



# FOREIGN CURRENCY LENDING IN ALBANIA

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# Motivation...(1)



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- In Albania, as in the CESEE, the phenomenon of FX lending started as a feature of private firms, but it quickly expanded to individuals.
- Nowadays, although diminishing over the years, more than 65% of all private sector loans in Albania is currently denominated in (or linked to) a FX lending.
- Unhedged lending composes 60% of total FX lending and FX non-performing loan is nearly 71% versus 17% of that in domestic currency.
- Unhedged FX lending is seen as a major threat to financial stability and risk of systemic crises in SEE, in case of exchange depreciations and interest rate changes, which can strain the financial situation of firms, individuals and banks [*Brown and De Haas (2010)*].



# Motivation... (2)



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- FX lending can potentially constrain the effectiveness of monetary policy and complicates macroeconomic policy; in particular, it can limit the central bank's ability to influence output and inflation [*Beckmann, et. al., (2011)*].
- After the crisis had hit the region the issue of FX lending has increasingly caught the attention of policymakers, particularly at the Bank of Albania.
- By late 2008, Governing Council at the BoA took some macro-prudential measures to de-motivate FX lending,
  - e.g. raising the demand for capital expenditure for the unhedged bank's loan portfolio, e.g. *50% higher for portfolio related to capital adequacy ratio and a ceiling limit level of 400% of FX lending to the regulatory capital*;
  - and placement of a higher limiting weighted level for the foreign bank branches e.g. *6.25% of total system assets and 6.25% of total system liabilities*;

# Motivation... (3)



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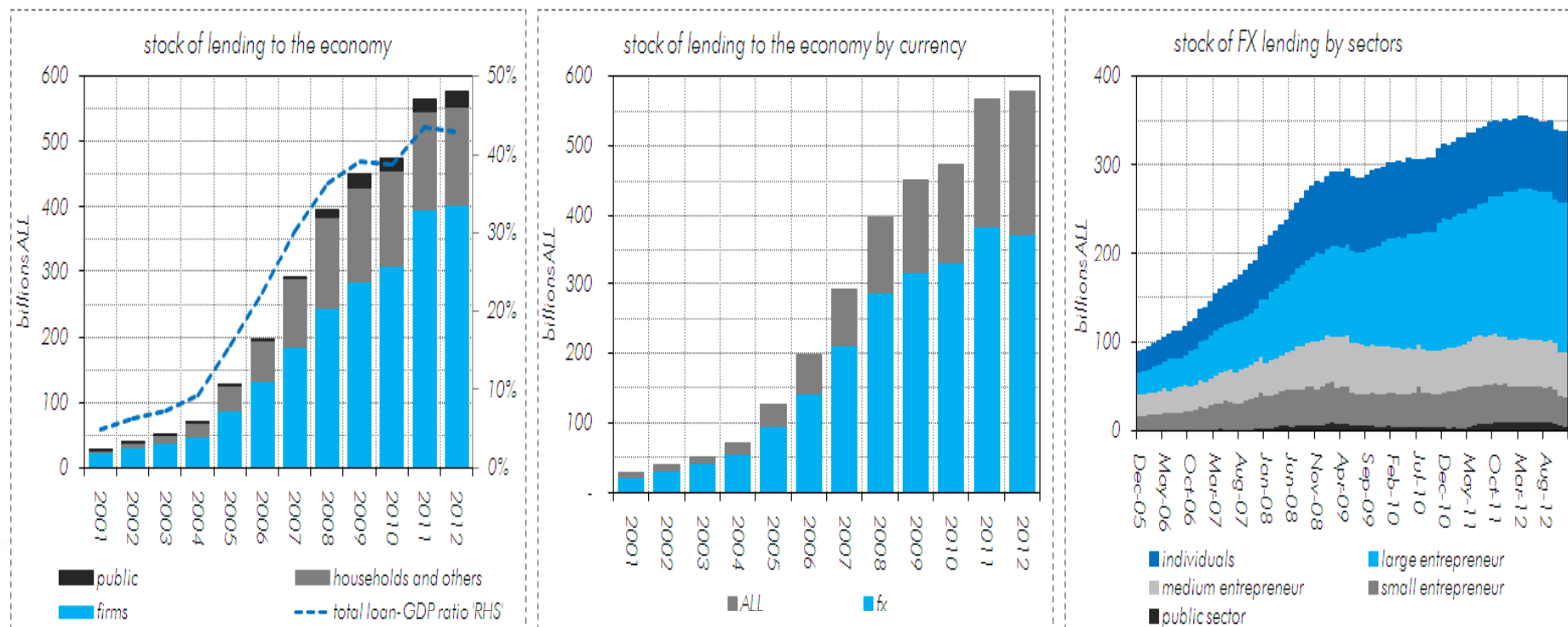
- The appropriate well-targeted regulatory and supervisory measures depend on knowledge about the sources of FX lending dominance [*Streiner, (2011)*].
- The widespread view that FX lending in Albania is driven by interest rate spread, exchange and inflation rate risks or funding of banks in FX has not yet been empirically analysis.
- The main purpose of this material is to provide new evidence on the various dimensions effects thriving FX lending by private sector in the case of Albania.
- Credit channel has been previously studied [*Kalluci, (2011), Dushku and Kota, (2012), Note and Suljoti (2012), Suljoti and Hashorva (2012), Note and Suljoti (2013), Suljoti, Note and Manjani, (2013)*].
- **BUT**, this material contributes to the empirical research on this topic by explicitly disaggregating bank lending and concentrating only on the FX lending.

# Stylised facts...(1)

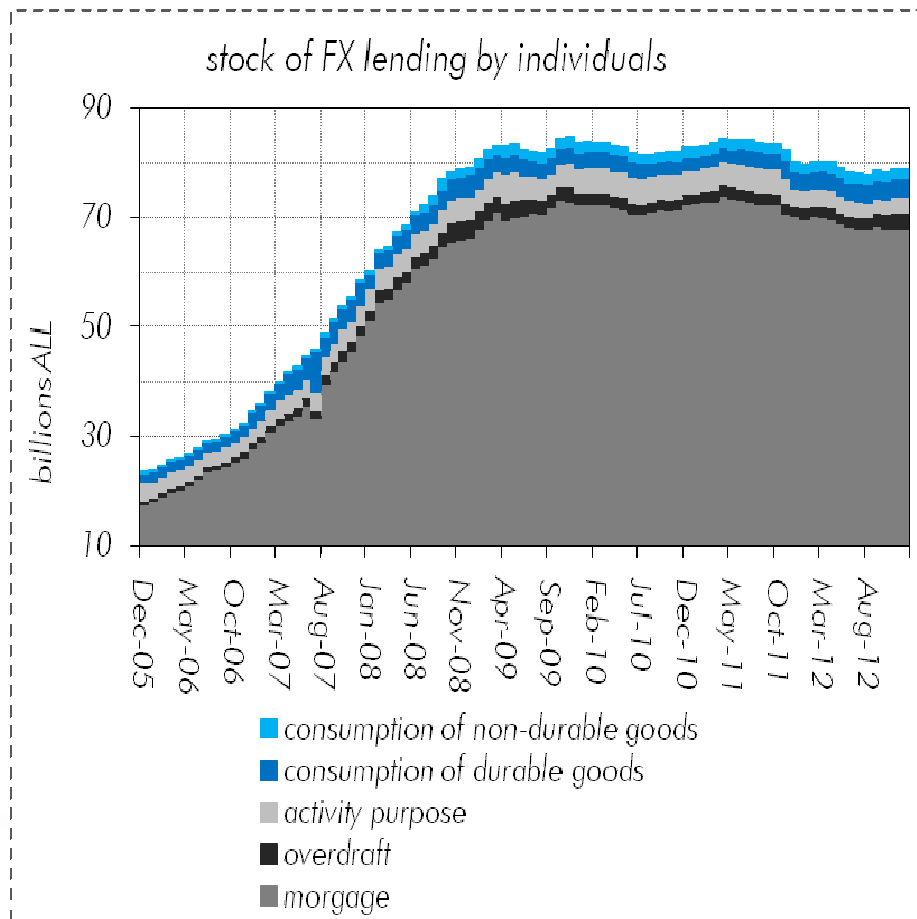
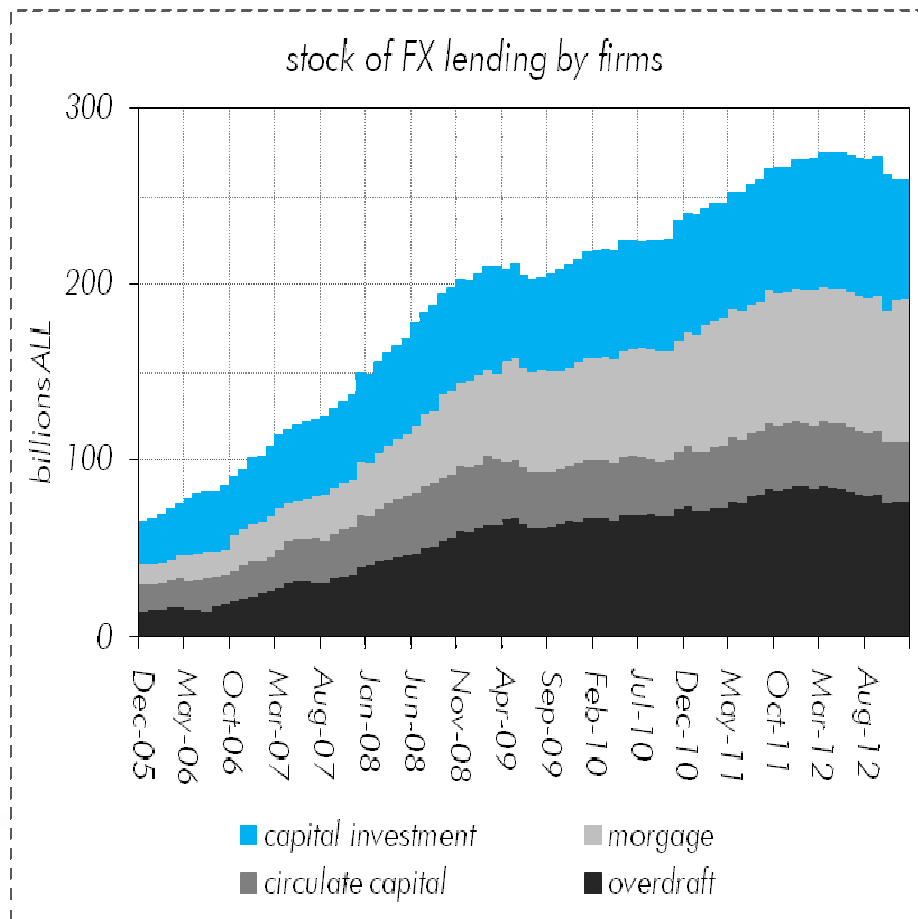


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- The boost in bank lending has gathered more momentum during 2004 – 2008. FX lending is mainly provided to private firms, particularly large entrepreneurs, but over the years it has quickly been attractive to individuals.



# Stylised facts...(2)



# Stylised facts...(3)



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- Euro has gained a greater foothold as a result of the strengthening on the international markets and the strengthening of Albania-EU trade patterns.
- The structure of FX loan gradually shifts towards long-term FX lending.
- Bank of Albania (via the Annual Reports) implies that FX lending is attractive due to:
  - positive spread between foreign and domestic lending interest rate;
  - lasting period of domestic exchange rate appreciation against the foreign currencies;
  - payments to the raw material companies, mostly foreigners;
  - mortgages market operates under foreign index prices;
  - currency hedging of exporting firms, etc.;
- Deposits by firms and individuals constrain the main sustainable source of lending, mostly in domestic currency. **BUT**, actually nearly 47% of total deposits, compared with 30% in the early 2000s' are in FX currency.





# Stylised facts...(4)



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- After the events of 2008, banking activity was characterized by:
  - a cautious approach to enterprise risk exposures;
  - moderate growth levels of lending;
  - higher level of loans considered with risk;
  - the quality of FX portfolio appears more problematic;
  - the quality of the unhedged portfolio appears more problematic, e.g. **unhedged FX lending remains as high and has generally been above 50%. For individuals is at 80% versus 40% for firms.**
- Although, credit risk in the system appears to be raising, maintaining a satisfactory level of capital adequacy by banks provides a safeguard pattern for controlling the overall level of risk. It has been higher compared to the regulatory minimum level of 12%.



# Methodology & data issues...(1)



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- Based on *Cuaresma, Fidrmuc and Hake (2011)*, model specification consider demand and supply factors as follows:

$$\phi_t = \alpha + \beta X_t + \varepsilon_t \quad (1)$$

- Where,  $\phi$  - represent the annual growth rate of the ratio of FX lending to private sector to the total lending to the private sector;  $X$  is a matrix of explanatory variables and  $\varepsilon \sim iid(0, \sigma^2)$  is the stochastic error term. The  $X$  represents annual growth rate of explanatory variables such as:

Index	Explanatory of the variable	Sign
$i$	- the spread between average-weighted interest rate on domestic and foreign currency loan lending;	+
$\rho$	- inflation volatility [dlog(CPI)x400] based EGARCH (13) – AR(1, 1, 1)-in-variance model for dlog(CPI)	+
$\pi$	- real effective exchange rate (REER) volatility based on EGARCH (11) – AR(12, 1, 12)-in-variance model for dlog( $\pi$ )	-/+

# Methodology & data issues...(2)



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- $\lambda_{MVP}$  - a Minimum Variance Portfolio (MVP) index as proposed by first by Ize and Levy-Yeyati (2003), based on historical information REER and annualised inflation rate. It is estimated as a variance or covariance of inflation and changes of nominal exchange rate:

$$\lambda_{MVP} = \frac{\sigma_{\pi}^2 + \sigma_{\pi} \sigma_{\pi}}{\sigma_{\pi}^2 + \sigma_{\pi}^2 + 2\sigma_{\pi}}$$

+

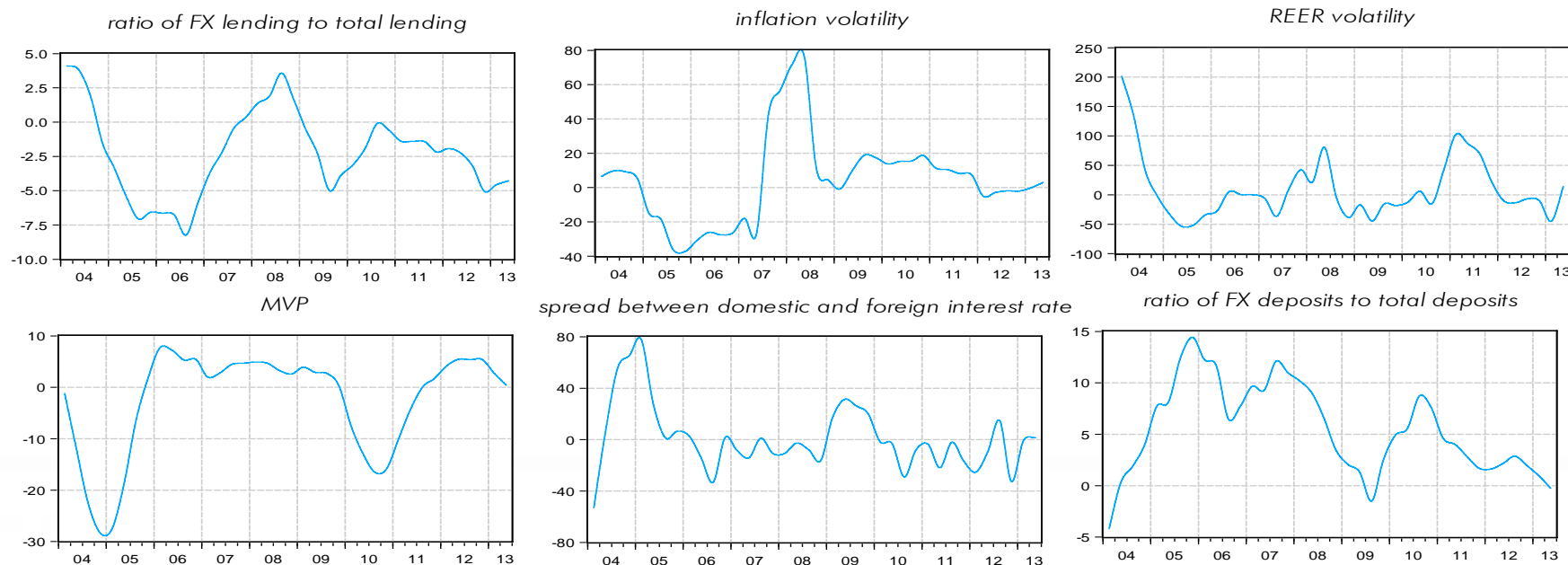
Where,  $\sigma$  is the variance/covariance of inflation & changes of REER.

- $\omega$  - The ratio of FX deposits to the total deposits in the banking sector; +
- $\tau$  - dummy variable to account for the effect of macro prudential policies taken by the Bank of Albania, taking the value 1 for the period 2008Q03 – 2012Q04, 0 otherwise. -

# Methodology & data issues...(3)



- The data on Consumer Price Index (CPI) are taken from the Albanian Institute of Statistics (INSTAT). The rest are taken from the Bank of Albania;
- The model is estimated by ARDL approach proposed by Pesaran, *et. al.* (2001), using quarterly data from 2004Q01 to 2013Q02;



# Results and Discussion...(1)



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- Unit root (ADF and PP) tests support the ARDL approach, e.g. conclusive evidence on stationary of  $\lambda_{MVP}$ ,  $\pi$  and  $i$  being  $I(0)$  and others  $I(1)$ .
- The statistical versus the critical value (based on Narayan (2004)), shows that:

Table 4. ARDL bound test for cointegration analysis based on equation 2b

Dependant Variable <sup>(1)</sup>	AIC-SC lags	F-stat	df	[Prob.]	Results***
$F_{\phi}(\phi   \rho, \pi, \lambda_{MVP}, \iota, \omega)$	2	3.838	(6, 13)	[0.0301]	Cointegration
$F_{\rho}(\rho   \pi, \lambda_{MVP}, \iota, \omega, \phi)$	2	2.808	(6, 13)	[0.0560]	No conclusive
$F_{\pi}(\pi   \lambda_{MVP}, \iota, \omega, \phi, \rho)$	2	3.121	(6, 13)	[0.0302]	No conclusive
$F_{\lambda_{MVP}}(\lambda_{MVP}   \iota, \omega, \phi, \rho, \pi)$	2	3.206	(6, 13)	[0.0407]	No conclusive
$F_{\iota}(\iota   \omega, \phi, \rho, \pi, \lambda_{MVP})$	2	3.198	(6, 13)	[0.0454]	No conclusive
$F_{\omega}(\omega   \phi, \rho, \pi, \lambda_{MVP}, \iota)$	2	2.423	(6, 13)	[0.0809]	No conclusive

\*\*\* Based on the critical value suggested by Narayan (2004), for an equation with intercept, where:  $k=6$  and  $n=40$

- (1 %) : lower bound  $I(0) = 3.796$  and upper bound  $I(1) = 5.299$
- (5 %) : lower bound  $I(0) = 2.757$  and upper bound  $I(1) = 3.927$
- (10 %) : lower bound  $I(0) = 2.316$  and upper bound  $I(1) = 3.371$

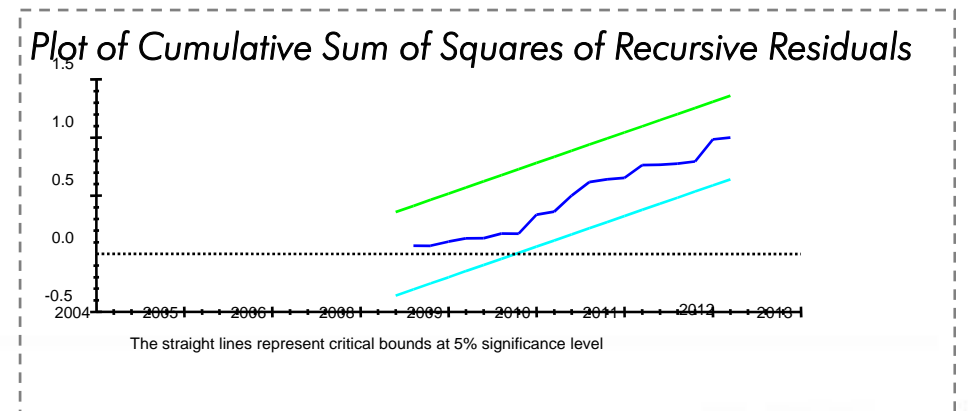
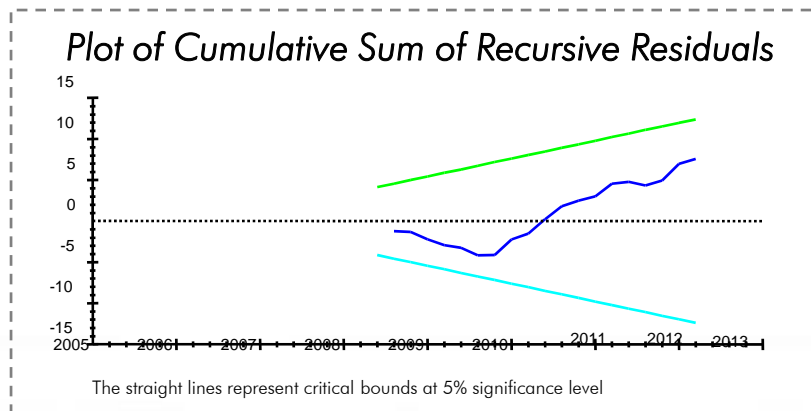


# Results and Discussion...(2)



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- The statistical values reveal:
  - A high coefficient on  $\text{adj-R}^2$  ;
  - And no problems with respect to model functional formulation, normality, serial correlation and heteroscedasticity in the error term;
  - Stable relationship (CUSSUM and CUSSUMSQ tests).



# Results and Discussion...(3)



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Table 1: Estimating long-run coefficients using ARDL approach

ARDL(2,1,0,0,0,2) selected based on Schwarz Bayesian Criterion  
DV is , 38 observations used for estimation from 2004Q1 to 2013Q2

Regresses	Coefficient	Standard Error	T-Ratio	[Prob]
$\rho$	0.06540	0.011895	5.4983	[.094]
$\pi$	0.01782	0.009010	1.9784	[.001]
$\lambda_{MVP}$	0.10651	0.053897	1.9762	[.000]
$i$	0.01546	0.021693	.71293	[.484]
$\omega$	0.54274	0.170030	3.1921	[.000]
constant	-0.08108	0.016055	-5.0505	[.000]
$T$	-0.03720	0.011543	-3.2228	[.036]



# Results and Discussion...(4)



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- FX lending is positively related to domestic monetary volatility the volatility of the exchange rate.
  - The former, similar to findings by *Luca and Petrova (2008)* on trans. economies;
  - The later, as *Cuaresma, et. al. (2011)* reveal, emerges from a demand side effect of the expected stability of repayment rates given that it represents more a portfolio optimisation model.
- **BUT**, both impacts [ $\rho = .0654$ ] and [ $\pi = .01782$ ] are relatively small, as in the case of *Rosenberg and Tirpák (2009)* in a study on CESEE EU Member States and Croatia.
- The problem of inflation and exchange rate volatility is less dominant in the case of Albania, probability due to the lower inflationary pressure and stable exchange rate regime through the sample time [*Cuaresma, et. al. (2011)*].





# Results and Discussion...(5)



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- The impact of spread ( $i=0.0648$ ) is found positive, **BUT** relatively smaller comparably to *Fidrmuc, et. al. (2011)* and statistically insignificant.
- **BUT**, similar to findings by *Brown, et. al. (2009)* and *Shijaku and Kalluci (2012)*. A preliminary assumption would suggest two particular reasons:
  - Possible no substitution effect given that FX lending is considered more risk free in terms of domestic inflation and exchange rate.
  - Borrowers might be orientated to cost cuts, but the needs for fund financing and FX lending purposes make the demand for FX lending inelastic.
- Similar to other empirical studies [*Basso, et. al. (2007)*, *Neanidis and Savva (2009)*, *Cuaresma, et. al. (2011)* and *Fidrmuc, et. al. (2011)*] estimation results confirm the theoretical argumentation of *Ize and Levy-Yeyati (2003)*, that  $\lambda_{MVP}$  is positively related to FX lending and that MVP is a key explanatory variable.



# Results and Discussion...<sup>(6)</sup>



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- The level of FX lending will rise by nearly 0.10651pp in response of 1pp in  $\lambda_{MVP}$ .
- FX deposits constitute a key driver of FX lending in the Albanian banking system, similar to *Luca & Petrova (2008)*, *Cuaresma, et. al. (2011)* and *Note & Suljoti (2012)*.
- Raising FX deposit by 1pp would be associated with a 0.5427pp increase in FX lending and as in *Shijaku and Kalluci (2012)* is the highest among other explanatory variables.
- The post financial and economic crises impact, captured by the dummy variables, is found to be associated with a statistically significant negative, but small, effect on FX lending behaviour.



# Results and Discussion...(7)



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- There is a high inertia in FX lending in the short-run;
- There was a smaller impact than in SR, with respect to interest spreads and volatility of inflation and exchange rate.
- The accumulated lag impact of:
  - FX deposits continue to reveal a positive sign and remains key drivers of FX lending even in the SR.
  - MVP confirms the results by *Neanidis and Savva (2009)* that the effect of MVP is materialised only in the long run, while in the short run there might be no relationship or even a slight negative impact.

# Results and Discussion...<sup>(8)</sup>



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- The results on the coefficient on ECM shows that:
  - It has a negative sign [ $ECM_{(-1)} = -.469$ ] and is stat. significant at 1% level.
  - There is an ECM, which brings FX lending back to equilibrium. Thus, the long-run equilibrium of *Granger (1986)* is achievable.
  - Supports, findings by *Shijaku and Kalluci (2012)* that FX lending is determined by both the demand and supply factors.
- The ECM coefficient is relatively higher than the magnitude observed by *Shijaku and Kalluci (2012)* on credit behaviour. **BUT**, it implies that any deviation from the equilibrium level would be corrected on a relatively short extend time span.
- It is greater than the magnitude observed by previous studies on money demand utility function [*Tanku (2006)*, *Shijaku, H., (2007)* and *Shijaku, G., (2012)* on money demand adjustment coefficient].



# To Sum Up...(1)



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- This material builds upon previous empirical analyses in the case of Albania and aims to appraise explicitly the determinants of FX lending (demand or supply side) based on the meta-analysis for CESEE countries.
- The model is estimated through means of bound test to ARDL approach.
- The study identifies an error correction mechanism that has a relatively higher speed of adjustment than the magnitude observed previously on credit behaviour and money demand utility function studies.
- The findings confirm the theoretical assumption that FX lending will be influenced by risks perception conditions.
- Inflation and exchange rate patterns all together with the interest spread are found to have a small effect.

# To Sum Up... (2)



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- FX lending displays the tendency towards stable currency patterns and the needs for liquidity and purposes of use overcome the substitution and cost reductions effects, making the demand inelastic.
- Results support the theoretical argumentation of the concept of MVP as explanatory factor and together with FX deposits pattern they constitute a key driver of FX lending in the Albanian banking system.
- Results on the SR imply strong inertia in FX lending behaviour and reinforce the LR patterns.



# The End...



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THANK YOU  
FOR YOUR ATTENTION!!!

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