

# Local Currency Loans in the Global Development Finance Architecture\*

Alfredo Schclarek<sup>†</sup>      Jiajun Xu<sup>‡</sup>

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## Abstract

We analyze one possible solution for multilateral development banks (MDBs) to lend in local currency to investment projects that are “domestic-oriented” (DOIPs), i.e. which do not generate hard currency, without incurring into currency mismatches between their assets and liabilities, which would downgrade their credit ratings. The main policy recommendation is that MDBs be recapitalized by their owners and use the hard currency proceeds to buy local currency to finance a Local Currency Fund (LCF) for local currency denominated lending.

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*Keywords:* multilateral development banks; local currency lending; currency mismatch; exchange rate risk; balance of payment crisis risk

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<sup>†</sup>National Scientific and Technical Research Council (CONICET), and Department of Economics, Universidad Nacional de Córdoba, Argentina; e-mail: alfredo.schclarek@unc.edu.ar; www.cbaeconomia.com.

<sup>‡</sup>Institute of New Structural Economics, Peking University, China; e-mail: jiajunxu@nsd.pku.edu.cn.

# 1 Introduction

The objective of this paper is to study the prospects of local currency denominated loans in the global development finance architecture. In particular, we are interested in identifying funding strategies that multilateral development banks (MDBs) can follow in order to allow them to maximize their financing of investment projects in host countries with local currency denominated loans, instead of USD or Euro denominated loans.

One of the main impediments for MDBs to lend in local currency is that they, in turn, fund their lending activities mainly by issuing hard currency denominated bonds in the international market. Thus, there would be a currency mismatch if these hard currency funds were used to finance the increase in the lending to local real investment projects in local currency denominated loans. Clearly, this currency mismatch would increase the risks faced by MDBs, especially exchange rate risks and balance of payment crisis risks, and would threaten to reduce their credit ratings, issued by credit rating agencies.<sup>1)</sup> Note that a worsening of the credit ratings would increase the funding costs of MDBs, which would imply paying a higher interest rate when issuing bonds in the international bond market, and could reduce the market liquidity of their bonds.

The problematic given by the currency mismatch and the risk of credit rating downgrading requires that innovative financing mechanisms be designed in order for MDBs to still be able to provide local currency denominated loans to real investment projects. Bresser-Pereira and Bechelaine (2019), Hoschka (2005) and Perry (2009), among others, argue that foreign currency denominated loans by MDBs may generate exchange rate and balance of payment crisis risks for developing countries if the revenues of the local investment projects are in local currency, and, thus, prescribe that MDBs should lend in local currency by financing themselves through issuing local currency bonds in the local bond markets. Also, they claim that the issuing of local currency bonds by MDBs, may help the development of local bond markets, which is a mayor impediment for obtaining local currency denominated funding for local investment projects.<sup>2)</sup>

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<sup>1)</sup>With exchange rate risk we refer to risks that originate from movements in the exchange rate and with balance of payment crisis risks we refer to risks associated with the insufficient availability of foreign currency in the local exchange market and the inability to exchange local currency for foreign currency. Note that a balance of payment crisis implies also a very large depreciation; in this sense, balance of payment crisis risks are related, but not exactly the same, to exchange rate risks.

<sup>2)</sup>Hoschka (2005) extends the analysis of issuing local currency denominated bonds to onlend in local currency by discussing some treasury management issues for MDBs, such as funding, financial policy, investment and risk management issues, that have to be considered when MDBs issue local currency denominated bonds. In addition, he makes a short case study analysis on the experiences and lessons of different MDBs, such as the Asian Development Bank and the European Investment Bank, with local currency bond issuance. In addition, Perry (2009) makes the case that MDBs, especially those with global reach, such as the World Bank, are in a good position to take on currency risks in their balance sheets, by lending in local currency and financing themselves in hard currency, but that this strategy requires currency risk diversification through global pools of lending to several developing countries in various currencies. Also, he mentions the creation of the TCX Fund as an interesting innovations to help MDBs hedging currency risks, through swaps and forward contracts.

One problem with the solution proposed by the above-mentioned literature is that no hard currency is being provided to the financial and banking system of the host country. Thus, if there is a need to pay in hard currency for imported inputs and supplies needed to develop the local real investment projects (for example, solar panels for a solar farm, or imported pumps for a sewage system), there has to be another real sector in the economy that provides the hard currency (i.e. a net current account surplus is required) or there has to be a net inflow of hard currency into the host country (i.e. a capital account surplus is required). The objective of this paper, and its main contribution to the existing literature, is to explore possible financing mechanisms that would allow MDBs to lend in local currency denominated loans without facing the risks of a downgrade in their credit ratings and which provide hard currency to the local financial and banking system. In particular, we will study one possible solution, which involves the recapitalization of MDBs with SDRs (the reserve asset issued by the IMF) and the usage of these SDRs to exchange for local currency in order to establish a Local Currency Fund (LCF) for local currency denominated lending.<sup>34</sup>

Regarding the methodology of this paper, it will be a theoretical analysis of the above-mentioned issues, following the “money view” theory of Mehrling (2011, 2012), which has also been used in Schclarek and Xu (2022), and Schclarek et al. (2023). This theory allows a better understanding of the different financial transactions that are involved in the financing of MDBs and the provision of local currency loans to local real investment projects. In this sense, to the best of our knowledge, our paper is the first to present an explicit theoretical model and analysis of funding strategies that MDBs can follow in order to lend in local currency to real investment projects, without facing currency mismatches in their balance sheet, but also providing hard currency to finance imported inputs and supplies. Thus, this analysis will help to improve the global development finance architecture and allow the involved players to maximize the financing of investment projects through local currency denominated loans. In this respect, it will improve the successful fulfillment of the SDGs.

The rest of the paper is organized as follows. In section 2, we analyze the

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Moreover, his analysis includes a discussion of the different reasons, such as bureaucratic culture and incentives, and lack of stakeholder push and support for financial innovations procedures, on why MDBs have been slow in rethinking the MDBs’ long-term roles and modernizing their instruments and procedures.

<sup>3</sup>Note that we are focusing on recapitalizing with SDRs just to make reference to the discussions on how to use the SDRs issued by the IMF in 2021 that are not used by developed countries. Our analysis and conclusions would not change if the recapitalization was made in another currency, such as USD or Euro, as long as it is a hard currency that is used to make international commercial payments. For papers discussing the usage of SDRs to recapitalize MDBs, see, among other papers, Andrews (2021a,b); Andrews and Plant (2021); ECA-ECLAC (2022); IMF (2021); Lazard (2022); Plant (2021); Ryder et al. (2023).

<sup>4</sup>Griffith-Jones et al. (2022) also study how a recapitalization of development banks may help to increase their innovative financing, especially when fostering new risky sectors or when facing macroeconomic challenging situations, such as the Covid19 pandemic, without risking a deterioration of their credit ratings. This is also the case when development banks are required to act countercyclically (Brei and Schclarek, 2018, 2015).

exchange rate and balance of payment risks when financing investment projects. Section 3 discuss the solution to foster local currency loans by analyzing the idea that MDBs be recapitalized and use those funds to buy local currency from the local central bank to lend to investment projects. Finally, in section 4, we conclude with key findings.

## 2 Exchange rate and balance of payment risks when financing local investment projects

The objective of this section is to discuss exchange rate and balance of payment crisis risks when financing real investments projects. With exchange rate risk we refer to risks that originate from movements in the exchange rate and with balance of payment crisis risks we refer to risks associated with the insufficient availability of foreign currency in the local exchange market and the inability to exchange local currency for foreign currency. These exchange rate and balance of payment crisis risks in the context of the global development finance architecture, involving MDBs and national development banks (NDBs), have been studied in Schclarek and Xu (2022).

Investment projects maybe “export-enhancing” (EXIPs), which generate hard currency (for example, building a port or developing export agriculture), or “domestic-oriented” (DOIPs), which don’t generate hard currency (for example, a solar farm or a sewage system). The main argument is that when the financing goes to export-enhancing investment projects, which improve the future current account balance, the exchange rate and balance of payment crisis risks are reduced for the different financial actors involved, but also for the financial system as a whole. By contrast, if the investment projects that are financed are domestic-oriented, the exchange rate and balance of payment crisis risks increase because DOIPs generate local currency proceeds and do not help increasing the supply of foreign exchange in the host country.<sup>5</sup>

Thus, as the table below shows, when real investment projects are EXIPs, the lending by MDBs may be in local currency or in USD (hard currency) without increasing or aggravating the exchange rate and balance of payment crisis risks. In contrast, when real investment projects are DOIPs, only local currency lending by MDBs are not increasing or aggravating the exchange rate and balance of payment crisis risks. If the lending by MDBs is in USD (hard currency), the exchange rate and balance of payment crisis risks are increased because the real investment project that is financed is not generating future proceeds in hard currency. Thus, for the real investment project to be able to payback the USD denominated loan to the MDB, there has to be another real sector in the economy that provides the hard currency (i.e. a net current account surplus is required) or there has to be a net inflow of hard currency into

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<sup>5</sup>DOIPs may generate positive externalities and development impact, such as the fostering of small and medium-sized enterprises and green finance. However, in this paper, we are not analyzing these positive aspects of domestic-oriented projects, but focusing on the exchange rate and balance of payment crisis risks associated with its funding in USD.

the host country (i.e. a capital account surplus is required). Clearly, this is the riskiest lending strategy.

	DOIPs	EXIPs
\$Loc loan	✓	✓
USD loan	×	✓

Exchange rate and balance of payment crisis risks and currency denomination of lending

### 3 Local currency loans by exchanging SDRs for local currency

In this section, using the “money view” theory of Mehrling (2011, 2012), which has also been used in Schclarek and Xu (2022), and Schclarek et al. (2023), we analyze the different payments and settlements, in particular interbank payments, that arise when the involved agents interact financially. In particular, we analyze the situation when the MDB is recapitalized and is given the explicit mandate to grant local denominated loans to investment projects that are DOIPs and which requires imported inputs and supplies to be developed. First, in subsection 3.1, we analyze the recapitalization of the MDB by its owners using SDRs.<sup>6</sup> Next, in subsection 3.2, we analyze the process when the MDB opens a local bank account and buys local currency from the local central bank in exchange of the SDRs. Third, in subsection 3.3, we analyze the process by which the MDB grants a local currency loan to a local investment project. Then, in subsection 3.4, the development of the real investment project with imported inputs and supplies is analyzed. Finally, in subsection 3.5, we study the repayment process of the investment project.

#### 3.1 Recapitalization of the MDB

In this subsection, we analyze the recapitalization of a Multilateral Development Bank (MDB) by its owners. We assume that this recapitalization is performed using SDRs. However, there would be no difference in our analysis and conclusions if the recapitalization was made in another currency, such as USD or Euro, as long as it is a hard currency (used internationally). The recapitalization of the MDB, as will be studied in the following sections and subsections, allows it to increase the lending to investment projects in local currency.

Figure 1 presents the balance sheets of the MDB and the owner of the MDB at each moment of time. In the initial period ( $T = 0$ ), the owners of the MDB have SDRs in their assets ( $SDR_{OwMDB}^{IMF}$ ) and no liabilities. The MDB has neither assets nor liabilities. In the first period ( $T = 1$ ), the owners of the MDB perform a recapitalization of the MDB by transferring the SDRs from their assets ( $-SDR_{OwMDB}^{IMF}$ ) to the MDB’s assets ( $+SDR_{MDB}^{IMF}$ ). This action

<sup>6</sup>Note that there would be no difference if the recapitalization was made in another currency, such as USD or Euro, as long as it is a hard currency (used internationally).

$T$	Owners MDB		MDB	
	Assets	Liabilities	Assets	Liabilities
0	$SDR_{OwMDB}^{IMF}$			
1	$-SDR_{OwMDB}^{IMF}$		$+SDR_{MDB}^{IMF}$	
	$+CapMDB$			$+CapMDB$
<i>Final Situation</i>	$CapMDB$		$SDR_{MDB}^{IMF}$	$CapMDB$

Figure 1: The recapitalization of the MDB with SDRs

increases the capital of the MDB ( $+CapMDB$ ) and the assets of the owners ( $+CapMDB$ ).

In the final situation, and comparing with the initial period, we can observe that the asset composition of the owners of the MDB has changed from having SDRs ( $SDR_{OwMDB}^{IMF}$ ) to having more ownership in the MDB ( $CapMDB$ ). Further, the MDB has expanded its balance sheet by increasing its assets with SDRs ( $SDR_{MDB}^{IMF}$ ) and increasing its capital ( $CapMDB$ ). It is with these SDRs that the MDB will expand its lending to investment projects in local currency by exchanging them for local currency.

### 3.2 The MDB buys local currency from the local central bank

In this subsection, we analyze how the MDB opens a bank account in a local commercial bank and buys local currency from the local central bank using the SDRs that it received when being recapitalized, which was analyzed in subsection 3.1.

Figure 2 presents the balance sheets of the MDB, the local central bank and a local commercial bank at each moment of time. In the initial period ( $T = 0$ ), which corresponds to the *Final Situation* in figure 1, the MDB holds SDRs as assets. The other two agents have no assets nor liabilities. In the first period ( $T = 1$ ), the MDB opens a bank account in the Local Commercial Bank. In addition, the MDB transfers the SDRs that it holds ( $-SDR_{MDB}^{IMF}$ ) to the Local Central Bank ( $+SDR_{CenB}^{IMF}$ ), and it receives a local currency deposit in the Local Commercial Bank ( $+\$LocDep_{MDB}^{ComB}$ ). For the Local Commercial Bank to credit the local currency account of the MDB, the Local Commercial Bank receives from the Local Central Bank a local currency deposit in the local central bank  $+\$LocDep_{ComB}^{CenB}$ .

In the final situation, and comparing with the initial situation, we can observe that the asset composition of the MDB has changed from holding SDRs ( $SDR_{MDB}^{IMF}$ ) to holding local currency denominated bank deposits ( $\$LocDep_{MDB}^{ComB}$ ). It is with these local currency deposits that the MDB will be able to grant local currency denominated loans to investment projects, as is studied in the next sub-

$T$	MDB		Local Central Bank		Local Commercial Bank	
	Assets	Liabilities	Assets	Liabilities	Assets	Liabilities
0	$SDR_{MDB}^{IMF}$	$CapMDB$				
1	$-SDR_{MDB}^{IMF}$ $+\$LocDep_{MDB}^{ComB}$		$+SDR_{CenB}^{IMF}$	$+\$LocDep_{ComB}^{CenB}$	$+\$LocDep_{ComB}^{CenB}$	$+\$LocDep_{MDB}^{ComB}$
<i>Final Situation</i>	$\$LocDep_{MDB}^{ComB}$	$CapMDB$	$SDR_{CenB}^{IMF}$	$\$LocDep_{ComB}^{CenB}$	$\$LocDep_{ComB}^{CenB}$	$\$LocDep_{MDB}^{ComB}$

Figure 2: The MDB opens a local bank account and buys local currency

section. The liability side of the MDB has not changed. The Local Central Bank has seen its balance sheet expand by increasing its assets with SDRs ( $SDR_{CenB}^{IMF}$ ) and its liabilities with a local currency denominated deposit ( $\$LocDep_{ComB}^{CenB}$ ). The Local Commercial Bank has also seen its balance sheet expand by increasing its assets with a local currency denominated deposit ( $\$LocDep_{ComB}^{CenB}$ ) and its liabilities with a local currency denominated bank deposit ( $\$LocDep_{MDB}^{ComB}$ ).

### 3.3 MDB loan in local currency to the local investment project

In this subsection, we analyze how the MDB grants a local currency denominated loan to the local investment project with the local currency that it obtained from selling the SDRs to the local central bank, which was analyzed in subsection 3.2.

Figure 3 presents the balance sheets of the MDB, the Local Commercial Bank and the Local Investment Project at each moment of time. In the initial period ( $T = 0$ ), which corresponds to the *Final Situation* in figure 2, the MDB holds local currency deposits in the Local Commercial Bank. The Local Investment Project has no assets nor liabilities, but needs a loan to develop a domestic oriented investment project that will produce local currency proceeds in the future. For example, a solar farm that will sell electricity in the domestic market, or a sewage system that will benefit a local village or city, which will be paid for with local tax proceeds. In the first period ( $T = 1$ ), the MDB grants a local currency denominated loan to the Local Investment Project ( $+\$LocLoan_{MDB}^{IP}$ ) by transferring its deposits at the Local Commercial Bank to the Local Investment Project ( $-\$LocDep_{MDB}^{ComB}$ ). Accordingly, the Local Investment Project receives the local currency deposits ( $+\$LocDep_{IP}^{ComB}$ ), but now owes the MDB a local currency loan ( $+\$LocLoan_{MDB}^{IP}$ ). In the Local Commercial Bank's balance sheet we can see the change in the property of the local currency deposits by having debited the bank account of the MDB ( $-\$LocDep_{MDB}^{ComB}$ ) and having credited the bank account of the Local Investment Project ( $+\$LocDep_{IP}^{ComB}$ ).

In the final situation, and comparing with the initial situation, we can observe that the asset composition of the MDB has changed from holding local currency deposits ( $\$LocDep_{MDB}^{ComB}$ ) to holding a local currency denominated loan owed by the Local Investment Project ( $\$LocLoan_{MDB}^{IP}$ ). The liability side of the

$T$	MDB		Local Commercial Bank		Local Investment Project	
	Assets	Liabilities	Assets	Liabilities	Assets	Liabilities
0	$\$LocDep_{MDB}^{ComB}$	$CapMDB$	$\$LocDep_{ComB}^{ComB}$	$\$LocDep_{MDB}^{ComB}$		
1	$-\$LocDep_{MDB}^{ComB}$			$-\$LocDep_{MDB}^{ComB}$	$+\$LocDep_{IP}^{ComB}$	$+\$LocLoan_{MDB}^{IP}$
	$+\$LocLoan_{MDB}^{IP}$					
<i>Final Situation</i>	$\$LocLoan_{MDB}^{IP}$	$CapMDB$	$\$LocDep_{ComB}^{ComB}$	$\$LocDep_{IP}^{ComB}$	$\$LocDep_{IP}^{ComB}$	$\$LocLoan_{MDB}^{IP}$

Figure 3: The MDB grants a local currency loan to a local investment project

balance sheet of the MDB has not changed, and it still has capital ( $CapMDB$ ). Thus, despite it having granted a local currency denominated loan to the Local Investment Project there is no currency mismatch in its balance sheet, as the asset side, which is local currency denominated, is matched with the capital ( $CapMDB$ ) on the liability side, instead of foreign currency denominated liabilities, such as, for example, USD denominated bonds issued in the international market. The Local Commercial Bank has not seen its balance sheet expand but the owner of the local currency deposits has changed. The Local Investment Project's balance sheet has been expanded by both increasing the assets with the local denominated deposits ( $\$LocDep_{IP}^{ComB}$ ) and the liabilities with the local currency loan owed to the MDB ( $\$LocLoan_{MDB}^{IP}$ ). It is with these local currency deposits that the Local Investment Project will pay all the inputs and supplies that are needed to develop its investment project, which is presented in the next subsection 3.4. Further, in subsection 3.5, we analyze, how the Local Investment Project can payback the loan from the MDB with the local currency proceeds from its investment project.

### 3.4 Development of the local investment project with imported inputs

In this subsection, we analyze how the local investment project is developed by analyzing the case when the Local Investment Project has to buy imported inputs and supplies from abroad, i.e. inputs and supplies paid in hard currency, such as USD. For example, developing a solar farm which requires buying the solar panels from China, the USA or the EU, or a sewage system that requires buying imported pumps and machinery. Recall that in the previous subsection 3.3, the Local Investment Project had received local currency, which implies that for it to buy imported inputs there has to be an agent that have access to foreign exchange and is willing to exchange them for local currency. As will become clearer below, this agent could be the Local Central Bank that obtained SDRs when it sold local currency to the MDB (see subsection 3.2).<sup>7</sup>

<sup>7</sup>Note that we could also have assumed that the Local Investment Project requires domestic produced inputs and supplies, instead of imported inputs and supplies. In this case, the Local Investment Project would just use the local currency funds obtained to pay for the inputs and supplies and would not need to exchange them for foreign exchange. Although this is a very



Figure 4 presents the balance sheets of the Local Central Bank, the Local Commercial Bank and the Local Investment Project at each moment of time. In the initial period ( $T = 0$ ), which corresponds to the *Final Situation* of figures 2 and 3, the Local Central Bank holds SDRs ( $SDR_{CenB}^{IMF}$ ) as assets and has local currency denominated deposits by the Local Commercial Bank ( $\$LocDep_{ComB}^{CenB}$ ) as liabilities. In addition, the Local Commercial Bank holds local currency denominated deposits in the Local Central Bank ( $\$LocDep_{ComB}^{CenB}$ ) as assets and has local currency denominated deposits by the Local Investment Project ( $\$LocDep_{IP}^{ComB}$ ) as liabilities. Also, the Local Investment Project holds local currency denominated deposits in the Local Commercial Bank ( $\$LocDep_{IP}^{ComB}$ ) as assets and has the local currency denominated loan from the MDB ( $\$LocLoan_{MDB}^{IP}$ ) as liabilities. In the first period ( $T = 1$ ), the Local Central Bank exchanges its SDRs ( $-SDR_{CenB}^{IMF}$ ) for a USD denominated deposit in an International Commercial Bank (ICB) ( $+USDep_{CenB}^{ICB}$ ), such as Citibank or JPMorgan Chase. Note that this exchange of SDRs for USD has to be made because the SDR is a reserve asset, which is not used to make international commercial payments. Furthermore, it requires that another central bank is willing to receive those SDRs and exchange them for hard currency, in this case USD. Note also that this exchange is only required if the initial recapitalization of the MDB was made in SDRs; if the recapitalization was made in hard currency, such as USD or Euro, there would not be any need to make an exchange for making international commercial payments. In the second period ( $T = 2$ ), the Local Investment Project exchanges its local currency denominated deposits in the Local Commercial Bank ( $-\$LocDep_{IP}^{ComB}$ ) for USD and receives a USD denominated deposit in the Local Commercial Bank ( $+USDep_{IP}^{ComB}$ ).<sup>8</sup> It is with these USD denominated deposits that the Local Investment Project will pay for the imported inputs and supplies. Note also that for this exchange to take place, the Local Commercial Bank, in turn, exchanges its local currency denominated deposits in the Local Central Bank ( $-\$LocDep_{ComB}^{CenB}$ ) for USD and receives from the Local Central Bank a USD denominated deposit in the International Commercial Bank ( $+USDep_{ComB}^{ICB}$ ). In the third period ( $T = 3$ ), the Local Investment Project pays with its USD denominated deposit in the Local Commercial Bank ( $-USDep_{IP}^{ComB}$ ) and receives the imported inputs and supplies ( $+ImpInp_{IP}$ ) with which it can develop the local investment project. For this international payment to take place, the Local Commercial Bank, in turn, has to transfer its USD denominated deposit in the International Commercial Bank ( $-USDep_{ComB}^{ICB}$ ) to the international seller of the imported inputs and supplies.

In the final situation, and comparing with the initial situation, we can ob-

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plausible case, we decided to analyze the case of imported inputs and supplies to highlight the importance of the Local Central Bank receiving foreign exchange from the MDB in order to increase the availability of foreign exchange in the local financial market. If the MDB did not provide the foreign exchange, there could be a situation where there is not sufficient access to foreign exchange to buy the imported inputs and supplies, which would put at risk the successful development of the local investment project.

<sup>8</sup>Note that we are assuming that the local banking system allows USD deposits. This is quite normal in many developing countries.

$T$	Local Central Bank		Local Commercial Bank		Local Investment Project	
	Assets	Liabilities	Assets	Liabilities	Assets	Liabilities
0	$SDR_{CenB}^{IMF}$	$\$LocDep_{ComB}^{CenB}$	$\$LocDep_{ComB}^{CenB}$	$\$LocDep_{IP}^{ComB}$	$\$LocDep_{IP}^{ComB}$	$\$LocLoan_{MDB}^{IP}$
1	$-SDR_{CenB}^{IMF}$ $+USDep_{CenB}^{ICB}$					
2	$-USDep_{CenB}^{ICB}$	$-\$LocDep_{ComB}^{CenB}$	$-\$LocDep_{ComB}^{CenB}$ $+USDep_{ComB}^{ICB}$	$-\$LocDep_{IP}^{ComB}$ $+USDep_{IP}^{ComB}$	$-\$LocDep_{IP}^{ComB}$ $+USDep_{IP}^{ComB}$	
3			$-USDep_{ComB}^{ICB}$	$-USDep_{IP}^{ComB}$	$-USDep_{IP}^{ComB}$ $+ImpInp_{IP}$	
<i>Final Situation</i>					$ImpInp_{IP}$	$\$LocLoan_{MDB}^{IP}$

Figure 4: The Local Central Bank provides the foreign exchange to buy imported inputs and supplies

serve that the balance sheet of the Local Central Bank has shrunk from having assets ( $SDR_{CenB}^{IMF}$ ) and liabilities ( $\$LocDep_{ComB}^{CenB}$ ) to having no assets nor liabilities. Similarly, the balance sheet of the Local Commercial Bank has shrunk from having assets ( $\$LocDep_{ComB}^{CenB}$ ) and liabilities ( $\$LocDep_{IP}^{ComB}$ ) to having no assets nor liabilities. In the case of the Local Investment Project, the asset side of its balance sheet has changed its composition from holding local currency deposits ( $\$LocDep_{IP}^{ComB}$ ) to holding imported inputs and supplies ( $ImpInp_{IP}$ ). It is with these imported inputs and supplies that it will develop its investment project. The liability side of the balance sheet of the Local Investment Project has not changed, and it still has the local currency denominated loan from the MDB ( $\$LocLoan_{MDB}^{IP}$ ). In the next subsection we analyze, how the Local Investment Project can payback the loan from the MDB with the local currency proceeds from its investment project.

### 3.5 The repayment of the loan to the MDB and the capitalization of the Local Currency Fund (LCF)

In this subsection, we analyze the repayment of the loan to the MDB by the local investment project, and the creation of a Local Currency Fund (LCF) by the MDB with the proceeds from this repayment. Here we assume that the investment project produces a non-tradable good or service ( $NTradGood$ ) that is sold in the domestic market and generates local currency proceeds, i.e. a domestic oriented investment project (DOIP). It is with these local currency proceeds that the investment project can repay the loan to the MDB. Evidently, as the loan granted by the MDB has to be repaid in local currency, there are no exchange rate or balance of payment considerations to be worried about. Clearly, the situation would be very different if the loan by the MDB had been denominated in USD (see Schclarek and Xu (2022) for a discussion of exchange rate and balance of payment crisis risks when there are USD denominated loans

granted to DOIPs). In addition, when the MDB receives the local currency, it can create a local currency fund with which it can continue to finance local investment projects. Note that as the MDB used the proceeds from its recapitalization to finance its loans to the local investment project, the MDB owes nobody and does not need to repay any loan, as is the case when the MDB finances its lending operations by borrowing funds.

Figure 3 presents the balance sheets of the MDB, the Local Commercial Bank, the Local Investment Project and a Local Firm at each moment of time. In the initial period ( $T = 0$ ), the Local Investment Project holds a non-tradable good or service ( $NTradGood$ ) that it has developed and produced using the local currency borrowed from the MDB (this loan was analyzed in the previous subsection 3.3), and it has the loan owed to the MDB as a liability ( $\$LocLoan_{MDB}^{IP}$ ). This local currency denominated loan is an asset for the MDB, which also has its own capital in the liability side ( $CapMDB$ ). Also, there is a Local Firm that has local currency deposits in the Local Commercial Bank ( $\$LocDep_{Firm}^{ComB}$ ), which is a liability for the Local Commercial Bank. In the first period ( $T = 1$ ), the Local Investment Project sells the non-tradable good or service ( $-NTradGood$ ) to the Local Firm and receives a local currency deposit in the Local Commercial Bank ( $+\$LocDep_{IP}^{ComB}$ ). For the Local Firm to receive the non-tradable good or service ( $+NTradGood$ ), it has used the local currency deposits it had in the Local Commercial Bank ( $-\$LocDep_{Firm}^{ComB}$ ). In the second period ( $T = 2$ ), the Local Investment Project uses its local currency deposits ( $-\$LocDep_{IP}^{ComB}$ ) to repay the loan granted by the MDB ( $-\$LocDep_{IP}^{ComB}$ ) and the MDB receives a local currency deposit in the Local Commercial Bank ( $+\$LocDep_{MDB}^{ComB}$ ).

In the final situation, and comparing with the initial situation, we can observe that the Local Investment Project's balance sheet has been reduced by both decreasing the assets comprised of the non-tradable good or service ( $NTradGood$ ) and the liabilities with the local currency loan owed to the MDB ( $\$LocLoan_{MDB}^{IP}$ ). The Local Firm has changed its asset composition from holding bank deposits ( $\$LocDep_{Firm}^{ComB}$ ) to holding the non-tradable good or service ( $NTradGood$ ). The Local Commercial Bank has not seen its balance sheet expand or contract but the owner of the local currency deposits has changed. Finally, the asset composition of the MDB has changed from holding a local currency denominated loan owed by the Local Investment Project ( $\$LocLoan_{MDB}^{IP}$ ) to holding local currency deposits ( $\$LocDep_{MDB}^{ComB}$ ). The liability side of the balance sheet of the MDB has not changed, and it still has capital ( $CapMDB$ ). Thus, the MDB does not need to use the received local currency deposits to payback any loan and can use those deposits to establish a local currency fund with which it can continue lending in local currency to local investment projects.

## 4 Conclusions

In this paper, we have analyzed local currency loans in the global development finance architecture. Specifically, we have theoretically studied how multilateral development banks (MDBs) can provide local currency denominated loans

$T$	MDB		Local Commercial Bank		Local Investment Project		Local Firm	
	Assets	Liabilities	Assets	Liabilities	Assets	Liabilities	Assets	Liabilities
0	$\$LocLoan_{MDB}^{IP}$	$CapMDB$		$\$LocDep_{Firm}^{ComB}$	$NTradGood$	$\$LocLoan_{MDB}^{IP}$	$\$LocDep_{Firm}^{ComB}$	
1				$-\$LocDep_{Firm}^{ComB}$ $+\$LocDep_{IP}^{ComB}$	$-NTradGood$ $+\$LocDep_{IP}^{ComB}$		$-\$LocDep_{Firm}^{ComB}$ $+NTradGood$	
2	$-\$LocLoan_{MDB}^{IP}$ $+\$LocDep_{MDB}^{ComB}$			$-\$LocDep_{IP}^{ComB}$ $+\$LocDep_{MDB}^{ComB}$	$-\$LocDep_{IP}^{ComB}$		$-\$LocLoan_{MDB}^{IP}$	
<i>Final Situation</i>	$\$LocDep_{ComB}^{MDB}$	$CapMDB$		$\$LocDep_{ComB}^{MDB}$				$NTradGood$

Figure 5: The local investment project pays back the loan granted by the MDB

to real investment projects that are “domestic-oriented” (DOIPs), i.e. which do not generate hard currency, without incurring into currency mismatches between their assets and liabilities, which would downgrade their credit ratings. Furthermore, our proposed financing mechanism can also provide hard currency to the local financial and banking system in order to be able to finance imported inputs and supplies that are needed for developing the DOIPs.

The main policy recommendation is that MDBs be recapitalized by their owners and use the hard currency proceeds to buy local currency from the local central bank to be used for establishing a Local Currency Fund (LCF) for local currency denominated lending. This financing strategy is different from the previous literature, such as Bresser-Pereira and Bechelaine (2019), Hoschka (2005) and Perry (2009), which suggest that for MDBs to provide local currency denominated loans, they, in turn, need to finance themselves by issuing local currency denominated bonds in the local financial market. Although this financing strategy is advisable, it has the drawback that it is not providing the hard currency to finance imported inputs and supplies that are needed for developing the real investment projects. Furthermore, if MDBs are following this strategy of issuing bonds in the local financial market it is not clear what their advantage is over national development banks (NDBs).

After establishing the LCF, MDBs are able to continue lending in local currency to real investment projects when the initial loans are repaid with local currency. Clearly, the financing strategy proposed in this paper is also supporting a long term local currency lending facility. Note, however, that it is only the initial buying of local currency by the MDB that provide hard currency to the financial and banking system. Thus, in case there is a need for imported inputs and supplies, the MDB is required to exchange additional hard currency for local currency. Moreover, this LCF could be used in a larger financing strategy, where the LCF is used to finance DOIPs that don’t require imported inputs and supplies, DOIPs that require imported inputs and supplies are financed through the recapitalization of the MDB (the proposal of this paper) and traditional USD lending is used by MDBs to finance export-enhancing investment projects (EXIPs). Considering these different financing strategies are of central importance for MDBs to foster, for example, the green transition, which for many countries implies importing inputs and supplies, such as solar panels and

wind mills, for developing DOIPs, such as solar and wind farms.

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