% for 2016.
- **A minimum credit rating to mitigate over-leverage risk:** Non-bank corporates should have a credit rating of no less than BB or equivalent issued by an authorized rating agency, including Moody’s (Ba3), S&P (BB-), and Fitch (BB-). The validity of the credit rating is up to 2 years. Corporates can use a parent company’s credit rating for the external debt of parent companies or external debt secured by parent companies. Exemptions are made for external debt related to infrastructure projects, external debt secured by multilateral institutions, refinancing, and trade credit.

Bank Indonesia (BI) has also strengthened monitoring on external borrowing of corporates. Corporates with external borrowing should submit quarterly reports to BI regarding their hedging and liquidity ratios for each quarter, starting from 2015. The report covers a corporate’s hedging ratio, liquidity ratio, and credit rating, and all supporting documentation. To implement, BI will impose administrative sanctions in the form of warning letters to “related parties” in the transactions, including to the lenders which are providing the non-compliant debt, the Ministry of Finance, the Minister of State Owned Enterprises (in the case of borrowers that are state-owned enterprises), the Financial Services Authority (OJK) and the Indonesia Stock Exchange (in the case of listed-company borrowers).

3.6 Mexico

Mexico is a successful case of de-dollarization in public debt but it never suffered from a very high level of dollarization in terms of deposits or loans. Despite this, in 1982 following the sovereign debt default, Mexico imposed a forced conversion of foreign currency deposits into local currency deposits, which led to capital flight and financial de-intermediation. Capital controls prevailed and access to foreign currency deposits was limited.

The composition of debt in Mexico changed significantly after the mid-1990s. External dollar-denominated debt accounted for more than 80% of total indebtedness in 1995 and fell to less than 50% percent of total debt in 2002. Budgetary needs were funded entirely in local markets. This occurred at a time of fiscal consolidation and prudent monetary policy. The issuance of external debt was constrained by a yearly ceiling approved by the Congress. In addition Mexico developed alternative financial instruments and introduced inflation indexed bonds. Mexico also adopted some macroprudential policies, such as a ceiling on banks' FX exposures, particularly on FX liabilities which are limited to a certain percentage of capital. In addition since 1998, there is a liquid assets requirement which is calculated in accordance with banks liabilities' maturity structure payable in foreign currency.

4. Takeaways for Turkey

Reducing dollarization requires comprehensive actions by the authorities. De-dollarization usually requires a combination of macroeconomic policies and microeconomic measures, such as prudential regulations to enhance the attractiveness of the local currency versus the foreign and induce the economic agents to internalise the costs.

Forced de-dollarization relying on different sorts of financial repression and forbidding the use of foreign currency and/or imposing a mandatory conversion of foreign currency into local currency should be avoided.

First of all history tells that it is short-lived and does not restore confidence in the local currency nor in the country's authorities, as occurred with several Latin American countries in the 80s. Secondly it is likely to originate financial instability with capital flight, disintermediation and a sudden increase in informality. Private agents may conduct a run on bank deposits putting at risk the entire banking sector and the economy as a whole.

It is essential to continue to work on a credible regime that delivers low and stable inflation and ensures a stable macroeconomic environment that helps to strengthen the domestic currency as a store of value. Successful cases of de-dollarization remind us that price stability is a necessary but not sufficient condition. While achieving price stability is a long-lasting task, it would be advisable to work on a set of additional macroprudential measures that help economic agents to progressively internalise the costs of dollarization and therefore to voluntarily switch their operations to local currency. These measures could include:

- **An active management of reserve requirement differentials between FX and local currency deposits.** This also requires putting in place disincentives for net external borrowing in order to avoid a replacement effect. The remuneration rates can also be modified to disincentive FX deposits. The literature shows that the de-dollarization of deposits leads to de-dollarization of credits and the impact is quite rapid as evidenced in the case of Peru. In Turkey, the reserve requirement ratios (RRR) of FX denominated liabilities of banks and financing companies has been increased as a way to encourage the extension of maturities of non-core FX liabilities and to increase the cost of FX liabilities since 2015. Currently the TL RR is 10% and the FX RR is 12.5%. It is not only higher for FX deposits but also the implementation has always been designed so that the incremental increase in FX RRs has been higher during the amendments. However, this policy can be improved by directly putting limits to banks' FX lending amounts. For example as in Peru, if banks do not reduce their FX lending to a certain threshold of their outstanding balance, they would face additional reserve requirements for all their FX liabilities. The targets would then imply a reduction for total loans in FX.

- **The introduction of other prudential measures to create incentives to internalize the risks of dollarization, such as higher capital or provision requirements for foreign currency loans, and tighter limits on the banks' net open position** (i.e. introducing higher risk weights for highly dollarized portfolios).
- **The introduction of asymmetric liquidity requirements for foreign and domestic currency liabilities penalising FX liabilities.** Currently the requirements with respect to the liquidity coverage ratio (LCR) are different for the total LCR and for foreign currency, with the latter being lower. This creates an incentive for banks to hold wholesale funds in FX as they do not need to hold the equivalent FX assets. Therefore this should be reverted in order to penalise this type of funding.
- **The introduction of differences in deposit insurance in FX and local currency.** It is important that economic agents are aware that the Turkish Central Bank cannot act as lender of last resort for FX exposures and therefore it could be explored to give lower safety for deposits in FX.
- **The involvement of Central Banks (Israel and most recently Mexico) in financial derivatives can help to spread risk and mitigate foreign exchange volatility.** Hedging FX exposures obviously reduces risk to the individual institution, but also has several other important benefits as making risks explicit, which allows them to be better measured, priced, and managed. In these sense the central bank can play a catalytic role in stimulating FX Hedging. As in the cases of Israel and Mexico the recent measure introduced by the Central Bank of Turkey is a positive step in the right direction (see our previous note) ⁸

The authorities should continue to **work on the development of local financial markets in local currency**. In several countries the extension of the domestic currency yield curve facilitated funding in local currency for both the banking and corporate sector and in turn facilitated credit de-dollarization. **Authorities could explore the mandatory use of local currency for certain pricing and transactions** (e.g. public contracts).

Finally, some **restricting measures to limit the FX borrowing for firms which do not have revenues in FX or sound hedging strategies in place and do not adhere to certain prudential measures**⁹ could be considered, but it would be important to ensure that:

- There are **exceptions to the prohibition of borrowing in FX**, for example for trade credits and for any other sectors/companies that do have revenues in FX or other companies naturally hedged.
- It is important to **focus on the type of revenues, sector, and hedging strategies rather than on the size of the company**, thus avoiding penalising SMEs.

8: See our previous note Turkey: The CBRT designs a mechanism to mitigate FX Volatility note <https://www.bbvaresearch.com/wp-content/uploads/2017/11/Turkey-The-Central-Bank-of-Turkey-designs-a-mechanism-to-mitigate-FX-volatility.pdf>

9: According to the press the government is currently working on these measures which could incorporate a complete ban of FX borrowing for small companies with FX debt below USD 15 mn. For larger companies and larger borrowing amounts there wouldn't be limitations in terms of FX credit however they would be required to improve hedging strategies. However, the details on hedging have not been announced yet. In addition to these, according to a latest draft regulation, only the corporates that have FX income (in terms export revenues) will be allowed to demand FX credit from abroad and from local financial institutions. If these corporates' credit demand is below USD15mln, total credit amount cannot exceed the FX revenues earned in the last 3 years.

- It is important to have a **transitioning period for corporates to gradually accommodate higher funding costs that inevitably will stem from getting funds in domestic currency** thus limiting the possibility of a credit crunch. The straight prohibition to borrow in FX can dramatically increase the costs for the corporate sector which will likely translate into a sharp increase in delinquencies and defaults, generating an asset quality problem for banks that can ultimately translate into financial instability and lower economic growth
- **The measures should focus on progressively enhancing sounder risk management practices of FX debt for the corporate sector, taking into consideration currency risk, liquidity risk and over-leverage risks**

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