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ARGENTINA

DEVELOPING DEEP AND SUSTAINABLE HOUSING FINANCE MARKETS

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Developing Deep and Sustainable Housing Finance in Argentina

ACRONYMS AND ABBREVIATIONS

ALM	Asset/Liability Management
BCRA	Banco Central de la Republica Argentina
CER	Reference Stabilization Coefficient
CVS	Coeficiente de Variacion Salarial (Wage Index)
FGS	Fondo de Garantia de Sustentabilidad (Funded Pension Fund)
FRECH	Fondo de Reserva de la Cartera Hipotecaria
IIBB	Impuesto a los Ingresos Brutos (Tax on Gross Income)
NSFR	Net Stable Funding Ratio
RMBS	Residential Mortgage Backed Securities
SCP	Solucion Casa Propia (credit-linked housing subsidy program)
STC	Simple, Transparent and Comparable (IOSCO norm)
SVH	Secretaria de Vivienda y Habitat
UVA	Unidad de Valor Adquisitivo (CER based Price Index)
UVI	Unidad de Vivienda (Cost of construction Index)

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Introduction and Context

The housing deficit in Argentina is estimated to affect 6 million out of the 24 million households nationally. Three quarters of this deficit is qualitative, but the quantitative shortage increases every year**.** Approximately 230,000 new households are formed yearly in the country, but only 190,000 new formal sector units are produced annually, and this figure is decreasing. The result has been the growth of informal housing areas in most urban areas, as well as a sharp deterioration of living conditions, in particular through a rise of overcrowding - sharing units between more occupants being one way to deal with the unaffordability of dwellings. As everywhere, this situation primarily affects low and moderate income households.

Macro-economic turmoil has contributed to this imbalance in two ways. First, the continuous inflation and currency depreciation made real estate a refuge investment protecting the capital value of investors. Housing prices in large cities, and in particular in Buenos Aires, have been steadily increasing in peso terms over the last 15 years. They are typically denominated in US dollars. Second, rapid inflation acts a strong deterrent to the provision of long term finance and in particular mortgages. Housing supply of course has been directed towards customers who can afford high prices and do not need credit to buy, and has become unaffordable for the majority. There is hardly any new commercial supply in the capital area at prices affordable for the majority of households, especially if lending is done with interest rates significantly above 20%. Market-based renting has been affected by the same affordability issues, in particular because of ways to circumvent in practice the prohibition of indexation.

In addition to its social impact, the dire situation of the housing sector also has negative consequences on the Argentinean economy. This is due to the multiplier effect of housing investment, which was estimated in 2006[1] to be around 1.8 in monetary terms, and 1.6 in terms of employment, per new unit. The decline of housing construction, now below the 5 percent GDP then estimated, has therefore had a significantly negative spill-over effect on overall economic activity. As the housing market enables households to close the current housing gap, housing investments should be greater than 5 percent of GDP. For comparison, in the mature US market, residential housing investments have historically[2] been around 5 percent of GDP and in Mexico around 6 percent of GDP.

The government overhauled the public housing assistance policy by launching a 2016-2019 "Integrated Housing and Habitat Plan" ***(plan integral de Vivienda y Habitat).*** This plan aims to stimulate the production, or to provide 1 million housing solutions through two programs: a neighborhood improvement program targeting informal settlements, and a credit-linked subsidy program, "Solucion Casa Propria," through which up-front subsidies are granted to first time home buyers who contract mortgages, thus leveraging the impact of public intervention with

[1] Review of Argentina's Housing Sector World Bank Policy Research Paper November 2006
[2] The contribution has been lower since the global financial crisis.

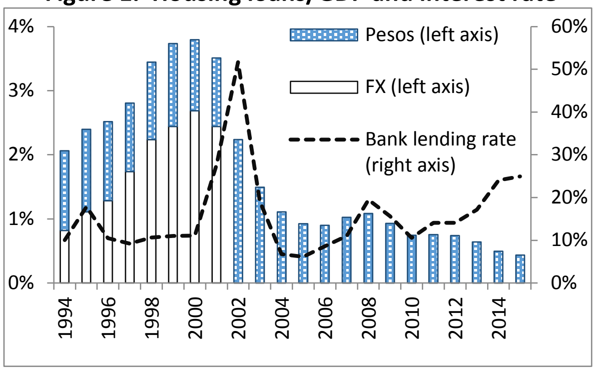
bank credit. The program,[3] targets households earning between two and four times the minimum wage, or 16,000 to 32,000 pesos (US$1,000 - $2,000). Approved families approach banks to finance up to 70 percent of the value of the homes. SCP has received applications for subsidies from 250,000 families. In practice, the selection results in a drastic reduction of eligible applicants,[4] but still the new program seems to meet a strong demand. However, its success is contingent upon the availability of bank lending for housing.

The broad prohibition of indexation has for a long time stunted the provision of long term, finance. Historically**,** the prohibition stemmed from two sources: First, indexation was forbidden by the convertibility law of 1991 that instituted the peg of the national currency with the US dollar. Second, its reintroduction to offset the partial pesoification of loans formerly denominated in dollar in 2002 at the peak of the crisis was done at the worst possible time, when inflation, measured by the newly created CER, surged – with a 40% peak in 2002. This resulted in a wave of delinquencies despite a mitigating measure by BCRA – long term lenders had to offer borrowers the option to extend the maturity of loans by up to 50% if the payment increase from one month to another exceeded 1 percent;[5] leading the government to freeze foreclosure procedures. The prohibition was reinstated from the second quarter of 2004 onwards –except for use in Treasury bonds.

Housing finance in Argentina has been depressed since the 2001/2002 financial crisis (Figure 1)**.** In the late 1990s, the market had grown to almost 4 percent of GDP facilitated in part by foreign currency lending. During the crisis, foreign currency assets and liabilities were forcibly converted into pesos, generating significant losses to lenders, and banned for most types of consumer credit. With the crisis, mortgage lending came basically to a halt, and since then higher inflation brought peso interest rates to levels exceeding 25%. As a result, residential mortgages outstanding fell to barely 0.4 percent of GDP in (2016)[6]. Very deep mortgage markets are mostly a high-income country phenomenon, but nevertheless, many countries at similar income levels have markets worth as much as 15-20 percent of GDP (Figure 2). In 2015, basically only three banks, all State-linked, were effectively offering housing loans: Banco Hipotecario, Banco de la Nacion, and Banco Ciudad (Buenos Aires).

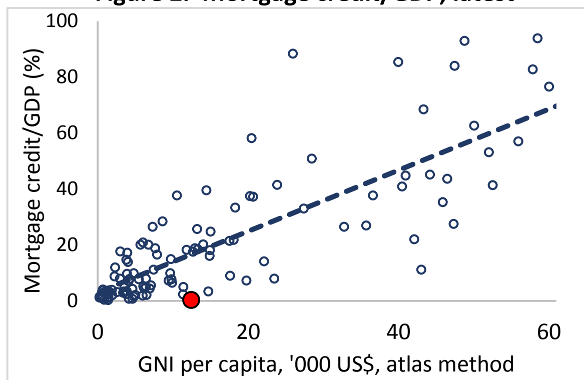
[3] The pilot phase of the programs is supported by a World Bank Project, “Argentina Integrated Habitat and Housing Project.”
[4] Early May 2017, that is, 8-9 months after effective launch, 45,000 applications had been sanctioned.
[5] Decreto 905/02 of July 2003
[6] Reflects bank credit, without the State PROCREAR I program (below market lending funded by the pension fund’s central structure, FGS, through Banco Hipotecario).

Figure 1. Housing loans/GDP and interest rate



Source: BCRA, World Bank, and IMF.
Note: Bank lending rate is in local currency and reported by the IMF.

Figure 2. Mortgage credit/GDP, latest

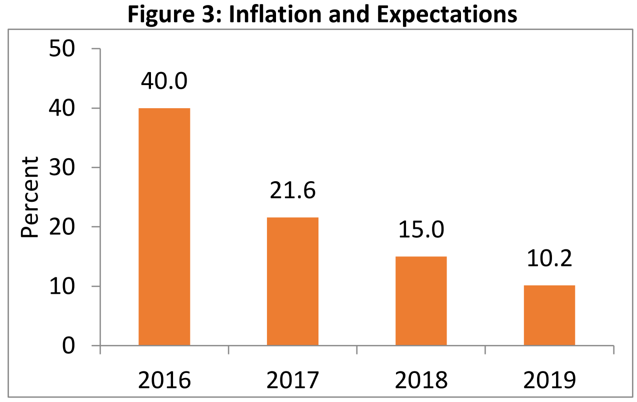


Source: Hofinet.org and World Bank.
Note: Argentina indicated with a large circle/dot.

Indexation has recently been revived, and applied to mortgage lending which will become a contributor to economic growth. Besides the obvious benefits of home ownership, the accumulation of wealth and collateral it implies also helps to secure additional financing for investment once the mortgage loan is substantially paid off. The possibility of indexing loans was introduced by a new law (S-976/16) and by the BCRA (communication A 5945 of April 8, 2016). Indexation to foreign currency or lending to households directly in foreign currency remain prohibited reflecting a relevant prudential approach following the negative experience of the past. The policy of taming inflation, now measured by a new and credible CPI, creates a conducive environment for this move. Argentinean and international experience shows that if inflation remains out of control, indexation can in fact be a destabilizing factor for banking systems.

While inflation and interest rates remain high, indexation is facilitating a more accommodating repayment profile and hedging of risk. In the high interest rate environment, nominal interest rate loans require high repayment rates in the early years of the loan. Inflation indexed loans provide for level payments in real terms, which implies payments growing with inflation and starting at a low level, making credit affordable for many more households. The indexation of loans changes the repayment profile and reduces payments in the early years by more than half, thus considerably improving the affordability of credit. The indexation also facilitates the supply of finance as it shields

Figure 3: Inflation and Expectations



Source: BCRA.
Note: Median value, as of May 2017.

investors from inflation risk. Inflation is expected to decline in the next few years (Figure 3), in which case the use of indexation would be a temporary transitional arrangement. However, market players' expectations can be slower to adjust to the new context than the actual speed of this decline.

The extension of UVA mortgages was an immediate success. The stock of UVA mortgage loans reached about 7 billion pesos (US$ 450 million), and banks, including those that are for all practical purposes new entrants in the mortgage market, have rapid expansion plans – the consolidated market forecast is a volume outstanding of 50 billion pesos at the end of 2017. These types of mortgages should represent the vast majority of housing loans, the stock of which grew from 25.3 to 35.9 billion pesos between December 2015 and April 2017 (annualized growth of 30%).

With benign economic conditions, the mortgage market as a share of GDP may deepen by as much as 1 percent of GDP per year (Figures 4a-4b)**.** Although many countries at similar income levels have much greater credit depth, the most successful countries have grown their credit depth only around 1 percentage point of GDP per year. This has been the case in Chile, Colombia's market grew even faster for a short period, and many countries in Central Europe experienced similar growth since the mid-2000s.

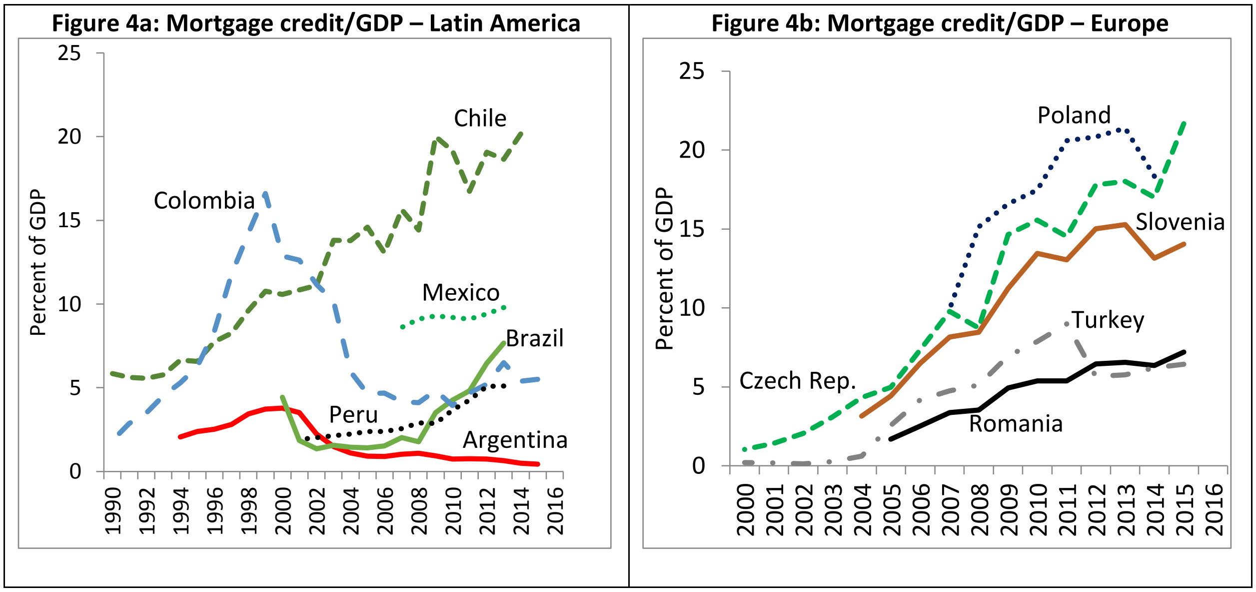
A fairly strong mortgage market infrastructure including for securitization, was developed in Argentina during the prior era of financial stability. A founding housing finance law 24.441 of January 1995 was passed to this effect. The infrastructure includes: (1) the option of a non-judicial foreclosure proceedings, (2) a strong securitization regime, (3) a legal instrument, Cedulas Hipotecarias, consisting of easily transferable mortgage loans that entitle lenders to the fast track foreclosure route and are the basic element of securitization structure; and (4) the legal concept of a trust –fideicomiso financiero- involving fiduciary duties in line with international standards. Fideicomisos are actively used, including as an instrument of secured lending (fideicomiso de garantia).

The securitization of mortgage loans had been well tested until the 2001-2002 crisis, and this funding tool continues to be used for shorter term financial assets today. Argentina also "faithfully implemented" the standardized Basel regime for securitization.[7] Once the mortgage market takes off and mortgage bond securitizations are implemented, such structures could have knock-on effects in other parts of the capital markets to develop a broader set of asset-backed securities with longer maturities.

Still, overly fast credit deepening may strain institutional capacity and in more mature markets raise concerns about pricing bubbles and financial stability. Initially, institutional capacity for making good loans will be the main question. At low levels of credit depth, price bubbles and stability are not material concerns. If housing prices grow consistently for a

[7] BCBS Assessment of Basel III Risk-based capital regulations in Argentina September 2016

sustained period, increasing housing credit and prices may mutually support each other and contribute to a pricing bubble. Financial instability has often been associated with housing bubbles, and it will require monitoring as the market develops. In Argentina, demand for houses has at least in part by driven by investments in a relatively safe store of value while inflation has been high. As lower income parts of the population gain access to housing loans, a responsive supply of housing will be important to mitigate the risk of price increases.



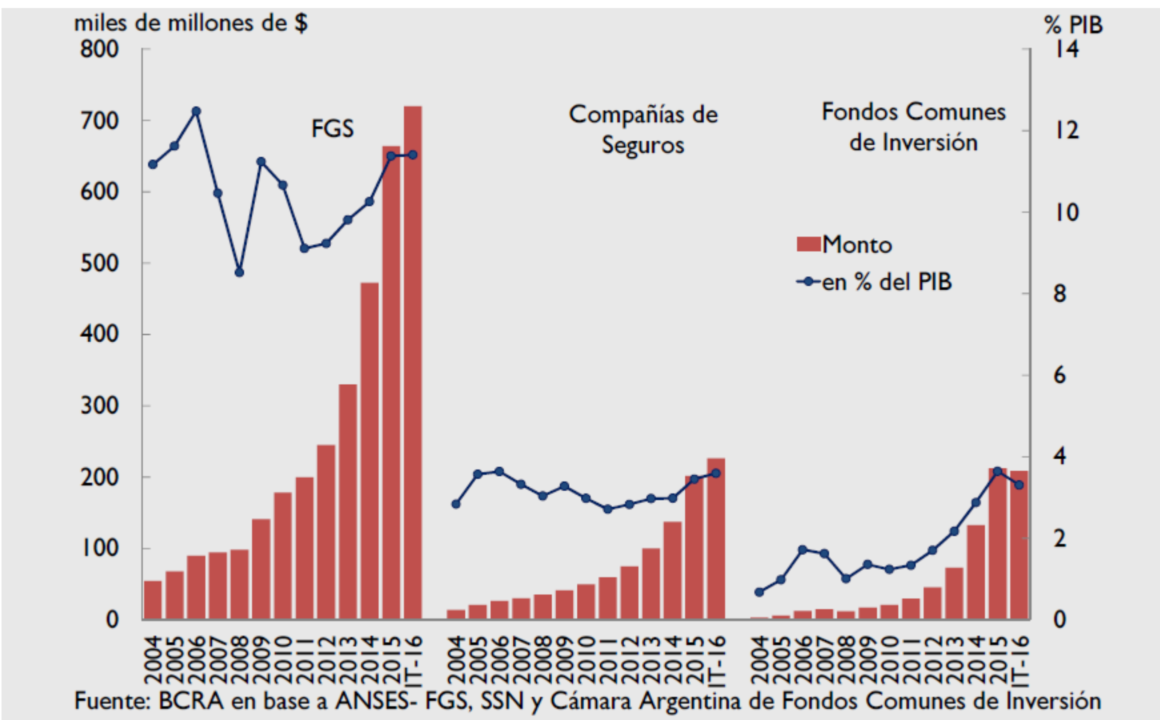
Source: Hofinet.org based on national sources and the World Bank.
Note: The time scale for Europe is shorter than for LAC.

To successfully grow the mortgage market, banks need funding and tools to manage interest rate and liquidity risks – i.e., in the absence of significant derivative markets, funding from the capital market. While the mortgage market is small relative to bank balance sheets, these risks can easily be managed. Private sector deposits are by far the largest source of funding for banks, which in the case of mortgages creates liquidity, and possibly interest rate, and asset /liability mismatches. However, the small size of the Argentinean banking sector combined with expected strong growth in mortgage lending makes it urgent to manage the risks. This is a requirement of the prudential framework. Very early on (with 2003 regulation), the BCRA imposed a capital requirement for ALM mismatches and interest rate risk in the banking book.

The Basle III regime is being implemented progressively since 2013 and a new Liquidity Coverage Ratio is in force since 2015. The Net Stable Funding Ratio, which requires that the funding of immobile assets should be long enough to withstand a one year market disruption with no access to new refinancing and will limit the use of short term funding, is currently monitored by BCRA and should be fully implemented in 2018. Its actual coverage will depend on the weighting given to the various balance sheet items. In particular, retail deposits can be considered in general as largely stable. But in the case of Argentina, the historic experiences should lead to exercise caution in this respect. The eventual development of a mortgage bond market based on housing loan portfolios, will also help to increase the supply of stable long term funding instruments.

The volume of institutionally managed financial assets is low in Argentina - only about 20 percent GDP- compared to other middle income economies (Figure 5)**.** The pension funds were nationalized in 2008. Their assets, which are managed by a dedicated public entity, the Fondo de Garantía de Sustentabilidad (FGS), are the main source of institutional investment in Argentina. Pensions are based on a pay-as-you go system, which limits the resources available for investment. FGS acts more or less as a sovereign fund with the objective of strengthening the foundations of the national economy and stimulate its growth. Its fiduciary duties towards pensioners have been reaffirmed and strengthened – as illustrated by a 2016 law of "historic reparations toward pensioners" that facilitates pursuing claims of pensioners whose interests are deemed to have been hurt by the nationalization. Insurance companies and mutual funds, each with assets of about 4 percent of GDP, could potentially invest in mortgage securities although mutual funds in particular have a short investment horizon.

Figure 5: Assets of Institutional Investors in Argentina



Source: BCRA Boletin de estabilidad Financiera First semester 2016

A tax amnesty to repatriate funds led to US$116bn (21% of GDP) of repatriated financial savings that may create new volume resources available for long term investments, including to finance housing loans. The amnesty is contingent on the use of funds, and investments in housing and mortgages are eligible[8]. The Tax Amnesty Program will help current financial needs and expand the tax base. The results achieved by the program, which lasted 8 months, are well above the recent international experiences of Chile, Brazil and Italy (8%, 3% and 4% of GDP, respectively), though below Indonesia initiative of 2016-2017 (40% of GDP).

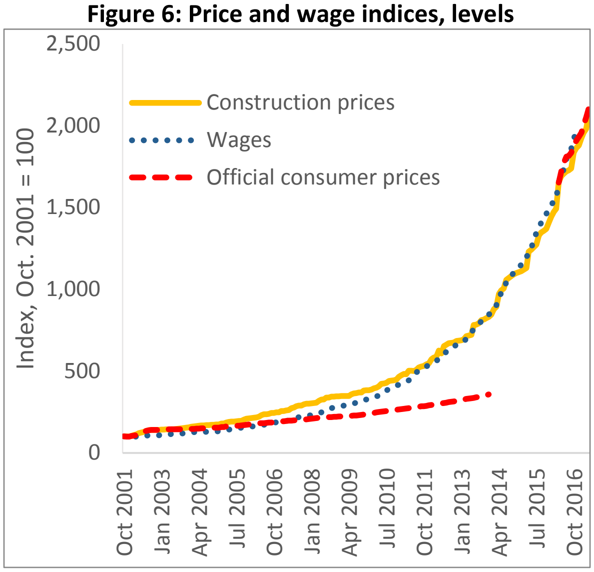
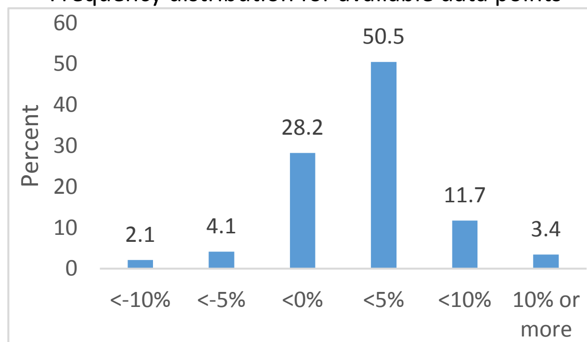
Furthermore, in terms of tax collection the Argentine experience reached a worldwide record of 1.8 percent of GDP, almost doubling Indonesia's figures (0.9% of GDP). Close to half of the declared assets in the program were financial investments (48%), followed by bank accounts (29%), properties (17%) and other assets (6%). Only 20 percent of the total declared assets were settled within Argentina. In fact, 95 percent of declared financial investments and 47 percent of the declared properties were settled in foreign countries. Accordingly, the overall foreign assets declared (US$96 bn.) represents close to 40% of the estimated assets held by Argentinians in foreign countries, according to the latest International Investment Position (US$232 bn.; INDEC, 2015), which further illustrates the significance of these results.

Inflation Indexation and Associated Risks

High inflation, combined with the fact that even if it is progressively tamed markets will keep such inflation among possible scenarios for some time, means indexation will facilitate the market in a transitional phase – until expectations are adjusted. Fixed interest rates are high and with the lending rate currently above 25 percent, the payments in the early years are prohibitively expensive for many. Indexation to inflation allows for level payments in real terms, which implies lower payments in the early years of the loan.

Inflation indexation however bears risks for the borrowers should consumer prices grow faster than incomes. The indexed loans are structured to create constant payments in real terms over the life of the loan. Thus, if inflation grows faster than incomes, the loan repayments will become less and less affordable over time. The risk is of course higher for lower income households whose earnings cannot cushion large repayment increases. Lack of credible official inflation data makes it complicated to analyze the historic performance of real wages (Figure 6). A construction cost index has been proposed and created by law, but its monthly variation may substantially differ from the inflation index. International experience (Figure 7) suggests that negative real wages frequently happen, but declines of more than 5 percent are unusual. Considering the starting point of high inflation, the risk in Argentina is likely to be greater than the international experience would suggest.

[8] Ley de Sinceramiento Fiscal y Reparación Histórica a los Jubilados, June 29, 2016, Chapter II.

Figure 6: Price and wage indices, levels	Figure 7: Real annual median wage growth
	

Source: International Labor Organization and World Bank.
/1 Based on median nominal earnings of employees available from ILO deflated by the consumer price index. 47 countries are represented with 436 observations between 1994 and 2015.

Sources: Instituto Nacional de Estadistica y Censos (INDEC).
Notes: The wage index is measured by Coeficiente de Variación Salarial (CVS), and construction prices are measured by the Indice del Costo de la Construcción (ICC). Consumer prices are measured by the official consumer price index. After the break in the series, the index was reset to equal the wage index to help illustrate the evolution between the two.

The emergence of indexed lending products requires that specific consumer information and protection measures be taken. There is a fairly well developed BCRA framework for the protection of the users of financial services.[9] But unsurprisingly, this framework does not include any provision regarding indexed mortgages, a very new type of lending. New principles should be established to ensure that borrowers are duly informed of, and well understand, the consequences of indexation on the nominal repayment amounts.

A mitigation measure known as the "prorroga" (postponement) is provided for by the UVA regulation to limit the risks incurred by borrowers, but is of limited impact. The mitigation measure consists of the option given to borrowers to request a lengthening the repayment period in case the CER exceeds by more than 10 percent, the increase in wages. The maturity extension is limited to 25 percent of the initial tenor, or 5 years, and provides only a very partial protection.

For banks, inflation indexation creates asset-liability management (ALM) risk as well as potential credit risk. When banks lend at an inflation indexed rate, they need a matching liability to avoid assuming inflation risk. Although the Government is issuing inflation indexed instruments, the banks have not, nor do they have inflation indexed deposits. The index,

[9] Last updated in March 2017

Coeficiente de Estabilización de Referencia (CER)[10] is well-established, and the challenge is to develop the deposit or capital market linked to the instrument. Whereas the ALM risk is acceptable for small amounts, it must be addressed to develop a deep and sustainable housing finance market. The above-mentioned affordability risk for borrowers could translate into credit risk for the banks if wages rise faster than inflation and borrowers must allocate a larger share of their income to loan repayment.

In spite of the economic rationale for inflation indexation and an apparent legal basis, legal risk associated with the indexation remains. The abovementioned law (S-976/16) specifically mentions another price index, Unidades de Vivienda (UVI), based on the cost of construction in Buenos Aires. The team has not conducted a legal analysis, and national observers indicate confidence in the UVA/CER based lending. However, borrowers might challenge, legally or politically, the validity of loans based on CER rather than UVI should inflation substantially exceed construction prices increases.

Indexation is an interim solution, and adjustable rate mortgage as currently offered by a couple of banks including Banco de la Nacion may become an important product over the medium term. Until switching to UVA mortgages**,** Banco de la Nacion offered, a product combining a rate of 14 percent for the first three years, then a floating rate with installments capped by the wage index (CVS) evolution. However, this type of program is only economical for this bank because it has special access to low cost funds, and private banks cannot match it. As inflation and market interest rates decline over time, a similar product may become a more important alternative to indexation.

Development of a UVA-CER Hedge

The risk of a discrepancy between wages and inflation, borne by borrowers, is clearly a credit risk for the financial system. If the debt burden-to-income ratio increases above certain levels, borrowers will not be able to sustain it and will default. This is not only a risk for lenders, but also a strong obstacle to securitization by creating an uncertainty of cash flows from the underlying loan assets, detrimental to the valuation of portfolios backing bond securitizations.

The government and BCRA are therefore contemplating a hedging mechanism, similar to schemes developed in the past in Mexico and Colombia (Box 1 below)**.** A fund would be created that assumes the gap between CPI and wages, thus removing of declining purchasing power for borrowers while leaving loans and their funding indexed to inflation. This could be an important trigger of a large scale revival of the mortgage market, including the secondary market, and in particular a critical factor for banks to participate in the new credit-linked housing subsidy scheme that combines down payment assistance with market based mortgages, the SCP.

[10] The CER is provided daily, which allows for daily valuation. It is the basis of the index Unidad de Valor Adquisitivo (UVA), which in turn is based on a consumer price index.

To ensure the sustainability of the scheme, sufficient financial resources must be secured for it. First, borrowers would contribute charges similar to insurance premiums. But given the macro-economic nature of the covered risk, which is out of the control of lenders or borrowers, the government should be also a contributor. Providing a capital endowment from the onset would establish the credibility of the coverage. The 2016 law that instituted the cost of construction based UVI index stipulated that the government should allocate 50 billion pesos to fund UVI loans, a sum by far higher than what would be needed for an initial capitalization of a hedging mechanism.

Box 1. The hedging experience of the Mexican and Colombian mortgage markets

There have been successful experiences of indexation as a transition instrument. Mexico and Colombia developed as transition instruments, mechanisms to reduce market risks of long term housing loans that applied until the macroeconomic environment improved and financial markets could offer adequate instruments for coverage. In Mexico, the investment unit swap was applied and protected mortgage creditors against differences in indexes (on the asset side, the minimum wage and on the financing side, the inflation rate). In the late 1990s, Colombia's banking system suffered a substantial crisis, largely linked to inflation, the change in variable mortgage rates, and a real estate bubble. Among multiple factors, the management of indexation to try to reconcile the interests of borrowers and lenders initially aggravated the turmoil. A hedging mechanism implemented by the central bank, the FRECH fund, allowed borrowers to obtain a contract with a maximum floating interest rate, allowing them to cover themselves against differences that might exist between their obligations based on the interest rates, and loans indexed to inflation. In all cases, the governments provided a form of macro coverage against "catastrophes" if the selected indexes followed unanticipated worsening trends. These types of interventions were essential so that private investors and borrowers could return to participate in the market.

Mortgage Insurance

To encourage lending to lower income segments as well as to facilitate the securitization of such loans, credit default insurance or guarantees could potentially be considered. The risk transfer would encourage lenders to cater to lower income segments, or households with insufficient prior savings, and would facilitate securitization. At this stage of the market re-birth, such mechanisms appear premature. First, the priority objective must be to multiply the number of institutions re-engaging durably in housing finance. Second, the main factor of credit risk, the decline of incomes in real terms should be addressed by the hedging mechanism. Third, delinquencies must be experienced and measured before setting up coverage mechanisms and calibrating their cost.

The Need and Conditions for Capital Market Funding of Mortgage Loans

Capital market solutions have been basically excluded from the financial landscape since the 2001/2002 crisis due to macro-financial instability and institutional policy. Macro-financial instability made long term finance transactions impossible. In addition, pension funds were nationalized, and they diverted funding to the government, which needed to cover big budget deficits without access to international markets. In the new macro-economic and political context, the capital market has again become a funding option for both the Government and for housing finance. The emergence of new indexed instruments – for a long time prohibited or limited to Treasury Bonds - provides investors with a way to immunize capital against inflation. In Chile, the re-development of the unused covered bond framework (letras de credito hipotecario) in the late 1970s combined with a new and reliable inflation index (Unidad de Fomento –UF) gave a strong boost to the provision of long term housing loans. The volume of housing finance loans quickly reached 20 percent of GDP, one of the highest levels in emerging economies.

This example illustrates how much this funding source is needed to spur the re-birth of mortgage lending in a sound and sustainable way by helping lenders to manage liquidity and interest risks. Conditions are however required to fulfill this potential role – in particular by reconciling the aspirations of borrowers and investors in terms of pricing and characteristics.

The interests of the relevant participants are summarized below (Table 1). Lenders in Argentina will at least in the near term be banks. Funding is currently from depositors, but capital market investors should become a significant source over time as the market grows.

Table 1: The interests of borrowers, banks, depositors and investors.

Borrowers	Banks	Depositors	Investors
Pricing			
Very high nominal interest rates (28%-30% until recently, currently paying 5-8.5 percent over inflation on indexed loans.	Loans are currently profitable with deposit funding, a risk factor if it is the single source of funding (volatility of deposits, floating interest rates) and the volume is large.	Real interest rate products are not developed. Nominal rates are above 20 percent.	Argentinean sovereign bonds pay 3-4 percent over inflation. Risk and liquidity premiums must be added to lend to banks.
Credit risk			
	Banks assess and can assume the credit risk. The system appears well capitalized and solvency is not a near term constraint.		Investors are not ready to take over the risky tranches of securitized portfolios today. Some may eventually assume part of the credit risk as the mortgage market matures and good data are developed on default and recovery rates. Argentina has a securitization framework that was well

			tested in the 1990s for mortgages, only for short term assets since the 2002 crisis
Interest rate risk			
Interested in fixed interest rates.	Interested in matching interest rates on assets and liabilities, and locking in margins in real terms	Interested in earning positive interest rates in real terms	Willing to assume interest rate risk depending on the type of assets they manage
Inflation risk			
A complex question, but are averse to payments growing faster than income. Debt growing despite capital repayments can be an issue	Will accept only a small mismatch between assets and liabilities.	The market for inflation linked savings is not well developed, but could grow (one of the objectives of the law that created the UVI).	Very interested in indexed instruments. Are already investing in inflation linked sovereign bills and bonds.
Liquidity risk			
	Will accept liquidity risk to a certain extent, based on the stability of core deposit bases, as long as the yield curve makes term transformation profitable, after taken into account the cost of capital required by the regulation applicable to asset-liability mismatches.	Interested in liquidity and will not tie their funds for the duration of a mortgage loan.	Market liquidity importance depending on the category of investor. Some liquidity always required for proactive asset management.
Prepayment risk			
Interested in being able to repay the loan early without excessive penalty	Will take the risk in return for compensation, depending on consumer protection rules. Low awareness today of the prepayment risk generated by indexed long term loans, once refinancing in Peso becomes cheaper.	n. a.	May assume prepayment risk for a price as the mortgage market matures and good data are developed prepayment behavior and interest rates are relatively stable. Valuation difficult today.

Thanks to the 2017 BCRA decree, banks can now issue UVA-indexed corporate bonds, which was not allowed before. Three banks have been recently issuing UVA bonds of a limited duration (between 2 and 5 years) at good conditions (UVA+2% to UVA + 2.9%) but the amounts are quite limited and the duration is insufficient to cover the funding needs of expanding mortgage markets. Still, in the perspective of market-based funding, banks increased the price of mortgage credit (range between UVA + 5.9% to UVA +8.5%)[11] above the 5 percent limit required to comply with the BCRA "productive lending" criteria that lending policies initially sought to meet.

However, only a couple of banks have started to prepare an actual securitization program. Banco de la Ciudad, a state owned bank, has proceeded the furthest. As the UVA portfolio remains untested and unseasoned (RMBS typically apply to seasoned loans), rating agencies will apply a conservative methodology, stress testing the resilience of these UVA mortgages to severe inflation shocks. However, once the securitization market does take off, this will have a positive impact on other sub-sectors in the capital markets and encourage additional asset/bond securitizations which will generate increased market depth. By the same token, mutual funds based on property or mortgage portfolios (REITS) could also develop and expand once a critical mass is reached.

Capital market solutions for housing finance

In concept, several options exist for capital market solutions (Table 2)**.** These are all used globally, and multiple solutions often co-exist in mature markets. Because there are advantages to scale, the development of the market can depend on which solutions are promoted when the market is taking off.

Table 2. Capital Market Solutions in the Mortgage Market

Name	**Issuer**	**Mortgage loan Credit risk**	**Investors' security**
Unsecured bonds	Individual bank	Bank	Bank
Mortgage covered bonds by banks	Individual bank	Bank	Bank and mortgage loans
Mortgage covered bonds by centralized liquidity facility	Centralized facility	Bank	Liquidity facility (supervised) own funds and mortgage loans
Mortgage backed securities with recourse[12]	Centralized facility	Bank	Bank and mortgage loans
Mortgage backed securities without recourse	Individual bank	Investor	Mortgage loans

[11] In Mexico and Colombia indexed mortgage rates were at 8-11 percent over inflation originally, making their securitization possible.
[12] Various models could be contemplated including (i) direct sale of portfolios by a lender to an investor, with recourse; (ii) securitization as a mere funding tool with junior tranches kept by the lender; (iii) an external credit enhancement (wrap) of MBS by a specialized insurer or an agency as done by the US Fannie Mae.

Until the UVA portfolios are seasoned, however, and have reached a critical mass, credit risk cannot be transferred to investors. As well, primary loan originations by mortgage lenders will need to ensure their standardization in loan contracts and terms, to pave the way for securitization instruments which rely on uniform underlying asset characteristics. The valuation of UVA mortgage portfolios including risk transfer provisions would be difficult today in the absence of history and data on borrowers' behavior. Moreover, the types of bond investors in Argentina - mainly FGS, are restricted in their investment policy by fiduciary duties, and banks and mutual funds do not have the profile to assume risky instruments, even if pricing were not an obstacle. As such, FGS needs to be seen as a prudent investor that could participate if the conditions are right, but not assume the role of policy maker in any way. In any event, securitization can be used as a funding instrument and an important balance sheet management tool, but not as a risk transfer instrument that would alleviate capital requirements.

In addition, prepayment risk, as well as the *prorroga* feature add an element of uncertainty to the cash flows structure and timing. The possibility of maturity extension, as well as the option to repay early UVA denominated mortgages when peso loans would become attractive again, make the profile of future cash flows uncertain. This exacerbates valuation issues, and is likely to be resolved by an additional premium on the return required by investors on securitization transactions.

Another hurdle to overcome for securitization is the current imposition of an "Impuesto a los Ingresos Brutos (IIBB) tax. This tax is in the purview of provincial governments. It is typically of 7 percent of incomes stemming from financial assets, and it is paid by the holders of these assets. The capital federal district lowered the rate of IIBB to 2 percent, a very positive move for securitization. The taxation is based on the nominal gains, meaning that the appreciation of capital as a result of indexation is taxed. This clearly affects the profitability of investing in mortgage portfolios and is a strong obstacle to securitization.

The most viable capital market options include:

- **Issuance of individual UVA indexed bonds by lenders is now allowed by BCRA.** This solution would offer better security to investors if done by using the covered bond concept, i.e., bonds secured by high quality mortgage pools that ensure they will be serviced even in their issuer is insolvent, but such pools are not sold or taken off the balance sheet of the issuing bank. This instrument being first a general obligation of its issuer, overcomes the obstacles linked to the sale of portfolios to investors and the valuation of a new type of loans. It would be an intermediate instrument between corporate bonds – with more security – and securitization – with less complexity.

- **Covered bonds would in addition immunize investors against the prepayment risk of indexed mortgages.** This can materialize if, and when, the indexed repayment level exceeds the debt burden of peso denominated loans – a phenomenon that occurred in

Chile, drastically affecting the securitization market. There are some elements in the legal framework that may be used as foundations for a covered bond regime, possibly the guarantee trust structure (fideicomiso de garantia) that exists in the civil code, and the form of “letras hipotecarias” created by the fundamental Housing Finance Law 24-441 of 1995 that are today a key component of securitization.[13] This option, however, would require adjustments to the legal framework to allow secured creditors to rank over depositors in a bankruptcy situation or at least a revised policy stance regarding the ranking of depositors. The latter condition raises banking policy issues, but numerous countries’ experience shows that they can be solved. A resolution regime including bail-in-able debt instruments, which Argentina as a member of G20 and of the Financial Stability Board may eventually develop, would in particular help reconcile secured creditors rights with the protection of depositors.

- **Pooling of funding needs of several institutions by a centralized structure that consolidate their funding needs and issues bonds to cover them.** This kind of funding structure exists both for debt and mortgage back securities issues - many countries in the former case, less in the latter one – but with the successful example in Latin America of *Titularizadora Colombiana*. Such a structure can be very beneficial to help structure the primary mortgage market while inducing economies of scale through larger issuance volumes and related benefits in terms of cost and liquidity. Creating an institution, however, is a relatively long undertaking. Establishing a multi-issuer trust for securitization purposes would be simpler, and has been proposed before by the banking community, but raises delicate issues such as the distribution of credit risk among participants.

- **Securitization of UVA mortgages limited to the sale of senior tranches is an easier short term solution.** Once the development of indexed mortgage lending matures and reliable data on the performance and profile of these portfolios become available, partial risk transfers could be envisaged - while ensuring that lenders keep “skin in the game”. In order to accelerate this process, relevant time series for loan analysis should be built as soon as possible.

Recommendations

FGS’s dominant investor position should be used to leverage other domestic and global investors. FGS should be considered an investor serving its members and not a source of subsidies. On the contrary, the first funding transactions by FGS should pioneer the opening of a compartment of private sector, inflation –proofed fixed income instruments and aimed at its

[13] Letras Hipotecarias are a form of mortgage loans that are easily transferable through nominative endorsement. These loans entail the right to enforce mortgage security through an out-of-court foreclosure proceedings. They are transferred to fideicomisos in securitization structures

sustainability through conditions attractive to other investors. This implies an economically realistic pricing of long term bonds.

The new capital markets law is an opportunity to lift some ambiguities stemming from the diversity of legal sources and to diversify indexed funding instruments. In particular, this is an opportunity to validate at the legislative level the use of UVA. The UVA is said by to be well grounded on a 2002 decree[14] later confirmed by a law, but still raises questions given the different index (UVI) included in the recent 976/16 law. Market acceptance is for the BCRA regulated inflation based UVA only, but the law refers to a construction price based index, UVI. Transactions will be based on UVA, and should the UVA grow faster than the UVI, the former may be challenged – legally or politically. Clarifying the validity of the UVA will lower risks in UVA based transactions. The main elements that the law could include in this respect are:

- Allow the issuance of indexed bank bonds, currently not allowed (in contrast to securitization) and specifically authorize the application of the UVA index for this purpose
- Confirm the possibility of indexing *Letras Hipotecarias*, the legal instrument used for securitization, which is considered by some stakeholders as excluded by the law 24.441 (that set the securitization framework), and explicitly allow using the UVA index
- Ideally, lay the ground for a future covered bond framework by defining the instrument and include it among the securities that can be indexed to UVA
- Waive stamp duties or notary fees related to securitization that may currently impede this capital market funding tool

The new funding instruments should standardized, safe and liquid to be successful in the market and facilitate the diversification of the investor base. They should be simple to avoid valuation difficulties and facilitate a minimum degree of market liquidity that even long term investors such as life insurance companies like to see to conduct active assets/liabilities management strategies. Some of the main measures to consider in this respect could be the following:

- **Design simple securitization products** (*cedulas hipotecarias* and *certificados de participation*). The Basel Committee and IOSCO developed in 2015 the concept of "Simple, Transparent and Comparable" (STC) securitizations with the view to re-dynamize the securitization market drastically affected by the last global financial crisis. The concept could be introduced in Argentina[15], where securitization is a well-known and tested instrument. Standardization of loans should be pursued jointly by the BCRA and the Securities Commission.

[14] Art 27 of Decree 905/02
[15] It has been introduced in the EU market.

- **Alternatively, or in parallel, develop a centralized structure.** A multi-issuer platform would in itself achieve the required standardization and simplicity. Some technical and institutional issues would have to be addressed however. For instance: rule for distributing the credit risk between primary mortgage originators, nature and cost of the structure, definition of a master servicer's responsibilities, identification of potential back-up servicers

- **Promote investments by banks in the new mortgage-related securities.** Banks are large investors in this type of instruments in developed markets, and could be a valuable new class of investors in Argentina. Two kinds of conditions need to be met in this perspective: 1) a favorable prudential treatment, such as the low risk weights attached to covered bonds and STCs (meeting quality criteria) in the European market; 2) the eligibility of the securities as vehicle for BCRA's liquidity interventions. BCRA only accepts government securities as collateral today. Including well-designed mortgage related securities would provide the liquidity banks need, and would enable them to be eligible to the Basle III liquidity coverage ratio.

- **Review, and amend to the extent needed, the investment rules applicable to institutional investors.**

A better developed sovereign CER yield curve would facilitate UVA[16] mortgage loans. A liquid sovereign yield curve enable issuers and investors to more easily price their less liquid instruments. Currently sovereign CER yields ~3.25 - 3.5 percent for 5 years and ~4 percent for 8-10 year duration. As confidence strengthens the sovereign yields may decline making housing loans cheaper as well.

The provincial gross income tax on interest income is costly for housing finance and consideration should be given to exempting low income households. The *Impuesto sobre los Ingresos Brutos* is a gross tax on interest income applied by Argentinean provinces. If mortgage loans were securitized, the investors would have to pay the tax. Under current conditions, the tax if applied to both the real interest rate and to the negative amortization, securitization would be unviable. The Government could consider negotiating tax exemptions with the provinces for future SCP batches.

The near term risk management and funding solution may include Certificates of Deposits (CD) to institutional investors to hedge the UVA index/real interest rate risk, and unsecured bonds may be the easiest next step, but work should also begin on the longer term solutions. Time deposits may hedge the UVA real interest rate risk up to perhaps a year or two. Bonds may do the same for longer period, but require legal amendments. More sustainable solutions including mortgage covered bonds or securitization and the potential establishment of

[16] CER and UVA are substantially equivalent.

centralized facilities for their issuance require greater preparation, and that work should therefore also start soon.

A formal task force could be charged with leading the housing finance development agenda. The ad-hoc working group currently providing a forum for policy makers could be turned into a formal Task Force led at a senior level by the authorities. The BCRA and the Finance Ministry are the most relevant candidates to lead the Task Force. High level leadership will help ensure that the relevant parties convene. The Task Force could help prioritize and sequence reforms, analyze the different options for funding solutions outlined above, and interact with lenders and investors to identify viable solutions.

The Task Force priorities could include: (i) deciding on viable capital market solutions and the need for a centralized facility, (ii) develop standardization of instruments using the IOSCO STC framework, (iii) devise a hedging solution for inflation growing faster than wages, (iv) review taxes, stamp duties and notary fees for mortgage lending and associated securities; (v) consider policy on allowing banks to issue mortgage covered bonds and on repo eligibility.