Online Appendix

Contents

A.1 Preliminary tests

This section discusses preliminary tests of the time-series properties of the panel data and lag selection for the baseline model.

A.1.1 Stationarity

We report a series of panel unit root tests [61] for CCB, GDP, CPI, M2 and ER in Table A.1. These were estimated with and without a time trend, for levels (top panel), log-levels (middle panel), and first differences (bottom panel). Obviously, the cross-currency basis series are proved to be stationary in levels either with and without time trend for all the three types of tests, indicating no unit root issues with CCB[62]. However, other variables in levels and log-levels, more or less do not pass certain tests, suggesting the existence of nonstationarity problem. When first differences series for the rest four variables are examined, they all prove stationary regardless of considering time trend or not.

[61]Tests from Im, Pesaran & Shin (2003) and Choi (2001) do not take into account cross-sectional dependence in the error term, and the variables were demeaned before the testing. However, the test by Pesaran (2007) allows for the presence of an unobserved common factor with heterogeneous factor loadings; during this test, up to 4 lagged differences were considered to account for potential serial correlation.

[62]Since no evidence of unit root issues are found for CCB series, we do not consider tests for the other two forms series.

Table A.1: Panel unit root tests for levels, log levels, and first difference transformations[†]

	Levels									
	with constant only					*with constant and trend*				
	CCB	GDP	CPI	M2	ER	CCB	GDP	CPI	M2	ER
Im-Pesaran-Shin	-14.571***	2.226	5.429	26.047		-14.706***	-2.066**	3.999	13.779	
Fisher ADF	-16.296***	2.593	-0.706	12.128	1.916	-14.716***	-9.728***	4.334	8.631	5.733
Pesaran CADF	-11.248***	3.227	15.244	8.673	-0.771	-10.622***	7.165	5.727	11.293	-1.404*
	Log levels									
	with constant only					*with constant and trend*				
		GDP	CPI	M2	ER		GDP	CPI	M2	ER
Im-Pesaran-Shin		-1.070	-2.248**	5.611			1.888	3.853	-0.235	
Fisher ADF		-0.513	-10.806***	1.789	1.951		-5.716***	2.925	4.028	5.560
Pesaran CADF		2.246	-0.648	6.794	0.661		9.851	1.451	9.374	-3.403***
	First differences									
	with constant only					*with constant and trend*				
		GDP	CPI	M2	ER		GDP	CPI	M2	ER
Im-Pesaran-Shin		-40.446***	-24.474***	-14.952***			-40.220***	-27.451***	-14.397***	
Fisher ADF		-54.750***	-38.262***	-47.715***	-39.276***		-53.841***	-38.132***	-46.426***	-36.038***
Pesaran CADF		-32.108***	-22.820***	-27.335***	-25.766***		-32.192***	-21.855***	-26.999***	-23.963***

[†] The null hypothesis is nonstationarity or the existence of a unit root. Lags for the tests are chosen by the Akaike criterion. The Im-Pesaran-Shin test reports the W_{t-bar} statistic, the Fisher ADF test reports the inverse normal Z, and the Pesaran CADF reports the Z_{t-bar} statistic. *, ** and *** indicate significance at 10 percent level, 5 percent level and 1 percent level, respectively. The Im-Pesaran-Shin tests do not produce results for ER due to insufficient periods, however, other tests suggest that ER is not stationary except in first differences. Therefore, we adopt ER in first difference in our analysis.

A.1.2 Cointegration

Table A.2 presents two sets of panel cointegration: a residual-based test (Pedroni 1999), and an error-correction-based one (Westerlund 2007). As before, we also consider tests with and without a time trend, and report the test statistics for variables included in the parsimonious in the top panel and comprehensive in the bottom panel. Overall, the results suggest potential cointegration except the Westerlund α test for the parsimonious model. We leave the cointegration possibilities for robustness check.

Table A.2: Panel cointegration tests, parsimonious and comprehensive models

	Parsimonious			
	with constant only		with constant and trend	
	Panel	Group	Panel	Group
Pedroni ADF	-20.37	-21.05	-19.91	-19.01
Westerlund α Z	-23.92***	-6.08***	-13.23***	-1.21
	Comprehensive			
	with constant only		with constant and trend	
	Panel	Group	Panel	Group
Pedroni ADF	-17.87	-18.72	-19.59	-19.21
Westerlund α Z[§]	1.39	6.70	5.24	9.43

[†] The null hypotheses are of no cointegration for both tests. Variables for the Pedroni (1999) test were time-demeaned to capture common time effects, and the parametric group and panel augmented Dickey-Fuller statistics are reported; the Westerlund (2007) α test explicitly accounts for cross-sectional dependence, reporting the semiparametric group-mean and panel statistics G_α and P_α. Lags for the tests are chosen with the Akaike criterion.

[§] Argentina, Colombia, Qartar, Romania, Slovakia and Saudi Arabia are excluded for the Westerlund α test due to insufficient observations to conduct the test for comprehensive specifications: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

A.1.3 Lag selection

Table A.3 documents the overall model fit for up to four lags for the parsimonious (left panel) and the comprehensive (right panel) specifications. Overall, the majority of the information criteria (except AIC) suggest the selection of the first-order PVAR model. We therefore regard this as our baseline.

Table A.3: Information criteria for lag selection, parsimonious and comprehensive models

	Parsimonious			**Comprehensive**		
Lag	*BIC*	*AIC*	*QIC*	*BIC*	*AIC*	*QIC*
1	-134.505	36.855	-24.427	-807.496	258.593	-123.211
2	-5.517	141.363	88.835	-553.175	360.615	33.355
3	161.646	284.046	240.273	-294.507	466.985	194.268
4	-82.361	15.558	-19.460	-427.169	182.025	-36.149

† Test statistics are computed for a maximum of lag order of 4 quarters, and instrumented with lags of 1 through 8. The moment and model selection criteria correspond to the maximum likelihood-based Akaike (AIC), Bayesian (BIC), and Hannan-Quinn (QIC) Information Criteria, and are reported for all over-identified specifications.

A.2 Data appendix

This section provides additional secondary information related to the data and sample used for the analysis.

A.2.1 Sample countries

As described in the paper, we have 50 countries in our analysis due to the availability of data. Specifically, we include 23 emerging economies and 27 advanced economies, with details in Table A.4.

Table A.4: Sample country

Emerging economies		
Argentina	Bulgaria	Chile
China	Colombia	Czech Republic
Hungary	India	Indonesia
Kazakhstan	Korea	Malaysia
Mexico	Philippines	Poland
Qatar	Romania	Russia
Saudi Arabia	South Africa	Taiwan
Thailand	Turkey	
Advanced economies		
Australia	Austria	Belgium
Canada	Cyprus	Denmark
Finland	France	Germany
Greece	Hong Kong	Ireland
Israel	Italy	Japan
Malta	Netherlands	New Zealand
Norway	Portugal	Singapore
Slovakia	Slovenia	Spain
Sweden	Switzerland	United Kingdom

† Some countries may be dropped out of the sample in certain specifications due to data availability.

A.2.2 Data sources

We use various macro-economic level data in this analysis. Most importantly, the cross-currency basis is calculated according to Equation (3) by interbank offered rates, spot and forward exchange rates from Bloomberg. The detailed tickers for different currencies are displayed in Table A.6. Other variables used in our baseline analysis are collected from EIU Country Data. For better understanding, we describe all the variables together with their definitions and sources in Table A.5.

Table A.5: Sources and definitions for main variables of interest

Variable	Definition	Source
	Baseline variables	
Cross-currency basis	Three-month IBOR basis of a currency against the US dollar	Calculated by author[†]
Real GDP	GDP at constant market prices, rebased to 2010 constant prices	EIU CD[‡]
Consumer price index	The consumer price index in local currency rebased to 2010=100	EIU CD
Money supply (M2)	Total supply of notes and coins demand deposits plus quasi-money, period-end	EIU CD
Nominal exchange rate (ER)	National currency per US dollar, quarterly average	EIU CD
	Robustness and additional variables	
Production price index	The producer price index in local currency rebased to 2010=100	EIU CD
Lending interest rate	Average rate on commercial banks' short- and medium-term loans to the private sector	EIU CD
Real effective exchange rate	Trade-weighted basket of currencies converted to an index (1997=100), CPI-adjusted	EIU CD
Current account	Current account balance	EIU CD
Private consumption	Private consumption expenditure at constant market prices	EIU CD
Investment flows	Net flow of direct investment capital	EIU CD
Democracy index	Machine learning democracy index, a higher value indicates higher level of democracy[§]	Gründler & Krieger (2021)
Dependency ratio	Ratio of < 16 and > 64 year-olds to working-age population[§]	WDI
Default risk	Bank non-performing loans to total gross loans[§]	WDI
Trade openness	Sum of exports and imports of goods and services measured as a share of GDP[§]	WDI
Financial development	Domestic credit to private sector, share of GDP[§]	WDI
Political risk	Weighted index of subjective political-economic risk ratings[§]	ICRG
Synthetic dollar rate	Interest rate faced by non-US investors to borrow dollars via currency swap	Calculated by author

[†] Relevant data come from Bloomberg. See table A.6 for details.
[‡] EIU CD = Economist Intelligence Unit Country Data, WDI = World Development Indicators, ICRG = International Country Risk Guide. ICRG indicators are measured such that higher values indicate lower risk (better outcomes).
[§] Source data are at annual frequency, and interpolated into quarterly data.

Table A.6: Tickers for 3-month IBOR basis computation†

Currency	Forward‡	Spot	IBOR	Day Count Convention
AUD	AUD3M Curncy	AUDUSD Curncy	BBSW3M	365/ACT
CAD	CAD3M Curncy	USDCAD Curncy	CDOR03M	365/ACT
CHF	CHF3M Curncy	USDCHF Curncy	SF0003M	360/ACT
DKK	DKK3M Curncy	USDDKK Curncy	CIBO03M	360/ACT
EUR	EUR3M Curncy	EURUSD Curncy	EUR003M	360/ACT
GBP	GBP3M Curncy	GBPUSD Curncy	BP0003M	365/ACT
JPY	JPY3M Curncy	USDJPY Curncy	JY0003M	360/ACT
NOK	NOK3M Curncy	USDNOK Curncy	NIBOR3M	360/ACT
NZD	NZD3M Curncy	NZDUSD Curncy	NDBB3M	365/ACT
SEK	SEK3M Curncy	USDSEK Curncy	STIB3M	360/ACT
ARS	APN3M Curncy	USDARS Curncy	ARLBP90	365/ACT
BGN	BGN3M Curncy	USDBGN Curncy	SOBR3M & BIR§	360/ACT
CLP	CHN3M Curncy	USDCLP Curncy	PCRR90D Index	360/ACT
CNY	CNN+3M Curncy	USDCNY Curncy	SHIBO3M	360/ACT
COP	CLN+3M Curncy	USDCOP Curncy	COOVIBR3 Index	360/ACT
CZK	CZK3M Curncy	USDCZK Curncy	PRIB03M Index	360/ACT
HKD	HKD3M Curncy	USDHKD Curncy	HIHD03M Index	365/ACT
HUF	HUF3M Curncy	USDHUF Curncy	BUBOR03M	360/ACT
IDR	IHN+3M Curncy	USDIDR Curncy	JIIN3M	360/ACT
ILS	ILS3M Curncy	USDILS Curncy	TELBOR03M	365/ACT
INR	IRN+3M Curncy	INR Curncy	IN003M	360/ACT
KRW	KWN+3M Curncy	USDKRW Curncy	KRBO3M	365/ACT
KZT	KTN+3M Curncy	USDKZT Curncy	KZDR90D	360/ACT
MXN	MXN3M Curncy	USDMXN Curncy	MXIB91DT Index	360/ACT
MYR	MRN+3M Curncy	USDMYR Curncy	KLIB3M	365/ACT
PHP	PPN+3M Curncy	USDPHP Curncy	PREF3MO Index	360/ACT
PLN	PLN3M Curncy	USDPLN Curncy	WIBO3M	360/ACT
QAR	QAR+3M Curncy	USDQAR Curncy	AQII3M	360/ACT
RON	RON3M Curncy	USDRON Curncy	BUBR03M	360/ACT
RUB	RUB3M Curncy	USDRUB Curncy	MMIBR3M	365/ACT
SAR	SAR+3M Curncy	USDSAR Curncy	SAIB3M Index	360/ACT
SGD	SGD3M Curncy	USDSGD Curncy	SIBF3M Index	365/ACT
THB	THB3M Curncy	USDTHB Curncy	THFX3M Index	365/ACT
TRY	TRY3M Curncy	USDTRY Curncy	TRLIB3M Index	360/ACT
TWD	NTN+3M Curncy	USDTWD Curncy	TAIBOR3M	365/ACT
ZAR	ZAR3M Curncy	USDZAR Curncy	JIBA3M	365/ACT

† The corresponding variables are obtained from Bloomberg.

‡ We use forward points to calculate the forward exchange rate for the majority of the currencies when computing the CCBs. For currencies that do not report forward points in Bloomberg, we refer to their outright forward rates instead.

§ The Bulgarian National Bank ceased reporting the SOBR3M index in July 2018, and replaced it with a benchmark interest rate (BIR), at the same tenor, thereafter.

A.2.3 Descriptive statistics

In addition, the summary statistics and the corresponding correlation matrix for the comprehensive specification are reported in Table A.7 and Table A.8, respectively.

Table A.7: Summary statistics for main variables of interest †

Variable	**N**	**Mean**	**Std. Dev.**	**Min**	**Max**
CCB	3,415	18.685	193.378	-1214.810	6024.330
GDP	3,415	0.006	0.038	-0.429	0.266
CPI	3,415	0.007	0.009	-0.031	0.091
M2	3,415	0.020	0.028	-0.182	0.545
ER	3,415	0.001	0.043	-0.166	0.328

† Balanced sample statistics are reported; actual statistics may vary depending on the availability of data for a particular specification. CCB is measured as basis points in levels, while the remaining variables are first differenced, consistent with our baseline.

Table A.8: Correlation matrix for main variables of interest †

	CCB	GDP	CPI	M2	ER
CCB	1				
GDP	-0.0529	1			
CPI	-0.0560	0.1467	1		
M2	0.0128	0.1247	0.1719	1	
ER	-0.0116	-0.0565	0.0105	0.0372	1

† Spearman's correlation corresponding to the comprehensive model sample are reported. CCB is measured as basis points in levels, while the remaining variables are first differenced, consistent with our baseline.

A.3 Full impulse response functions

In the paper, we report only selected impulse response functions for different specifications for both space saving and clear presentation. In this section, we provide the full matrix of orthogonalized impulse response functions for the baseline comprehensive specification (Figure A.1), comprehensive specification for the crisis-cum-post-crisis period with the full (Figure A.2), EMs (Figure A.3), and AEs (Figure A.4) sample countries. Similarly, the full matrices of impulse response functions discussed in Section 5 are provided as well: the modified comprehensive model with lending rate (Figure A.5), synthetic dollar rate (Figure A.6), private consumption (Figure A.7), and net investment (Figure A.8) for the EMs; the modified comprehensive model with current account (Figure A.9), the REER (Figure A.10), and the synthetic dollar rate (Figure A.11) for the AEs.

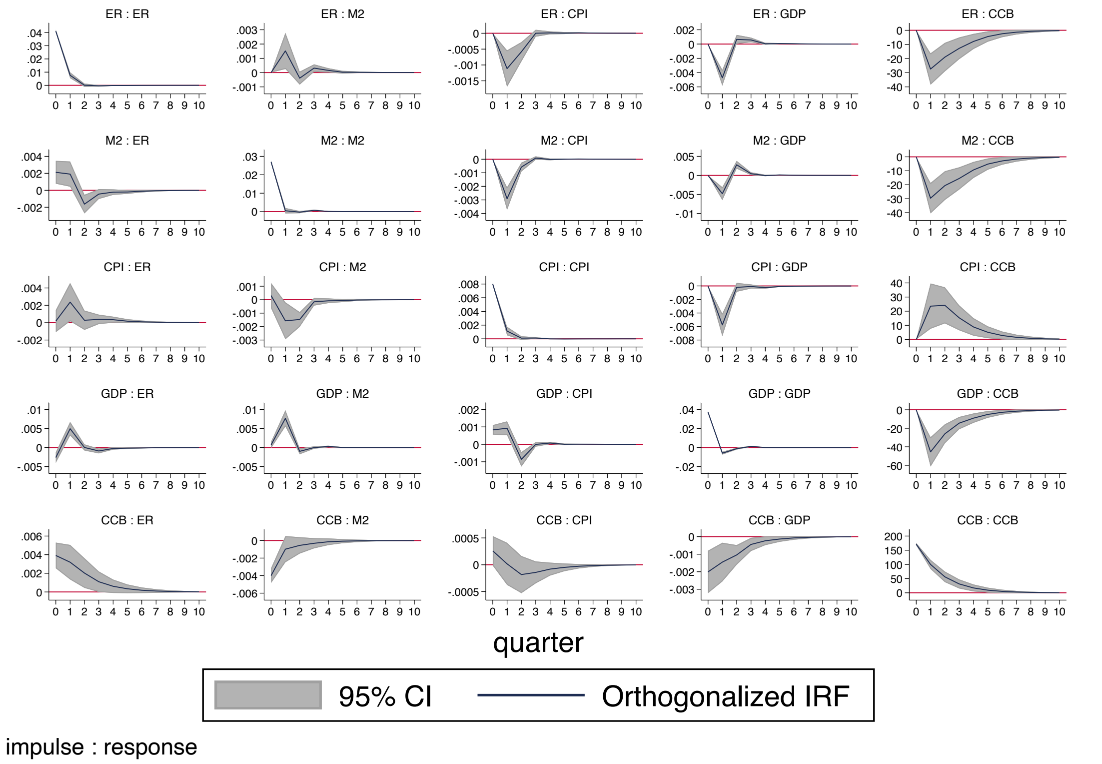


Figure A.1: Full matrix of orthogonalized impulse response functions for the baseline comprehensive model, full sample (2000Q1–2020Q4). The negative impact of dollar liquidity on output growth is found, where the domestic and dollar liquidity prove substitutes for each other. Meanwhile, the nominal exchange rate depreciates in response to positive innovations in dollar liquidity. However, the depreciation of exchange rate does not contribute to output growth, which corresponds to the J curve effect with a closer examination. In addition, positive innovations in domestic liquidity do not suggest a clear-cut positive effect on output.

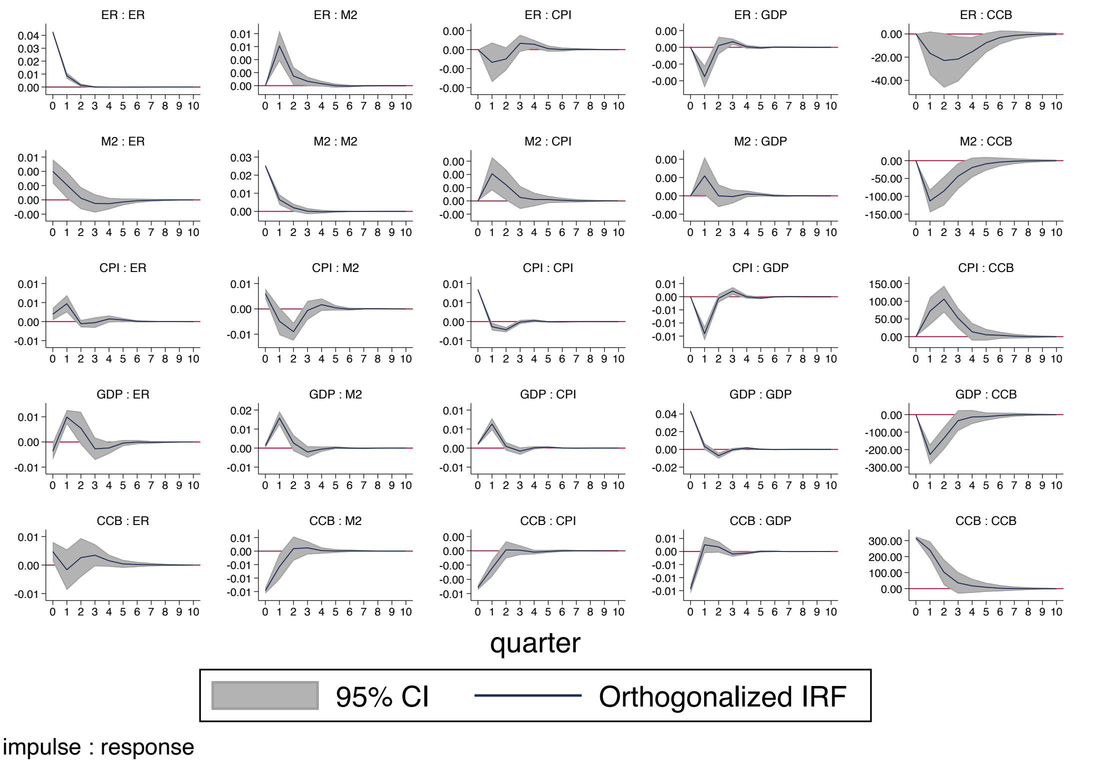


Figure A.2: Full matrix of orthogonalized impulse response functions for the baseline comprehensive model, crisis-cum-post-crisis period (2007Q4–2020Q4). While the negative impacts of dollar liquidity on output growth retain, it is worth noting that the bi-directional negative relationship between money stock and dollar liquidity retains with a larger magnitude compared to the baseline with full sample period. One more interesting finding comes from the positive effect of domestic money stock on output, which provides evidence for the *domestic liquidity* channel. However, the nominal exchange rate seems to be unaffected by dollar liquidity, and exchange rate depreciation surprisingly leads to output contraction. All the abnormal findings suggest the necessity to distinguish EMs from AEs in the sample.

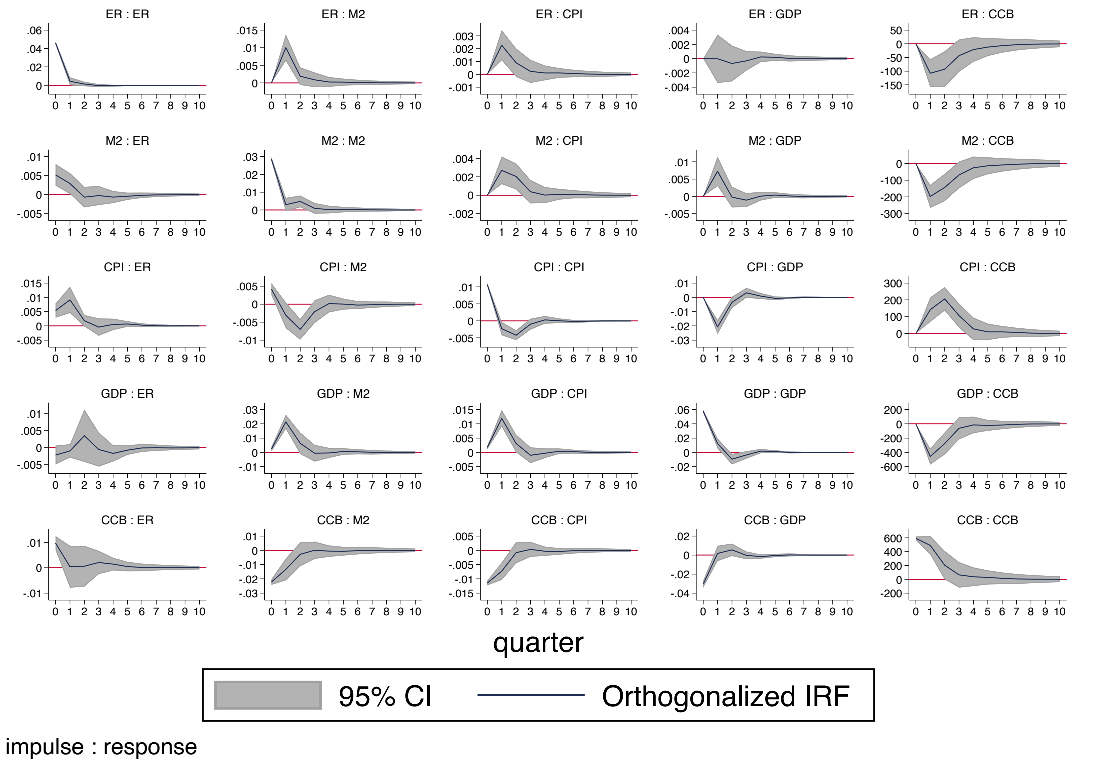


Figure A.3: Full matrix of orthogonalized impulse response functions for the comprehensive model in the emerging economies, during the crisis-cum-post-crisis period (2007Q4–2020Q4). As discussed in Section 4.4, the *domestic liquidity* channel works quite well in the transmission of dollar liquidity shocks on negative response in output in EMs, whereas the *exchange rate* channel seems not to matter much.

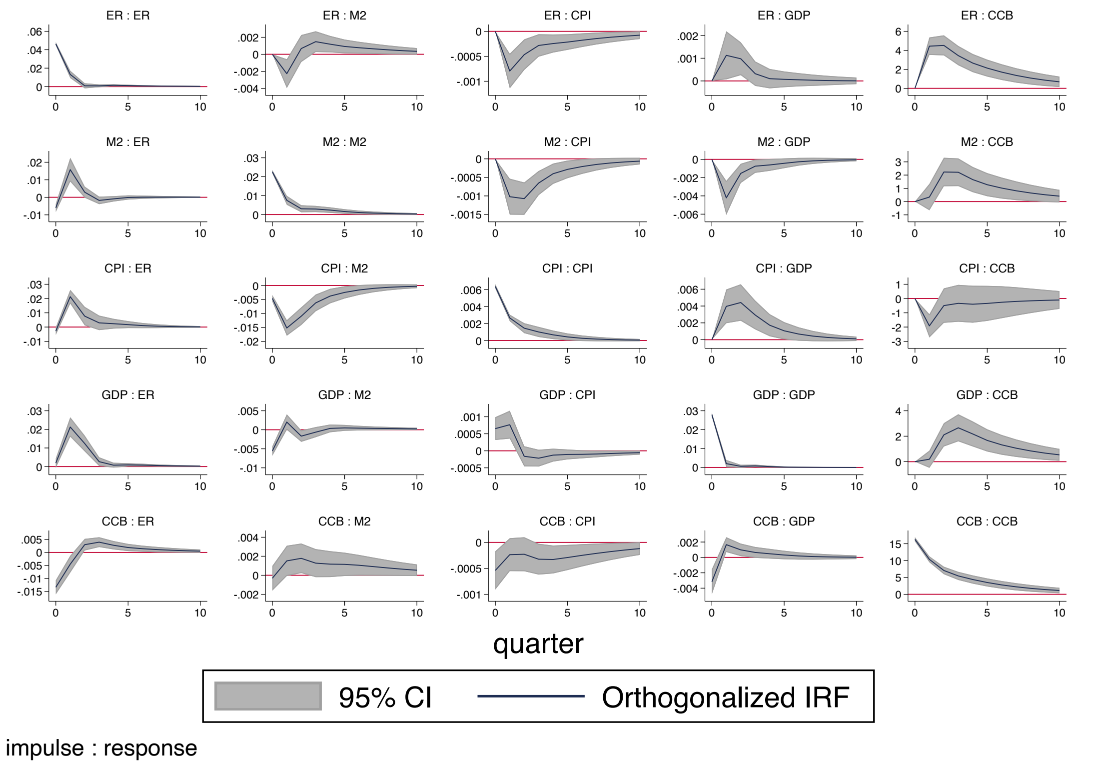


Figure A.4: Full matrix of orthogonalized impulse response functions for the AEs, comprehensive model, crisis-cum-post-crisis (2007Q4–2020Q4) period. As discussed in Section 4.4, positive shocks in dollar liquidity give rise to expansions of domestic liquidity, as easier global financing conditions allow their more mature financial markets to offer more domestic non-dollar assets. Strikingly, the exchange rate appreciation followed by positive innovations in dollar liquidity possibly deteriorates trade competitiveness and ultimately results in a GDP slowdown.

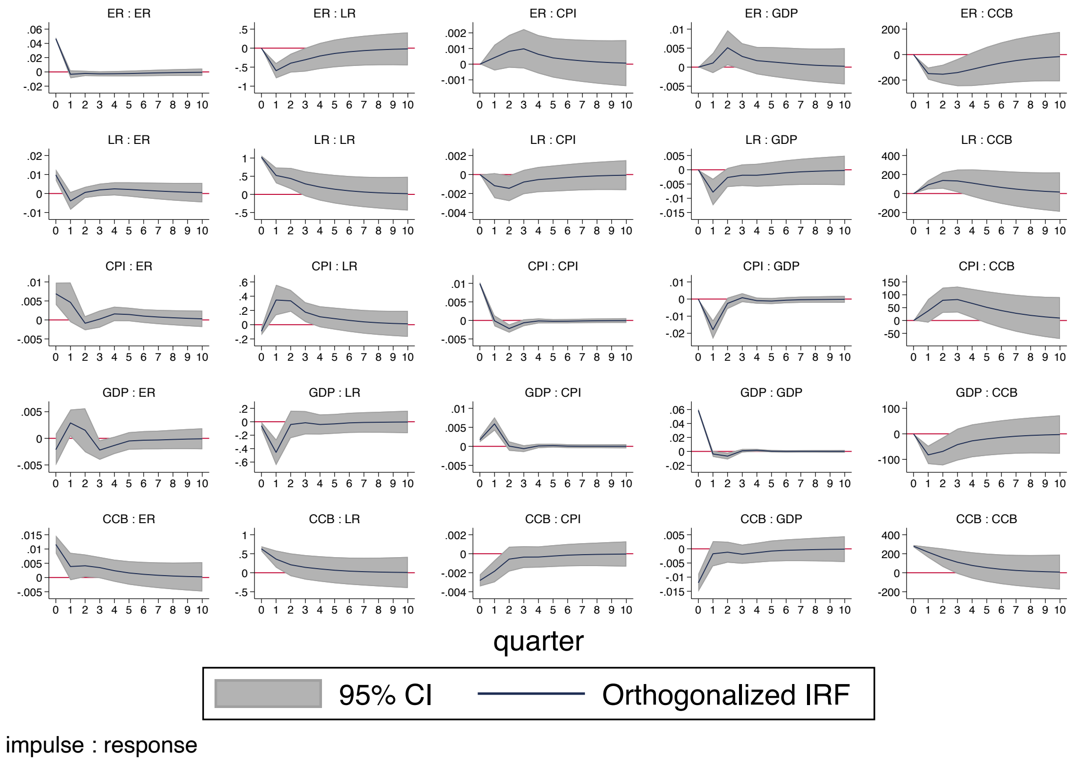


Figure A.5: Full matrix of orthogonalized impulse response functions for the comprehensive model with lending rate replacing money stock in the emerging economies, during the crisis-cum-post-crisis (2007Q4–2020Q4) period. Consistently, the *domestic liquidity* channel remains effective in the transmission of the negative impact of dollar liquidity on growth in EMs. Increases in the lending rate—which moves in the opposite direction to the money supply—lead to output contractions, even as dollar liquidity retains its effects (as per the baseline). Despite the marginally significant and positive response in output when depreciation shocks occur, the *exchange rate* channel does not matter much in EMs.

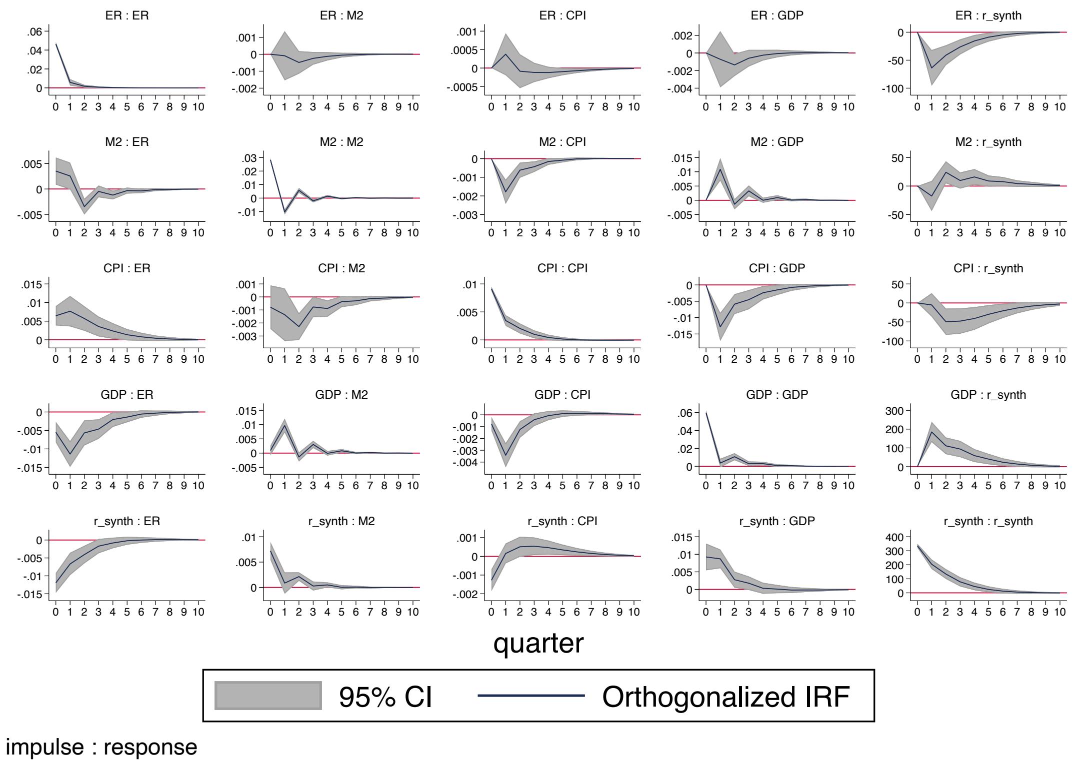


Figure A.6: Full matrix of orthogonalized impulse response functions for the comprehensive model with synthetic dollar interest rate (r_{synth}) replacing dollar liquidity in the emerging economies, during the crisis-cum-post-crisis (2007Q4–2020Q4) period. The effects of the synthetic dollar rate on GDP is the same as that of dollar liquidity, suggesting that domestic liquidity substitution is reacting to the convenience yield component, rather than the U.S. interest rate, *per se*. Consistently, the exchange rate appreciates in response to positive shocks in the synthetic rate, which is also in line with the domestic liquidity. However, exchange rate plays little role in output growth, suggesting negligible impact of *exchange rate* channel in EMs.

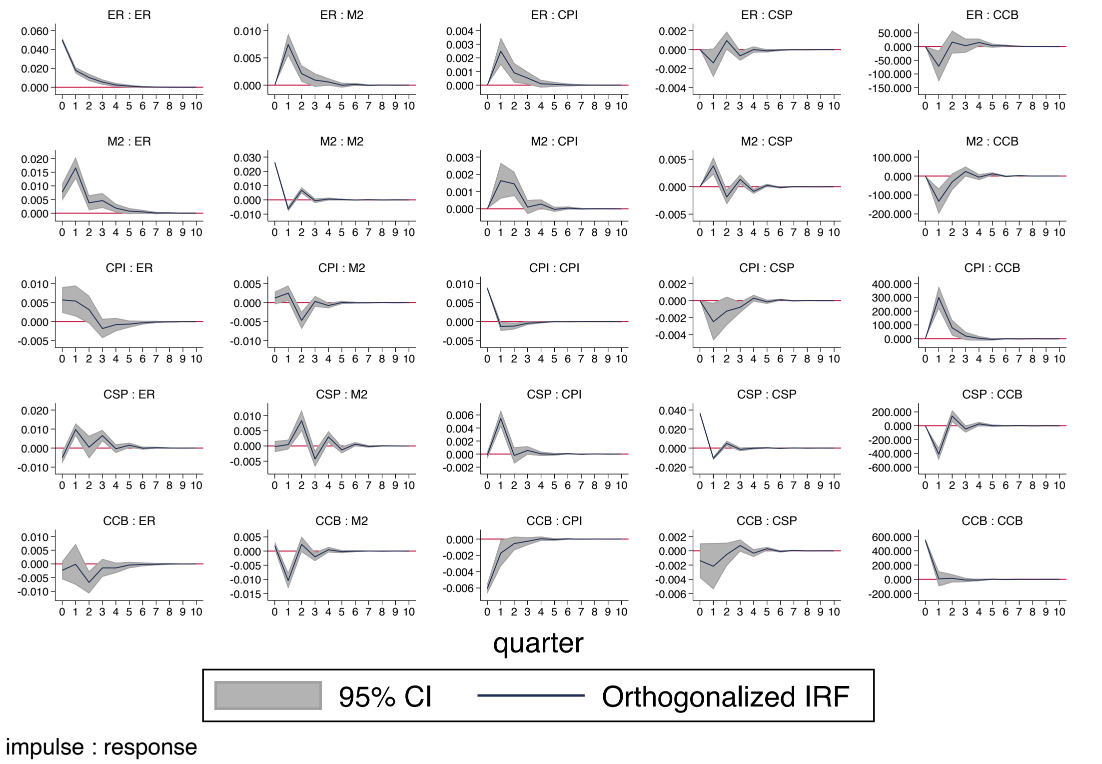


Figure A.7: Full matrix of orthogonalized impulse response functions for the comprehensive model with private consumption (CSP) replacing GDP in the emerging economies, during the crisis-cum-post-crisis (2007Q4–2020Q4) period. Strikingly, the private consumption decreases in response to innovations in dollar liquidity (despite a less significant effect on the former), providing further evidence that the drop in local consumption is the opportunity cost of substitution into local currency assets in EMs, since improved dollar liquidity does not supplement consumption. However, the relationship between dollar liquidity and domestic money stock becomes unclear, suggesting a smaller role of the substitute out of consumption for safe dollar assets.

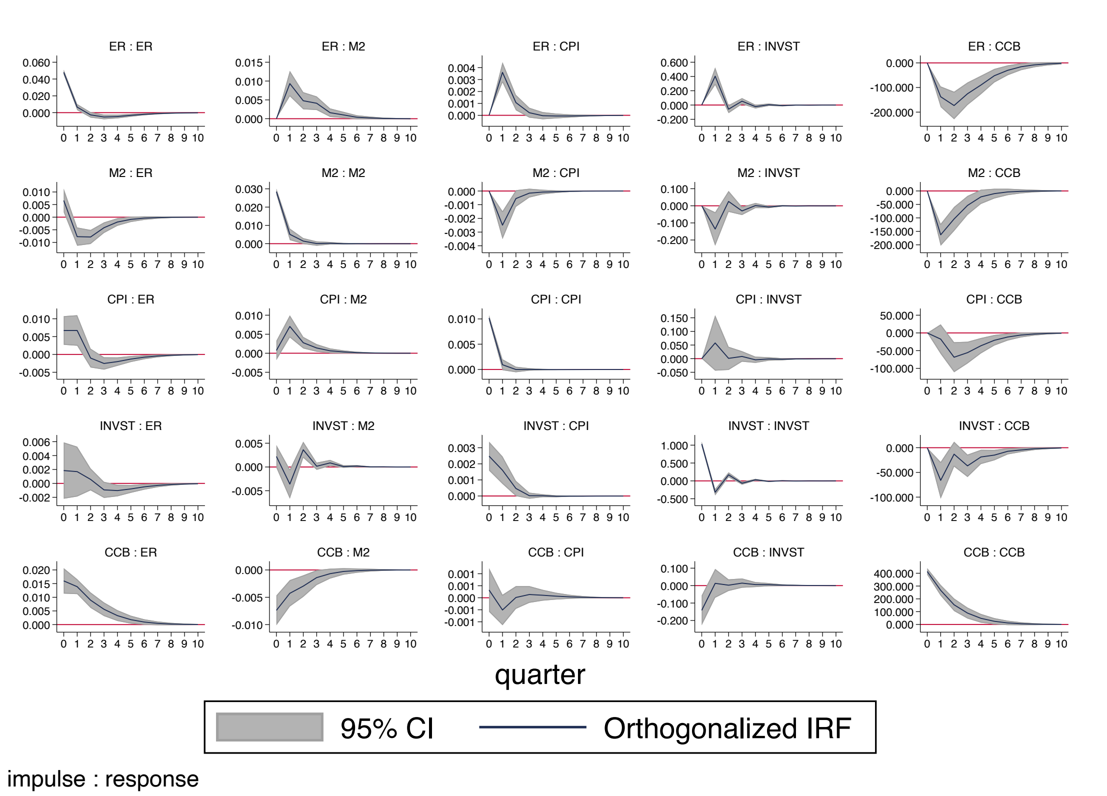


Figure A.8: Full matrix of orthogonalized impulse response functions for the comprehensive model with direct investment capital (INVST) replacing GDP in the emerging economies, during the crisis-cum-post-crisis (2007Q4–2020Q4) period. While the domestic and dollar liquidity are still substitutes, direct investment capital flows witness a fall in response to innovations in dollar liquidity. This is suggestive of the possibility that increased holdings of local currency assets need not translate into actual changes in real investment, but rather entail portfolio reallocations with asset purchases from the secondary market.

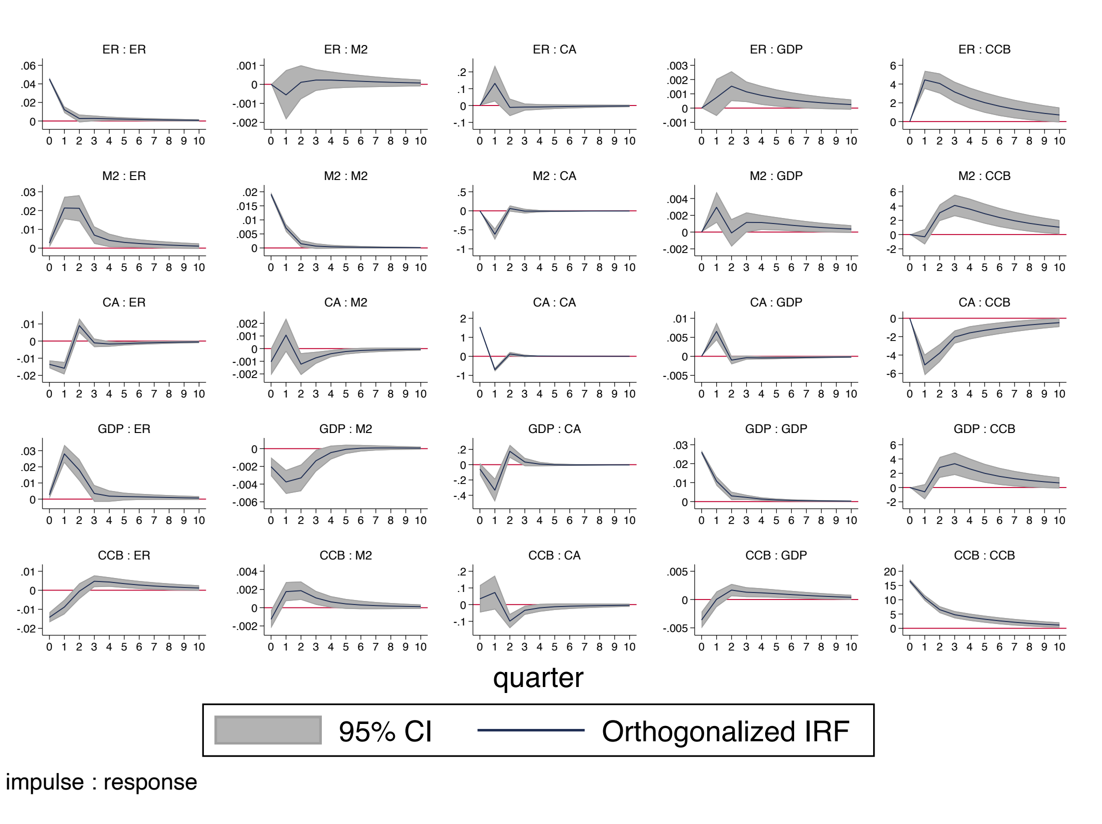


Figure A.9: Full matrix of orthogonalized impulse response functions for the AEs with current account replacing CPI, crisis-cum-post-crisis (2007Q4–2020Q4) period. Similarly, the negative impacts of dollar liquidity on output persist for the first quarter after the shock before fading away. Strikingly, the *exchange rate* channel remains effective. The exchange rate appreciates in response to an increase in dollar liquidity, which subsequently worsens export performance (current account) and leads to a output slowdown.

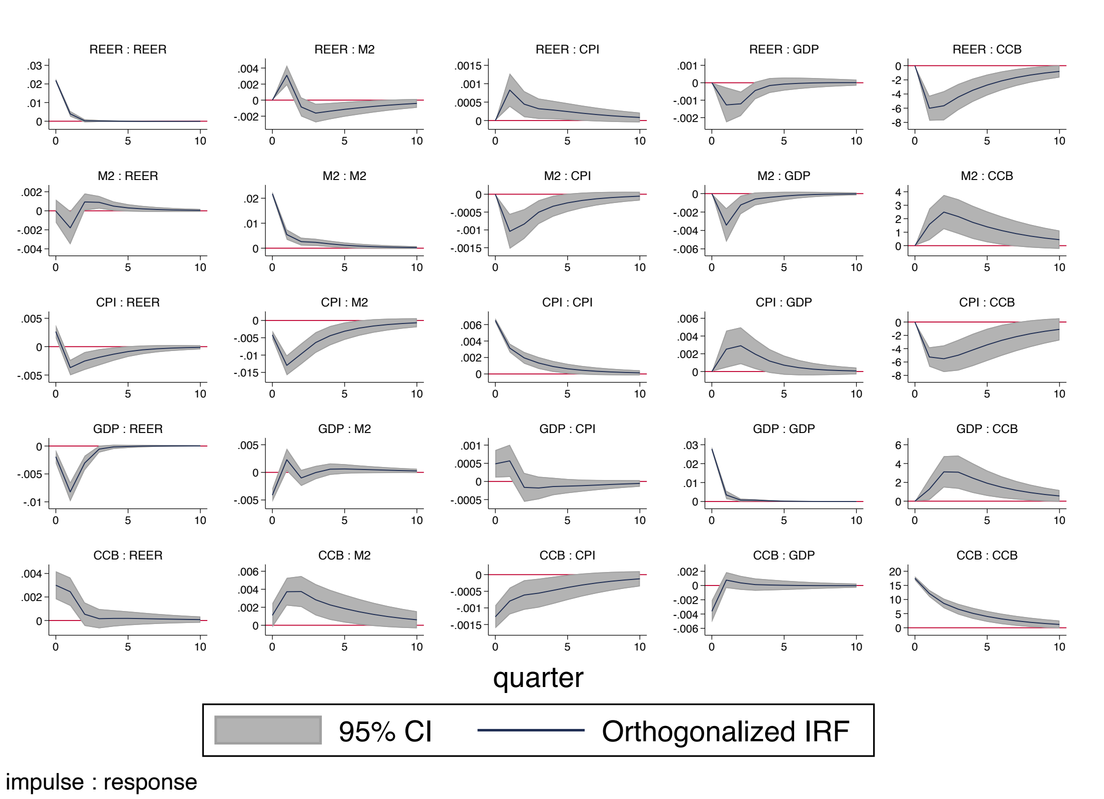


Figure A.10: Full matrix of orthogonalized impulse response functions for the AEs with REER replacing the nominal exchange rate, crisis-cum-post-crisis (2007Q4–2020Q4) period. Similarly, the negative impacts of dollar liquidity on output persist, and the domestic liquidity also increases when there is a positive shock in dollar liquidity. Strikingly, the *exchange rate* channel remains effective. The REER appreciates in response to a rise in dollar liquidity, which subsequently contributes to output declines.

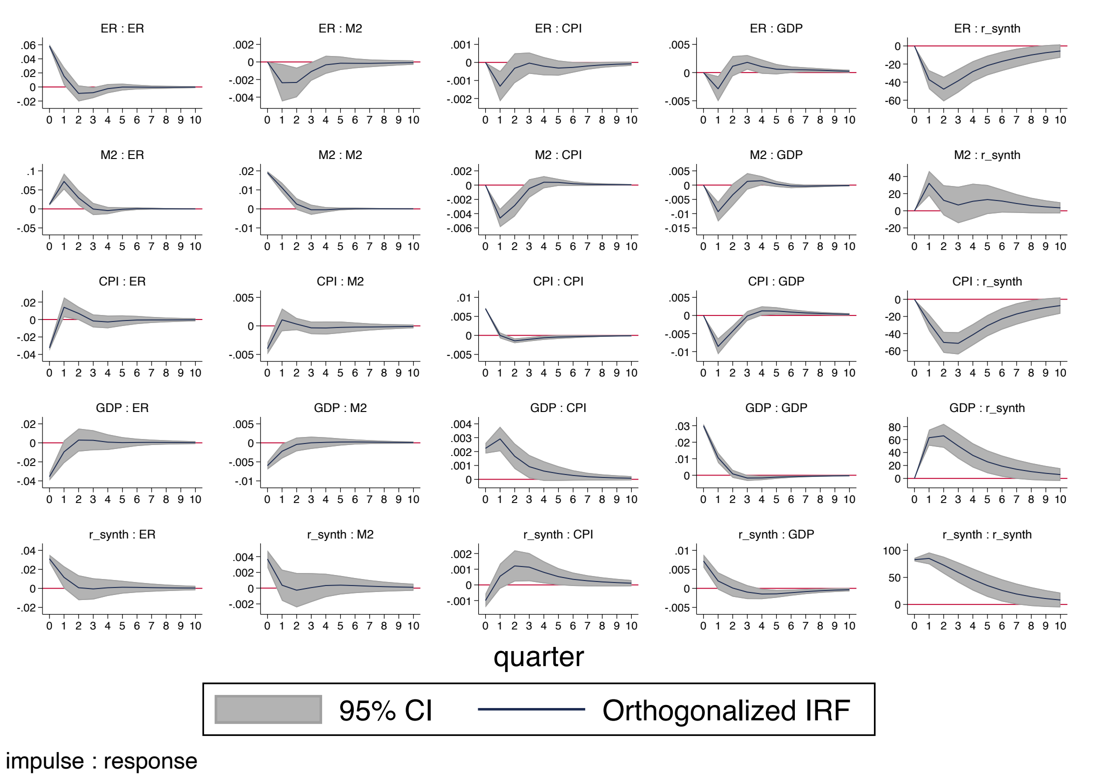


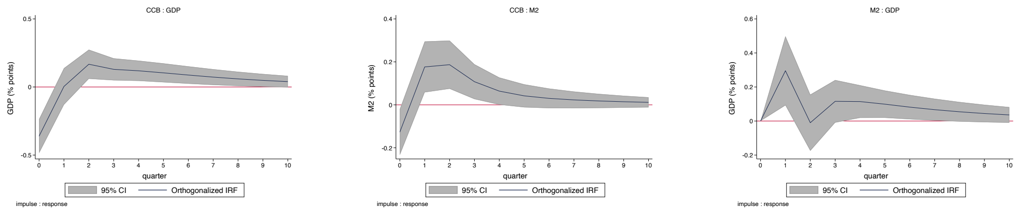
Figure A.11: Full set of orthogonalized impulse response functions for the AEs with the synthetic dollar rate (r_{synth}) replacing dollar liquidity in the comprehensive model, crisis-cum-post-crisis (2007Q4–02020Q4) period. Consistently, positive shocks to the synthetic rate is accompanied by depreciations in the nominal exchange rate, and increases in output, suggesting effectiveness of the *exchange rate* channel in AEs.

A.4 Additional subsample analyses

In this section, we report additional comparisons between different subsamples.

A.4.1 The domestic liquidity channel for AEs

In Section 5.1 of the main text, we considered the domestic liquidity channel as it applies to EMs, given the relevance of that particular channel for the income group (as suggested by Hypothesis 1b). Here, for completeness, we also report the corresponding selected impulse response functions for AEs (Figure A.12).[63]



(a) Dollar liquidity on output, AEs

(b) Dollar liquidity on domestic liquidity, AEs

(c) Domestic liquidity on output, AEs

Figure A.12: Selected orthogonalized impulse response functions for the dollar liquidity, domestic liquidity, and output growth in the comprehensive model for advanced economies, during the crisis-cum-post-crisis (2007Q4–2020Q4) period.

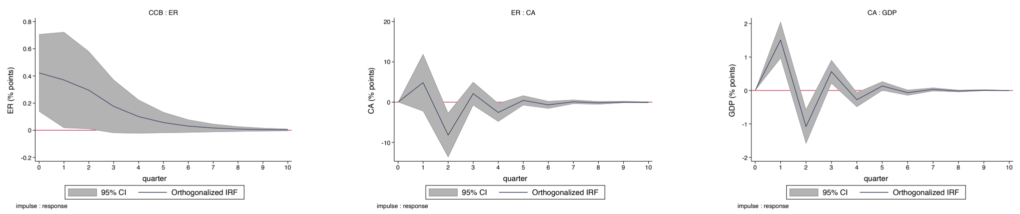
In contrast to EMs, a positive basis impulse *increases* domestic liquidity (middle panel), suggesting that easier global financing conditions translate into more abundant domestic liquidity in AEs, perhaps due to how their more mature financial markets that may enable greater access to dollar fund inflows. This, in return, exerts positive impact on output (right panel), which partly explains the slight positive response of growth to dollar liquidity after the first two quarters (left panel). However, output contracts on impact in response to the positive shock in the dollar liquidity conditions, and the cumulative effect remains negative and significant, before becoming insignificant over time.[64] Taken together, we are led to conclude that the domestic liquidity channel does not drive the negative relationship between the dollar liquidity and output in advanced economies.

[63] To enhance the interpretability of our results, we use a version of the comprehensive model where we replace the CPI with the current account.

[64] This result is available upon request.

A.4.2 The exchange rate channel for EMs

In Section 5.2 of the main text, we considered the exchange rate channel as it applies to AEs, given the relevance of that particular channel for the income group (as suggested by Hypothesis 1c). Here, for completeness, we also report the corresponding selected impulse response functions for AEs (Figure A.13).



(a) Dollar liquidity on exchange rate, EMs

(b) Exchange rate on current account, EMs

(c) Current account on output, EMs

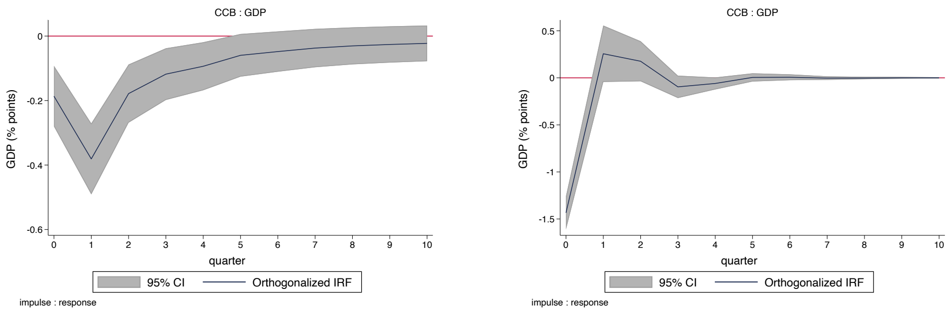
Figure A.13: Selected orthogonalized impulse response functions for the current account, nominal exchange rate, and output growth in the comprehensive model for emerging economies, during the crisis-cum-post-crisis (2007Q4–2020Q4) period.

The exchange rate depreciates, on impact, in response to a positive impulse in dollar liquidity condition (left panel), although this is estimated with significant uncertainty. This has no initial effect of the exchange rate on the current account, before an unexpected deterioration after two quarters (middle panel). However, the dynamics between the current account and the output are not as clear-cut, fluctuating between a positive and negative impact (right panel). Taken together, we find little evidence that exchange rate channel is relevant for the relationship between dollar liquidity and output in emerging economies.

A.4.3 Other subsamples of potential interest

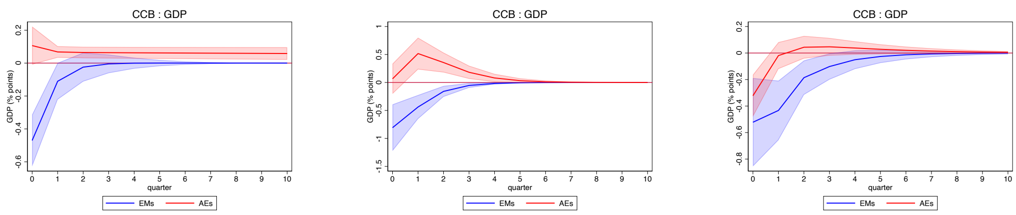
We report, with limited additional comment, two other subsamples that could be of potential interest. These are the effect of dollar liquidity on output growth from the comprehensive model between pre-crisis and crisis-cum-post-crisis period for the full sample country (Figure A.14), the parsimonious model for the EMs and AEs (Figure A.15), and the impulse response functions of dollar liquidity on growth in both the parsimonious and comprehensive models for EMs and AEs, estimated with the full sample period (Figure A.16).

We find a larger magnitude of the dollar squeeze effect for the crisis-cum-post-crisis period than the pre-crisis period, that the divergence in effects during the crisis period remains when using the parsimonious model, and that the negative relationship between dollar liquidity and economic growth persists after considering the sample over the full period (2000Q1–2020Q4).



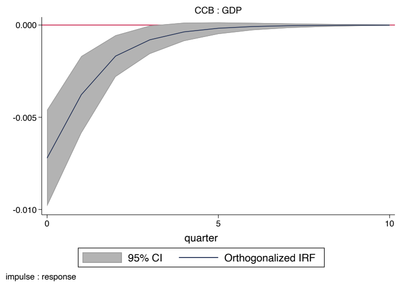
(a) Pre-crisis (b) crisis-cum-post-crisis

Figure A.14: Orthogonalized impulse response functions of dollar liquidity on output in the comprehensive model for pre-crisis (2000Q1–2007Q3), and crisis-cum-post-crisis (2007Q4–2020Q4) period. The liquidity shocks retain their negative impact on growth in both periods, with a larger effect at 1.5 percentage points on impact in the crisis-cum-post-crisis period and a mere 0.2 percentage point in the pre-crisis period. This result is in line with the fact that CIP deviations become larger since the global financial crisis.

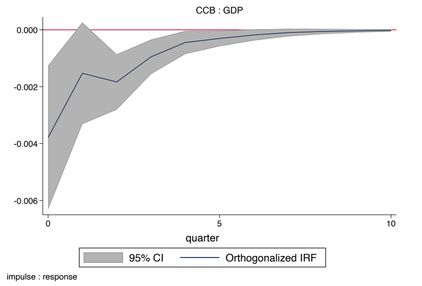


(a) Pre-crisis (b) Crisis (c) crisis-cum-post-crisis

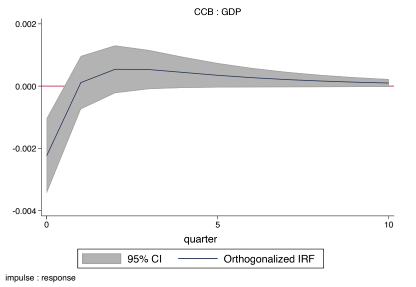
Figure A.15: Orthogonalized impulse response functions of dollar liquidity on output in the *parsimonious* model for advanced (in red) and emerging (in blue) economies, for partially-overlapping pre-crisis (2000Q1–2007Q3), crisis (2007Q4–2009Q2), and crisis-cum-post-crisis (2007Q4–2020Q4) periods. The liquidity shocks retain their negative impact on growth in normal times, but during the crisis period, this effect reverses for advanced economies, reflecting the importance of dollar-based financing under especially tight financial conditions.



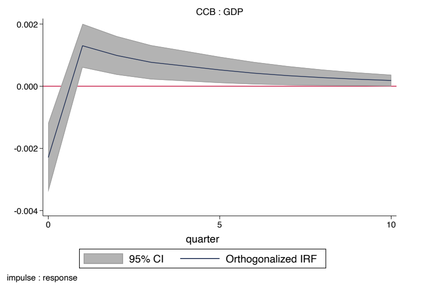
(a) Emerging economies group, parsimonious



(b) Emerging economies group, comprehensive



(c) Advanced economies group, parsimonious



(d) Advanced economies group, comprehensive

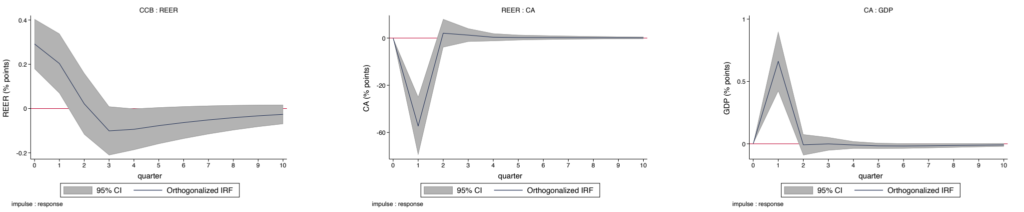
Figure A.16: Orthogonalized impulse response functions of dollar liquidity on output in the parsimonious and comprehensive specifications for emerging (top panel) and advanced (bottom panel) economies, full period (2000Q1–2020Q4). The negative effect of dollar liquidity on growth retains in both emerging and advanced economies despite a slightly positive impact in the comprehensive model for advanced economies two quarters after the shock before fading away. However, it is significant and negative on impact.

A.5 Additional robustness checks

This section reports additional robustness checks that were not considered in the main paper.

A.5.1 Additional channels for AEs

We replace nominal exchange rate with REER, and CPI with current account simultaneously in the comprehensive model for the AEs. The corresponding selected impulse response functions for the current account, REER, and output growth are displayed in Figure A.17. Consistent with the findings in Section 5, the real effective exchange rate appreciates in response to a positive dollar liquidity shock, which deteriorates the current account and therefore results in output contraction.



(a) Dollar liquidity on REER, AEs

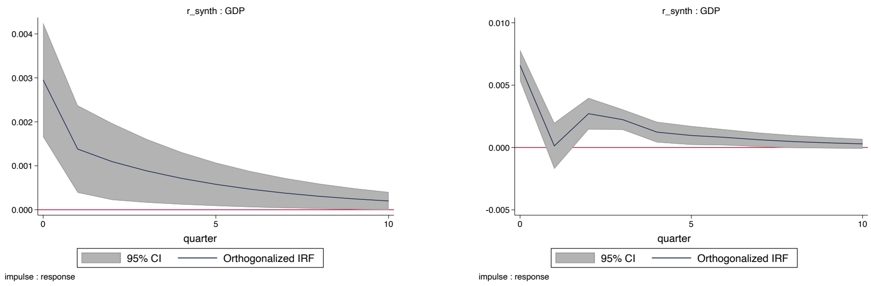
(b) REER on current account, AEs

(c) Current account on output

Figure A.17: Selected orthogonalized impulse response functions for the current account, real effective exchange rate, and output growth in the comprehensive model for advanced economies, during the crisis-cum-post-crisis (2007Q4–2020Q4) period. The current account worsens as the real effective exchange rate appreciates, suggesting that output contractions due to a dollar liquidity shock are indeed due to typical Marshall-Lerner effects.

A.5.2 Alternative dollar liquidity measure

As another robustness check for the baseline, we also replace the dollar liquidity measure CCB with the synthetic dollar interest rate. The estimation results for both the parsimonious and comprehensive models are shown in Figure A.18, implying that output increases when facing higher cost of borrowing dollars. If anything, this finding lends even greater support to the claim that dollar liquidity has a negative impact on growth.

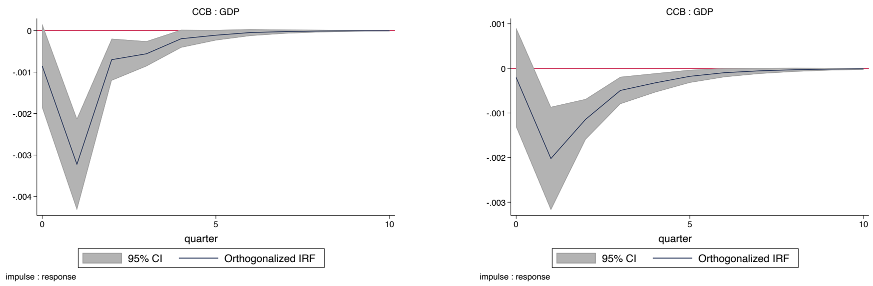


(a) Parsimonious (b) Comprehensive

Figure A.18: Orthogonalized impulse response functions for synthetic dollar interest rate on output where the synthetic dollar rate (r_{synth}) replaces dollar liquidity CCB, full sample (2000Q1–2020Q4). The positive responses in output growth followed by innovations in synthetic dollar rate for both parsimonious and comprehensive models confirm that easier access to dollar liquidity does contribute to output slowdown since dollar scarcity promotes growth.

A.5.3 Exclusion of the pandemic period

One objection some may have to including the COVID-19 pandemic period is that the unusual nature of the episode—where the shock emanated from a health, rather than financial, source, and further exacerbated by government policies—may affect our results. As another robustness check of the baseline, we therefore consider restricting the sample period to between 2000Q1 and 2019Q4, which excludes the COVID period. This is to rule out possible effects of government-imposed pandemic control measures on output. The estimation results for both the parsimonious and comprehensive models are shown in Figure A.19, and reveal that output continues to contract when there is an positive impulse on dollar liquidity, consistent with the baseline finding.

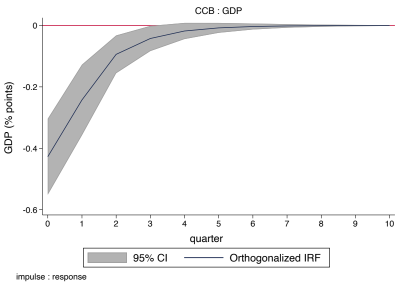


(a) Parsimonious (b) Comprehensive

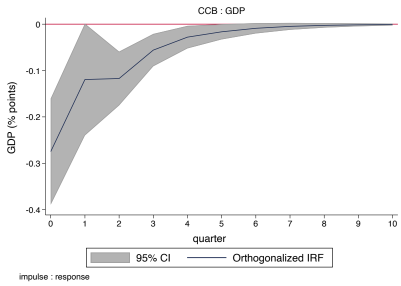
Figure A.19: Orthogonalized impulse response functions for dollar liquidity on output excluding the COVID (2000Q1–2019Q4). The negative responses in output growth followed by innovations in dollar liquidity for both parsimonious and comprehensive models confirm that easier access to dollar liquidity does contribute to output slowdown.

A.5.4 Alternative computations for CLP

The Chilean *peso* (CLP) exhibits an idiosyncrasy in terms of how interest and exchange rates are reported: calculations of the CCB (for example, those reported by Bloomberg) typically rely on interbank interest rates corresponding to an artificial unit of account (the Unidad de Fomento, or UF[65]). To relieve concerns that a different measure of CCB for this particular currency would affect our results, we rerun our baseline estimations by dropping the CLP for both the full and EMs samples. These IRFs are reported in Figures A.20 and A.21, respectively.

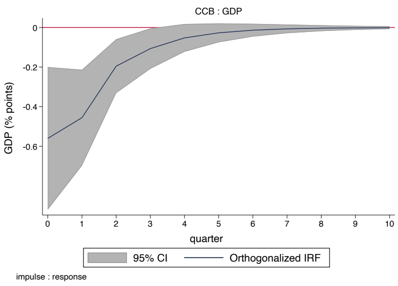


(a) Parsimonious

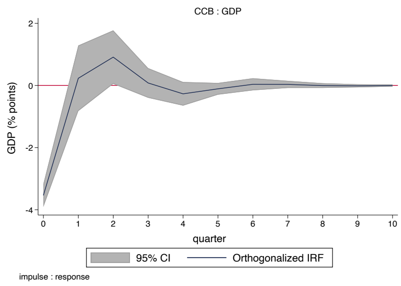


(b) Comprehensive

Figure A.20: Orthogonalized impulse response functions for dollar liquidity on output by dropping the CLP, full period(2000Q1–2020Q4). The negative responses in output growth followed by innovations in dollar liquidity for both parsimonious and comprehensive models confirm that easier access to dollar liquidity does contribute to output slowdown.



(a) Parsimonious



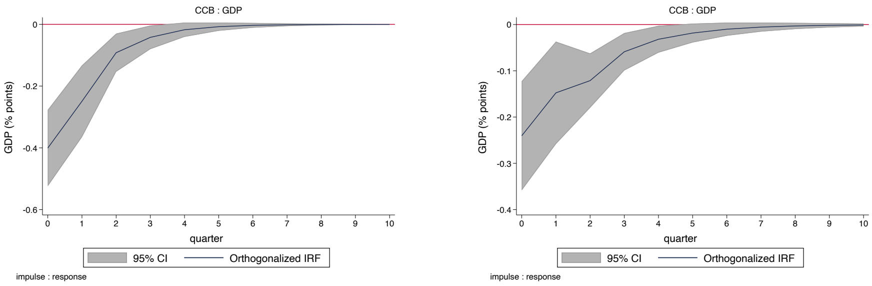
(b) Comprehensive

Figure A.21: Orthogonalized impulse response functions for dollar liquidity on output by dropping the CLP for the emerging markets, during the crisis-cum-post-crisis (2000Q1–2020Q4) period. The negative responses in output growth followed by innovations in dollar liquidity for both parsimonious and comprehensive models confirm that easier access to dollar liquidity does contribute to output slowdown.

Alternatively, to remain consistent with the computation of CCB for the other currencies—which rely on nominal, market-based rates—we instead collect nominal interbank rates of the CLP from the Chilean benchmark facility, and calculate an alternative cross-currency basis for CLP against USD, which we then replace the original CCB series with before rerunning our estimations. We report the results for both the full and the EM sample in Figures A.22 and A.23, respectively.

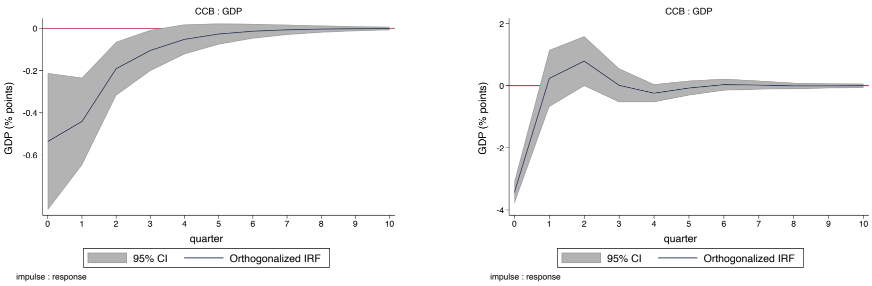
Overall, these exercises find qualitatively (and almost quantitatively) consistent results to the baseline, reassuring any concern that a different measure of CCB for CLP may have inad-

[65]The UF is an officially-recognized currency in Chile. However, it is non-circulating, and has a quoted value of 100 CLP relative to the CPI. That is, the UF interest rate is a *real* interest rate, which adjusts for inflation.



(a) Parsimonious (b) Comprehensive

Figure A.22: Orthogonalized impulse response functions for dollar liquidity on output by dropping the CLP, full period(2000Q1–2020Q4). The negative responses in output growth followed by innovations in dollar liquidity for both parsimonious and comprehensive models confirm that easier access to dollar liquidity does contribute to output slowdown.



(a) Parsimonious (b) Comprehensive

Figure A.23: Orthogonalized impulse response functions for dollar liquidity on output by dropping the CLP for the emerging markets, during the crisis-cum-post-crisis (2000Q1–2020Q4) period. The negative responses in output growth followed by innovations in dollar liquidity for both parsimonious and comprehensive models confirm that easier access to dollar liquidity does contribute to output slowdown.

vertently given rise to biased results.

A.6 Variance decompositions

This section collates the full various decompositions for the different specifications. We report the variance decomposition results for the EMs (Table A.9) and AEs (Table A.10). Interestingly, the impulse in dollar liquidity far better explains the variations in output growth than domestic money stock in the EMs, which is actually not the case in the AEs. This corresponds to the finding of Rey (2013) that monetary policy in the center country (and hence dollar access) has become far more important than domestic monetary policy (which alters the local money supply), especially for the EMs. Table A.11 reports the variance decomposition result in the modified comprehensive model where the money stock is replaced by the lending rate for the EMs, and it provides consistent finding albeit with a smaller magnitude. In addition, we also report the variance decomposition results for the modified comprehensive specifications where CPI and money stock are replaced by PPI and lending rate (Table A.12), and nominal exchange rate is further replaced by REER when keeping PPI and lending rate (Table A.13) for the full sample with both EMs and AEs from 2000Q1 to 2020Q4, as we did in our baseline. These results also echo the baseline finding that dollar liquidity explains higher percentages of variations in output than domestic liquidity does despite the smaller magnitude.

Table A.9: Variance decomposition for the EMs group PVAR , parsimonious and comprehensive model, crisis-cum-post-crisis (2007Q4–2020Q4) period (unbalanced)

Response of	**Parsimonious**		*Response to* **Comprehensive**				
	CCB_t	GDP_t	CCB_t	GDP_t	CPI_t	$M2_t$	ER_t
GDP_{t+10}	0.0152	0.9848	0.1914	0.7080	0.0898	0.0106	0.0002
CCB_{t+10}	0.8350	0.1650	0.5852	0.2661	0.0684	0.0595	0.0208
CPI_{t+10}			0.3732	0.3143	0.2770	0.0233	0.0122
$M2_{t+10}$			0.3064	0.2277	0.0363	0.3822	0.0474
ER_{t+10}			0.0421	0.0090	0.0482	0.0152	0.8855

Share of forecast error variance for predicted variables 10 periods ahead in each row are explained by the variables in each column. The result indicates that the impulse in dollar liquidity (19.14 percentage points) better explains the variations in output growth than domestic money stock (1.06 percentage points). This is also in line with what we have found in the baseline analysis.

Table A.10: Variance decomposition for the AEs group PVAR , parsimonious and comprehensive model, crisis-cum-post-crisis (2007Q4–2020Q4) period (unbalanced)

Response of	**Parsimonious**		*Response to* **Comprehensive**				
	CCB_t	GDP_t	CCB_t	GDP_t	CPI_t	$M2_t$	ER_t
GDP_{t+10}	0.0112	0.9888	0.0167	0.9004	0.0557	0.0245	0.0027
CCB_{t+10}	0.9937	0.0063	0.8142	0.0375	0.0073	0.0272	0.1138
CPI_{t+10}			0.0148	0.0199	0.8950	0.0511	0.0192
$M2_{t+10}$			0.0117	0.0358	0.3390	0.5430	0.0105
ER_{t+10}			0.0597	0.1538	0.1338	0.0739	0.5788

Share of forecast error variance for predicted variables 10 periods ahead in each row are explained by the variables in each column. The most interesting result is that the impulse in dollar liquidity explains comparative variations in output growth to the domestic money stock, contrasts with the finding in EMs.

Table A.11: Variance decomposition for the EMs group PVAR with lending rate (LR) replacing M2, parsimonious and comprehensive model, 2007Q4–2020Q4 (unbalanced)

Response of			*Response to*				
	Parsimonious		**Comprehensive**				
	CCB_t	GDP_t	CCB_t	GDP_t	CPI_t	LR_t	ER_t
GDP_{t+10}	0.0152	0.9848	0.0375	0.8532	0.0798	0.0194	0.0101
CCB_{t+10}	0.8350	0.1650	0.4564	0.0388	0.0638	0.1908	0.2502
CPI_{t+10}			0.0739	0.2376	0.6436	0.0292	0.0157
LR_{t+10}			0.1749	0.0621	0.0857	0.4822	0.1951
ER_{t+10}			0.0717	0.0084	0.0290	0.0502	0.8407

Share of forecast error variance for predicted variables 10 periods ahead in each row are explained by the variables in each column. The result indicates that the impulse in dollar liquidity (3.75 percentage points) better explains the variations in output growth than domestic lending rate (1.94 percentage points) in spite of the small magnitude of both. This is also in line with what we have found in the baseline analysis.

Table A.12: Variance decomposition for the full sample with PPI and LR, comprehensive model, 2000Q1 - 2020Q4 (unbalanced)

	CCB_t	GDP_t	PPI_t	LR_t	ER_t
GDP_{t+10}	0.0049	0.9564	0.0123	0.0007	0.0257
CCB_{t+10}	0.6563	0.0138	0.0335	0.2617	0.0347
PPI_{t+10}	0.0460	0.1306	0.7625	0.0035	0.0574
LR_{t+10}	0.0437	0.0271	0.0216	0.8878	0.0198
ER_{t+10}	0.0044	0.0270	0.0031	0.0232	0.9422

Share of forecast error variance for predicted variables 10 periods ahead in each row are explained by the variables in each column. The dollar liquidity explains (0.49 percentage of) the variations in output more than the lending rate (at 0.07 percentage point), although both are at smaller magnitude.

Table A.13: Variance decomposition for the full sample with PPI, LR and REER, comprehensive model, 2000Q1 - 2020Q4 (unbalanced)

	CCB_t	GDP_t	PPI_t	LR_t	$REER_t$
GDP_{t+10}	0.0052	0.9796	0.0093	0.0002	0.0057
CCB_{t+10}	0.9495	0.0039	0.0033	0.0099	0.0334
PPI_{t+10}	0.0635	0.0289	0.8604	0.0400	0.0072
LR_{t+10}	0.0174	0.0367	0.0801	0.8609	0.0049
$REER_{t+10}$	0.0072	0.0215	0.0185	0.0456	0.9072

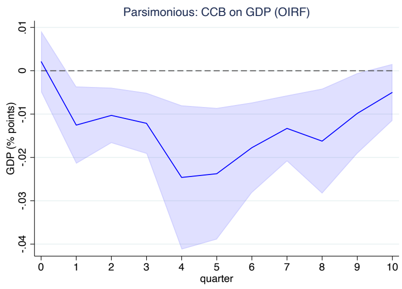
Share of forecast error variance for predicted variables 10 periods ahead in each row are explained by the variables in each column. The dollar liquidity explains (0.52 percentage of) the variations in output more than the lending rate (at 0.02 percentage point), although both are at smaller magnitude.

A.7 Additional results for local projections

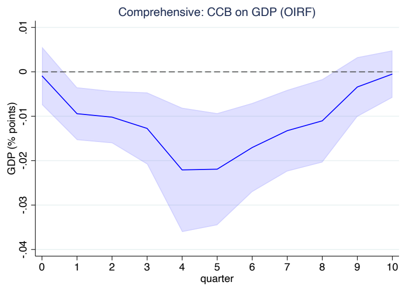
This section reports further results related to local projections: orthogonalized (instead of cumulative IRFs) (Section A.7.1), different lag structures and an alternative synthetic rate instrument (Section A.7.2), and using only the subset of either AEs or EMs (Section A.7.3). We also detail first-stage regression results for various IV specifications (Section A.7.4).

A.7.1 Orthogonalized IRFs for local projections

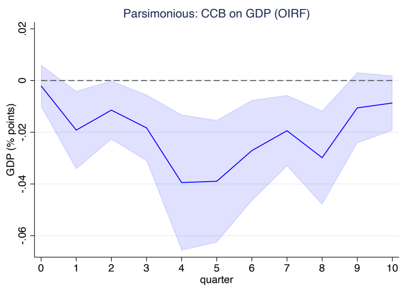
In the paper, we presented cumulative IRFs for the robustness check using instrumented local projections. Here, we report the orthogonalized equivalents, with the set of instruments including both (lagged) domestic monetary policy shocks and the synthetic rate, for both the parsimonious and comprehensive models (Figure A.24).



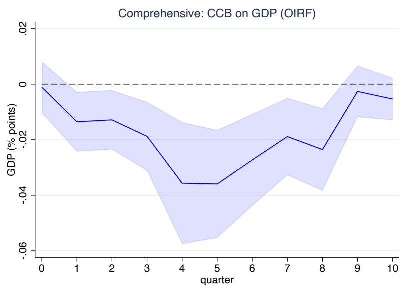
(a) Synthetic rate only, parsimonious model



(b) Synthetic rate only, comprehensive model



(c) Synthetic rate and monetary policy shocks, parsimonious model



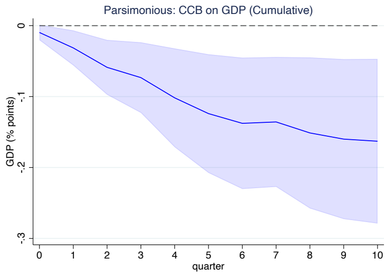
(d) Synthetic rate and monetary policy shocks, comprehensive model

Figure A.24: Orthogonalized impulse response functions for CCB on GDP estimated via local projections, full sample (2000Q1–2020Q4). Local projections for the parsimonious (left column) and comprehensive (right column) models are estimated via GMM, with standard errors clustered at the country level, and instrumented with 1 quarter lag of the variables listed in the subcaptions. For a one standard-deviation innovation, the evolution 10 quarters after the shock is reported. The light blue areas indicate the 90 percent confidence intervals. While more volatile, the initial negative effect of dollar liquidity on growth tends to be sufficiently large that on impact and in the subsequent few quarters, resulting in the cumulative negative effect as reported in the main text.

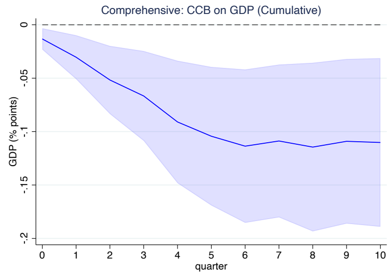
A.7.2 Additional IRFs for local projections

In the paper, we reported cumulative IRFs with 1 quarter lagged instruments for local projections. Here, we present the equivalents for both the parsimonious and comprehensive models, with 2 quarters lagged (Figure A.25), 3 quarters lagged (Figure A.26), and 4 quarters lagged (Figure A.27) instrument set are used.

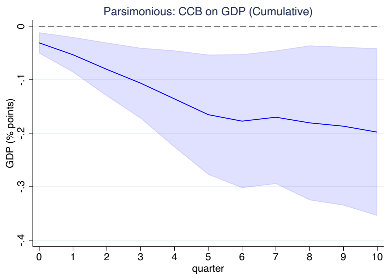
Furthermore, we also substitute the synthetic rate instrument with an alternative measure, calculated using the deposit rate (instead of the treasury rate). The corresponding results are in Figure A.28.



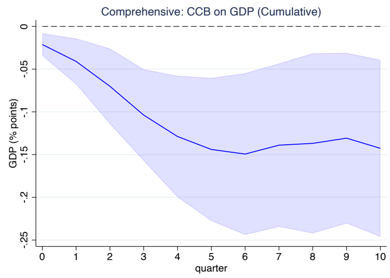
(a) Synthetic (*treasury*) rate only, parsimonious model



(b) Synthetic (*treasury*) rate only, comprehensive model

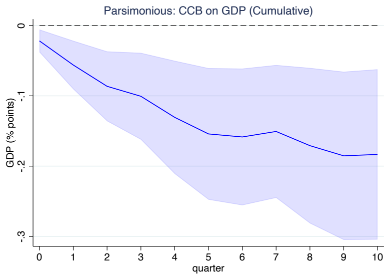


(c) Synthetic (*treasury*) rate and monetary policy shocks, parsimonious model

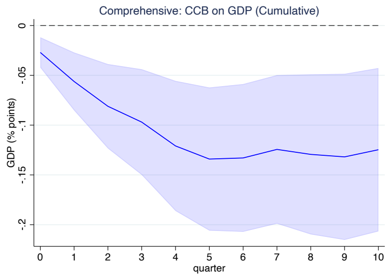


(d) Synthetic (*treasury*) rate and monetary policy shocks, comprehensive model

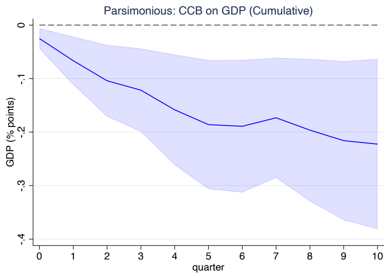
Figure A.25: Cumulative impulse response functions for CCB on GDP estimated via local projections, full sample (2000Q1–2020Q4). Local projections for the parsimonious (left column) and comprehensive (right column) models are estimated via GMM, with standard errors clustered at the country level, and instrumented with *2 quarters lag* of the variables listed in the subcaptions. For a one standard-deviation innovation, the evolution 10 quarters after the shock is reported. The light blue areas indicate the 90 percent confidence intervals. While more volatile than the uninstrumented PVARs, the cumulative effect of dollar liquidity on growth remains negative, attaining its long-run effect after 2 quarters, and is significant for up to ten quarters after impact.



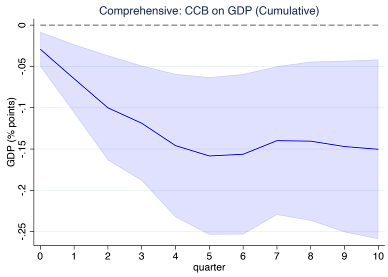
(a) Synthetic (*treasury*) rate only, parsimonious model



(b) Synthetic (*treasury*) rate only, comprehensive model

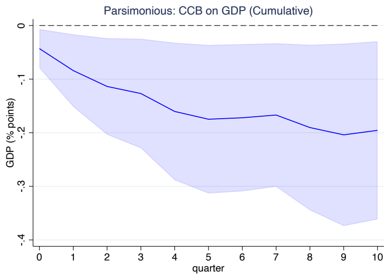


(c) Synthetic (*treasury*) rate and monetary policy shocks, parsimonious model

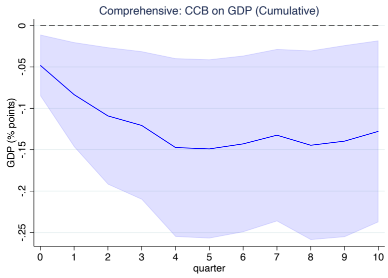


(d) Synthetic (*treasury*) rate and monetary policy shocks, comprehensive model

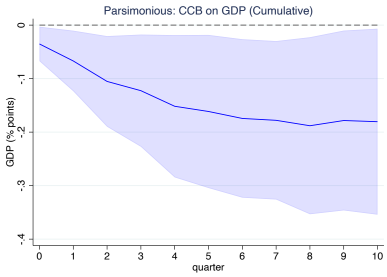
Figure A.26: Cumulative impulse response functions for CCB on GDP estimated via local projections, full sample (2000Q1–2020Q4). Local projections for the parsimonious (left column) and comprehensive (right column) models are estimated via GMM, with standard errors clustered at the country level, and instrumented with *3 quarters lag* of the variables listed in the subcaptions. For a one standard-deviation innovation, the evolution 10 quarters after the shock is reported. The light blue areas indicate the 90 percent confidence intervals. While more volatile than the uninstrumented PVARs, the cumulative effect of dollar liquidity on growth remains negative, attaining its long-run effect after 2 quarters, and is significant for up to ten quarters after impact.



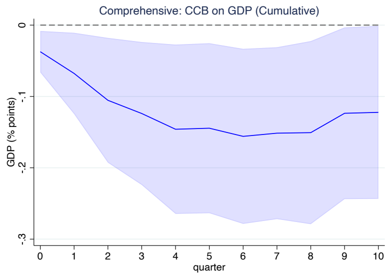
(a) Synthetic (*treasury*) rate only, parsimonious model



(b) Synthetic (*treasury*) rate only, comprehensive model

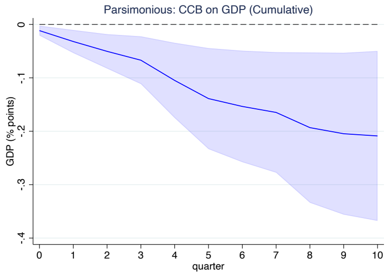


(c) Synthetic (*treasury*) rate and monetary policy shocks, parsimonious model

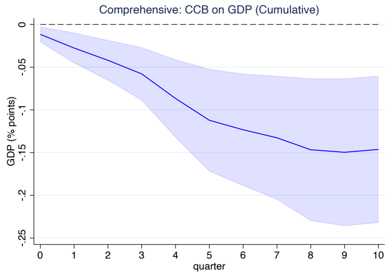


(d) Synthetic (*treasury*) rate and monetary policy shocks, comprehensive model

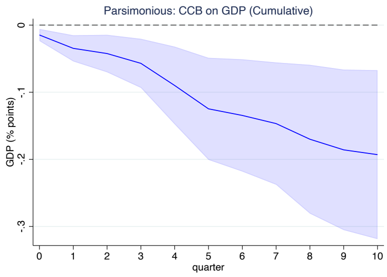
Figure A.27: Cumulative impulse response functions for CCB on GDP estimated via local projections, full sample (2000Q1–2020Q4). Local projections for the parsimonious (left column) and comprehensive (right column) models are estimated via GMM, with standard errors clustered at the country level, and instrumented with *4 quarters lag* of the variables listed in the subcaptions. For a one standard-deviation innovation, the evolution 10 quarters after the shock is reported. The light blue areas indicate the 90 percent confidence intervals. While more volatile than the uninstrumented PVARs, the cumulative effect of dollar liquidity on growth remains negative, attaining its long-run effect after 2 quarters, and is significant for up to ten quarters after impact.



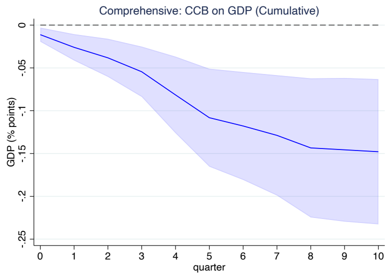
(a) Synthetic (*deposit*) rate only, parsimonious model



(b) Synthetic (*deposit*) rate only, comprehensive model



(c) Synthetic (*deposit*) rate and monetary policy shocks, parsimonious model

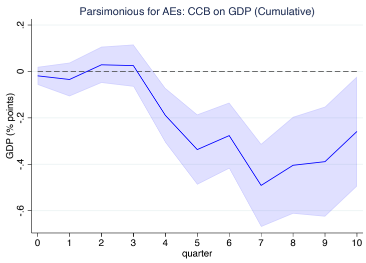


(d) Synthetic (*deposit*) rate and monetary policy shocks, comprehensive model

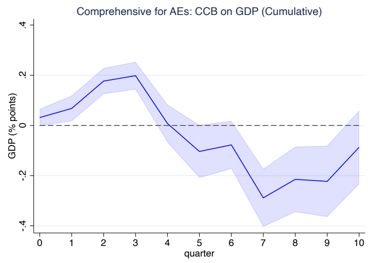
Figure A.28: Cumulative impulse response functions for CCB on GDP estimated via local projections, full sample (2000Q1–2020Q4). Local projections for the parsimonious (left column) and comprehensive (right column) models are estimated via GMM, with standard errors clustered at the country level, and instrumented with *1 quarter lag* of the variables listed in the subcaptions. For a one standard-deviation innovation, the evolution 10 quarters after the shock is reported. The light blue areas indicate the 90 percent confidence intervals. While more volatile than the uninstrumented PVARs, the cumulative effect of dollar liquidity on growth remains negative, attaining its long-run effect after 2 quarters, and is significant for up to ten quarters after impact.

A.7.3 Cumulative IRFs for local projections by AE and EM

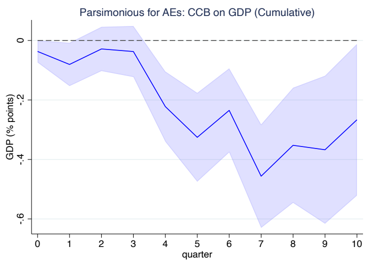
In the paper, we presented cumulative IRFs for the instrumented local projections using the full sample of currencies. As indicated, the results remain qualitatively unchanged for either AE (Figure A.29) or EM (Figure A.30) subsamples. This is the case for the set of instruments including either the synthetic rate or both the domestic monetary policy shocks and synthetic rate, for both the parsimonious and comprehensive models, although there is some variation in the instrument lags (these are documented in the figure caption), to ensure that the test statistics for instrument validity are satisfied as much as possible.



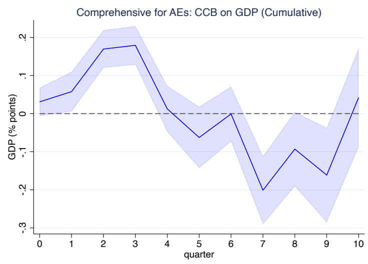
(a) Synthetic rate only, parsimonious model for AEs



(b) Synthetic only, comprehensive model for AEs

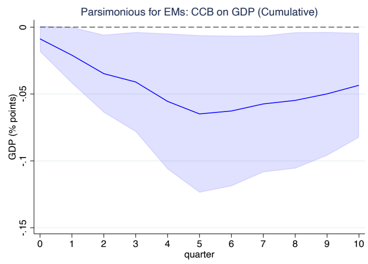


(c) Synthetic rate and monetary policy shocks, parsimonious model for AEs

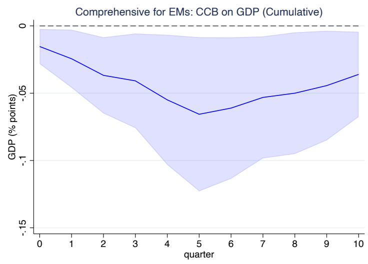


(d) Synthetic rate and monetary policy shocks, comprehensive model for AEs

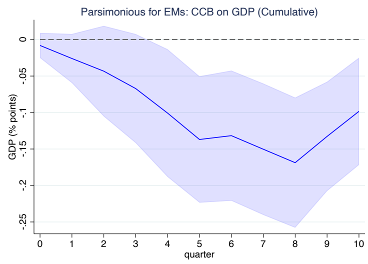
Figure A.29: Cumulative impulse response functions for CCB on GDP estimated via local projections for the AEs, crisis-cum-post-crisis period (2007Q4–2020Q4). Local projections for the parsimonious (left column) and comprehensive (right column) models are estimated via GMM with standard errors clustered at the country level, and instrumented with 1 through 2 quarter lags of synthetic rate and 4 quarter lag of domestic liquidity shocks in specifications as listed in the subcaptions. For a one standard-deviation innovation, the evolution 10 quarters after the shock is reported. The basis is measured in percentage points in the estimation. The light blue areas indicate the 90 percent confidence intervals. While more volatile than the uninstrumented PVARs, the cumulative effect of dollar liquidity on growth remains negative in AEs, attaining its long-run effect after 4 quarters, and is significant up to 10 quarters.



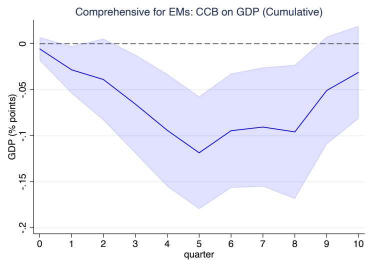
(a) Synthetic rate only, parsimonious model for EMs



(b) Synthetic only, comprehensive model in EMs



(c) Synthetic rate and monetary policy shocks, parsimonious model for EMs



(d) Synthetic rate and monetary policy shocks, comprehensive model for EMs

Figure A.30: Cumulative impulse response functions for CCB on GDP estimated via local projections for the EMs, crisis-cum-post-crisis period (2007Q4–2020Q4). Local projections for the parsimonious (left column) and comprehensive (right column) models are estimated via GMM with standard errors clustered at the country level, and instrumented with 1 through 2 quarter lags of synthetic rate and 3 through 4 quarter lags of domestic liquidity shocks in specifications as listed in the subcaptions . For a one standard-deviation innovation, the evolution 10 quarters after the shock is reported. The basis is measured in percentage points in the estimation. The light blue areas indicate the 90 percent confidence intervals. While more volatile than the uninstrumented PVARs, the negative cumulative effect of dollar liquidity on growth becomes significant after 4 quarters in EMs, attaining its long-run effect thereafter despite the insignificant effect on impact.

A.7.4 First stage regressions for IV local projections

This section documents results associated with the first stage of the instrumental variable regressions used to obtain the local projections in Section 6.3. Table A.14 report the coefficient estimates, and associated diagnostic statistics. Estimates correspond, respectively, to the top (columns 1 and 3) and bottom (columns 2 and 4) panels of Figure 21 in the main text. The included instruments are either only the (one period lagged) synthetic treasury rate ($r^{treas}_{synth,t-1}$), or the synthetic rate when paired with monetary policy shocks (MPS_{t-1}), alongside additional first-stage controls (via an overidentified 2SLS regression).

Table A.14: First stage relationship between CCB and its instruments†

	Parsimonious		Comprehensive‡	
	(1) r^{treas}_{synth} only	(2) r^{treas}_{synth} and MPS	(3) r^{treas}_{synth} only	(4) r^{treas}_{synth} and MPS
$r^{treas}_{synth,t-1}$	-0.10**	-0.10*	-0.11**	-0.11**
	(0.05)	(0.05)	(0.05)	(0.05)
MPS_{t-1}		0.28*		0.28**
		(0.14)		(0.13)
Observations	3,174	2,882	3,093	2,817
Cragg-Donald F	80.71	43.02	91.59	50.52
Kleibergen-Paap $rk\ LM$	2.85	3.20	3.35	3.49
p-value	0.09	0.20	0.07	0.17
Hansen J		1.668		1.063
p-value		0.20		0.30

† This table reports the first-stage results for local projections performed with instrumental variables. Test statistics for instrument quality are the Cragg-Donald Wald F statistic, Kleibergen-Paap $rk\ LM$ statistic, and Hansen J statistic, corresponding to tests for weak identification, underidentification, and overidentification (where relevant), respectively. Statistical significance: $^{*}\ p < 0.1$, $^{**}\ p < 0.05$, $^{***}\ p < 0.01$.

‡ The comprehensive model includes the contemporaneous and 1 through 4 quarters lag of CPI, M2, and ER as controls.

The results, which correspond to estimates with one lag each, yield not only statistically significant coefficients, but their relatively large magnitudes also assures us of their relevance. They also exhibit signs in the expected directions: negative for the synthetic treasury rate (meaning that increases in the rate encourage substitution into domestic local-currency assets,[66]) and positive for the monetary policy shock (consistent with how a positive shock improves overall dollar liquidity).

Diagnostic tests for the quality of instruments, while imperfect—some underindentification tests are not cleared—generally indicate a fairly strong and coherent instrument set. Other specifications with differing lag structures (we considered up to 4 lags) yield IRFs that are qualitatively similar. These are reported in Subsubsection A.7.2.

Since the latter includes additional controls in the second stage (CPI, $M2$, and ER) that may be reasonably regarded as outside the core information set, we also have a convenient setup for testing the limited lead-lag exogeneity condition of Miranda-Agrippino & Ricco (2023). Table A.15 reports Hausman-type tests that compare the coefficients of the CCB estimated via IV-LP between the parsimonious and comprehensive models. Evidently, the coefficient comparison are statistically indistinguishable between the two specifications regardless of the lag terms, satisfying the test condition.

[66]This also aligns with the correlation between CCB and r^{treas}_{synth}, as reported in the main text.

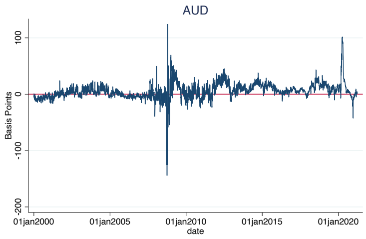
Table A.15: Hausman test results for the coefficient on CCB in local projections†

Period	0	1	2	3	4	5	6	7	8	9	10
Hausman statistic	0.13	0.76	0.37	0.06	0.19	0.14	0.00	0.19	0.97	1.68	0.55
p-value	0.72	0.38	0.54	0.81	0.67	0.71	0.97	0.66	0.32	0.19	0.46

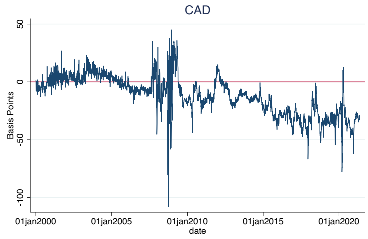
† This table reports the Hausman test statistic for the coefficient on the CCB in the instrumented local projections between parsimonious and comprehensive model.

A.8 Plots for cross-currency basis by currency

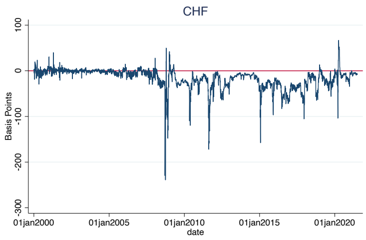
In this section, we plot the CCBs for each currency in our sample, at the three-month tenor. The CCBs for G10 and non-G10 currencies are shown in Figures A.31 and A.32, respectively.



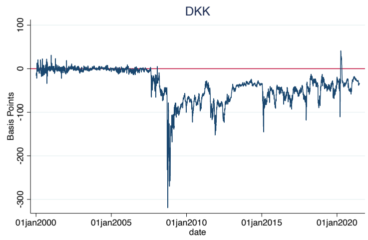
(a) Australian Dollar



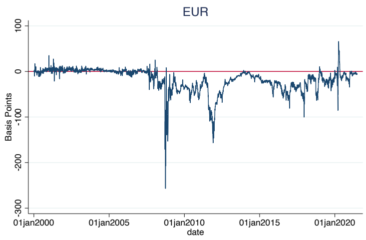
(b) Canadian Dollar



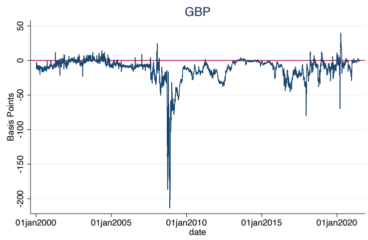
(c) Swiss Franc



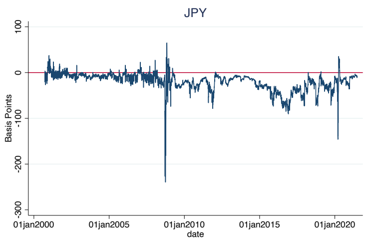
(d) Danish Krone



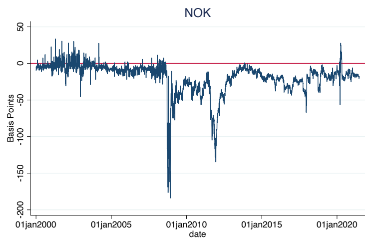
(e) Euro



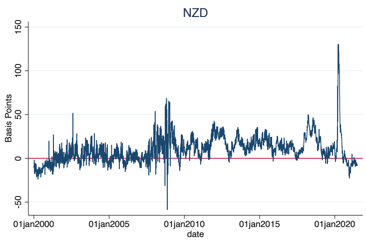
(f) British Pound



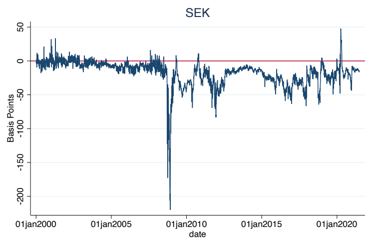
(g) Japanese Yen



(h) Norwegian Krone

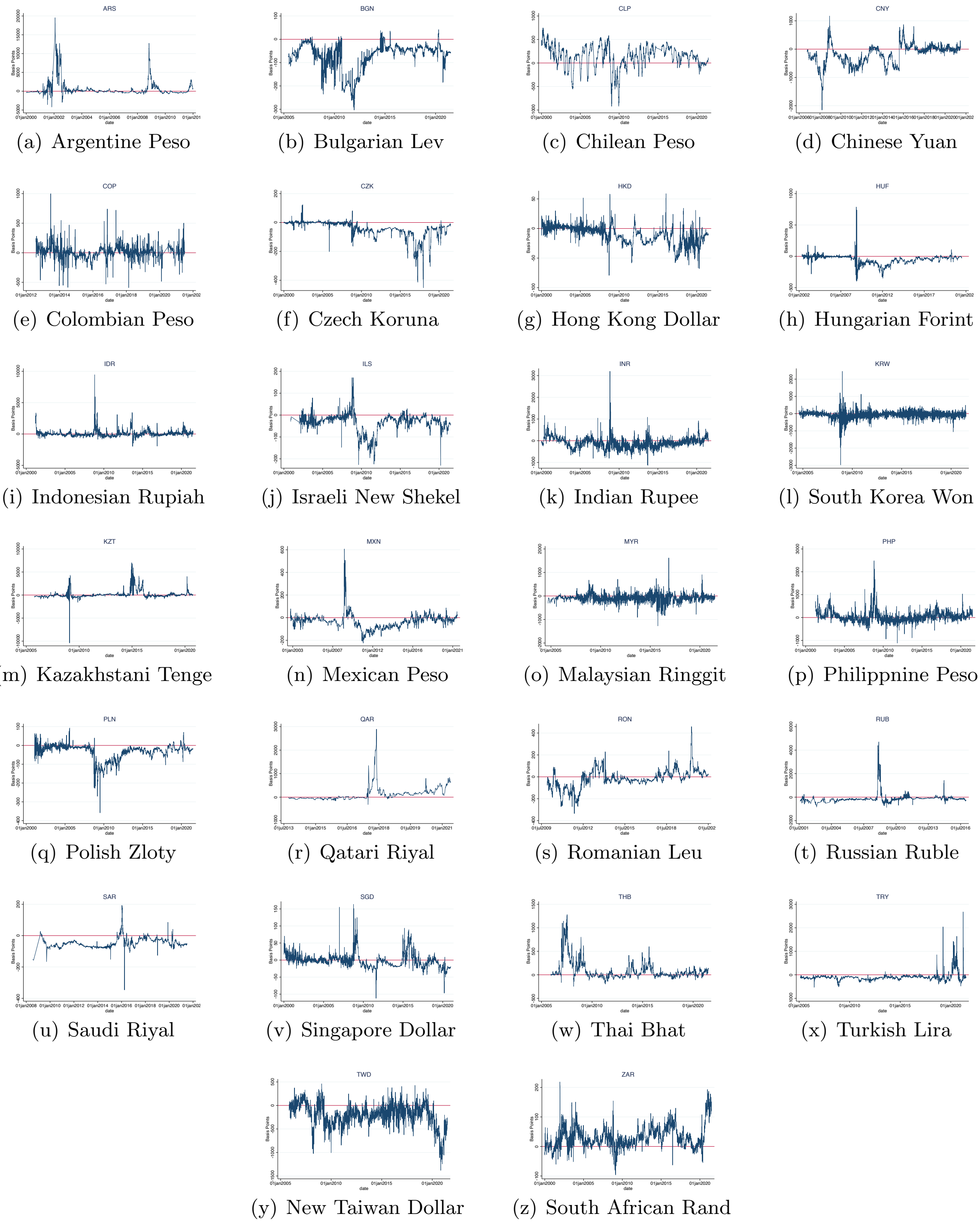


(i) New Zealand Dollar



(j) Swedish Krona

Figure A.31: Cross-currency basis of the currency listed in the subcaptions against the U.S. dollar for the G10 currencies. The bases were close to zero before enlarging since the GFC, when negative bases were witnessed for most currencies except NZD and AUD.



(a) Argentine Peso (b) Bulgarian Lev (c) Chilean Peso (d) Chinese Yuan

(e) Colombian Peso (f) Czech Koruna (g) Hong Kong Dollar (h) Hungarian Forint

(i) Indonesian Rupiah (j) Israeli New Shekel (k) Indian Rupee (l) South Korea Won

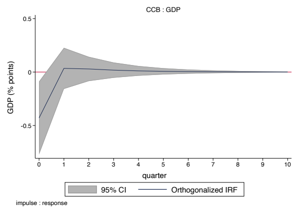
(m) Kazakhstani Tenge (n) Mexican Peso (o) Malaysian Ringgit (p) Philippnine Peso

(q) Polish Zloty (r) Qatari Riyal (s) Romanian Leu (t) Russian Ruble

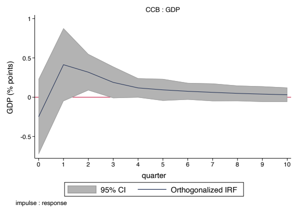
(u) Saudi Riyal (v) Singapore Dollar (w) Thai Bhat (x) Turkish Lira

(y) New Taiwan Dollar (z) South African Rand

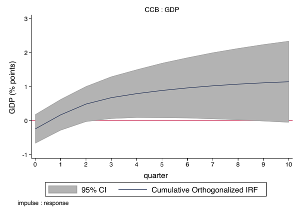
Figure A.32: Cross-currency basis of the currency listed in the subcaptions against the U.S. dollar for the non-G10 currencies. These bases are generally larger in magnitude compared to the G10 ones and might not be close to zero even before the GFC.



(a) Dollar liquidity on growth, Parsimonious

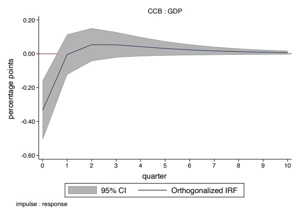


(b) Dollar liquidity on growth, Comprehensive

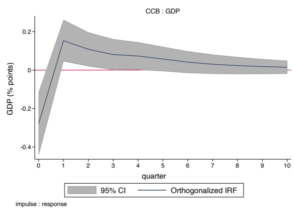


(c) Dollar liquidity on growth, Comprehensive (cumulative)

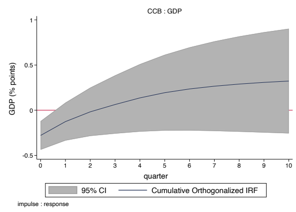
Figure A.33: Subsample for G7 countries



(a) Dollar liquidity on growth, Parsimonious

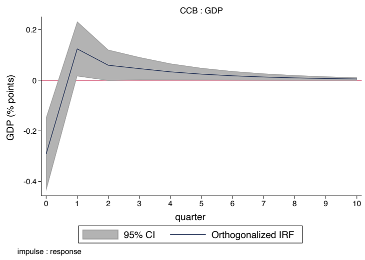


(b) Dollar liquidity on growth, Comprehensive

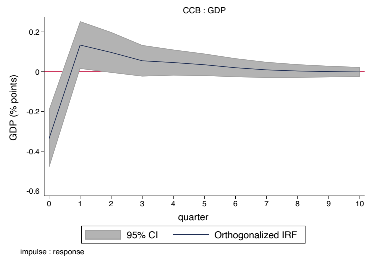


(c) Dollar liquidity on growth, Comprehensive (cumulative)

Figure A.34: Subsample for non-G7 AEs

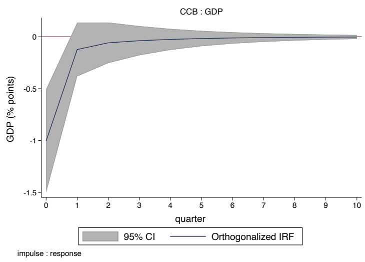


(a) Dollar liquidity on growth, Parsimonious

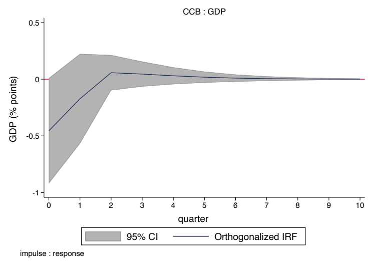


(b) Dollar liquidity on growth, Comprehensive

Figure A.35: Subsample for AEs by removing small economies (Malta & Cyprus)

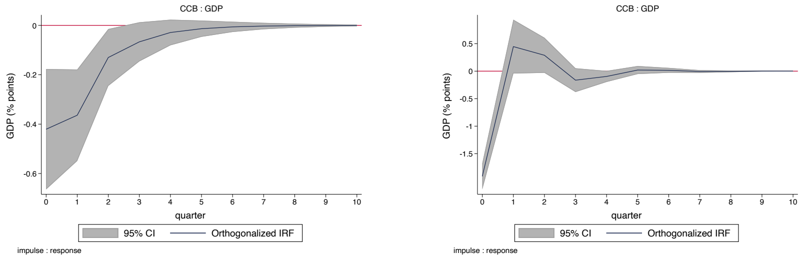


(a) Dollar liquidity on growth, Parsimonious



(b) Dollar liquidity on growth, Comprehensive

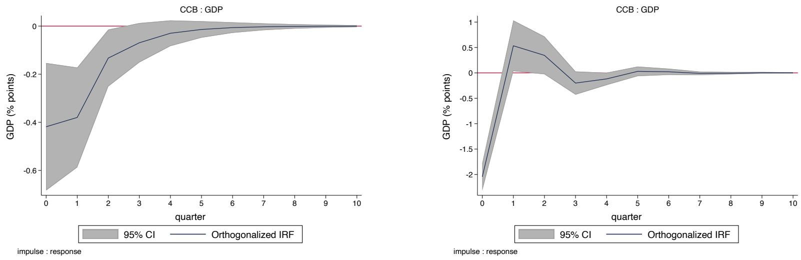
Figure A.36: Subsample for EMs by removing resource rich countries (Argentina, Chile, Colombia, Indonesia, Kazakhstan, Mexico, Qatar, Russia, Saudi Arabia, and South Africa)



(a) Dollar liquidity on growth, Parsimonious

(b) Dollar liquidity on growth, Comprehensive

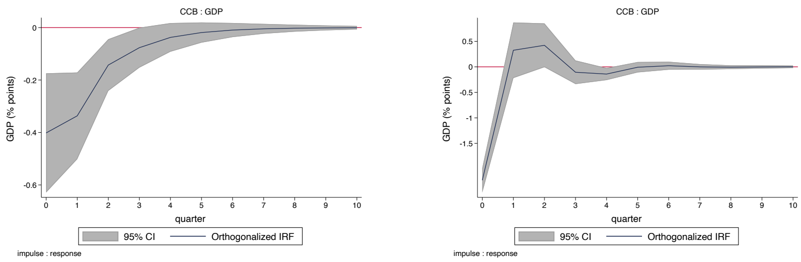
Figure A.37: Subsample by removing important currencies in international transactions (EUR & CNY)



(a) Dollar liquidity on growth, Parsimonious

(b) Dollar liquidity on growth, Comprehensive

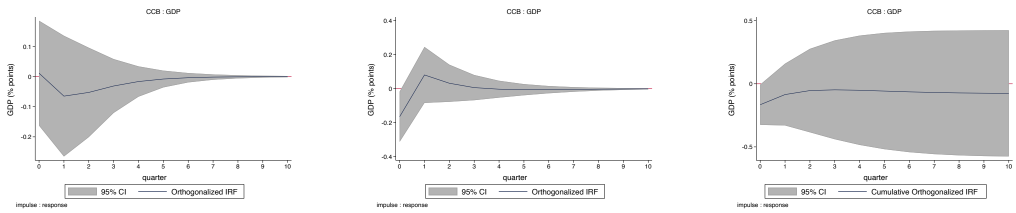
Figure A.38: Subsample by removing reserve currencies (EUR, JPY, GBP & CNY)



(a) Dollar liquidity on growth, Parsimonious

(b) Dollar liquidity on growth, Comprehensive

Figure A.39: Subsample by removing Eurozone countries

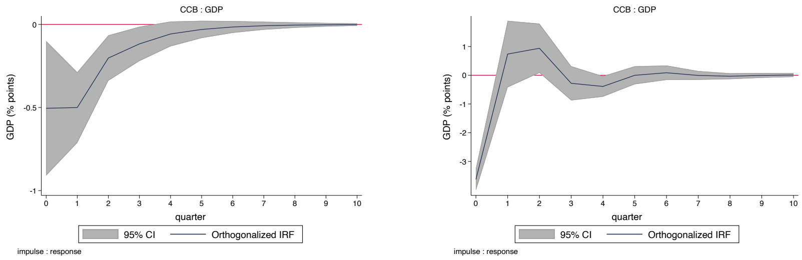


(a) Dollar liquidity on growth, Parsimonious

(b) Dollar liquidity on growth, Comprehensive

(c) Dollar liquidity on growth, Comprehensive (cumulative)

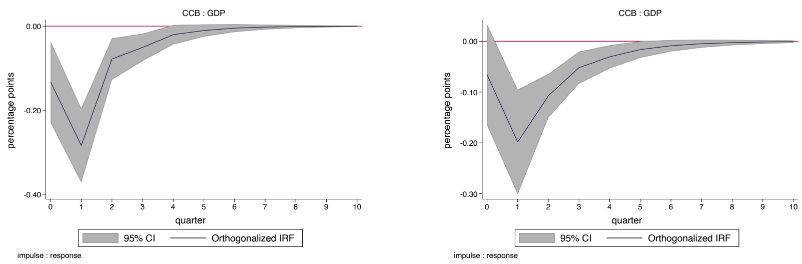
Figure A.40: Subsample for AEs by adding Korea & Taiwan



(a) Dollar liquidity on growth, Parsimonious

(b) Dollar liquidity on growth, Comprehensive

Figure A.41: Subsample for EMs by dropping Korea & Taiwan



(a) Dollar liquidity on growth, Parsimonious

(b) Dollar liquidity on growth, Comprehensive

Figure A.42: Baseline: dropping 2020