

# DISCUSSION

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## THE FLOW OF FUNDS IN A WHO-TO-WHOM FRAMEWORK: BALANCE-SHEET INTERLINKAGES AND PROPAGATION OF QUANTITY SHOCKS

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## The key points made by Celestino Giron, Antonio Matas Mir and Marta Rodriguez-Vives

A framework to study

- Impact of **propagation effects** of monetary policy → *Change in assets as an effect of Central Bank Policy*
- **Characteristics of institutional sectors and sub-sectors** involved → *Link complexity*
  - ...showing **creditor-debtor** links, provides rankings of interconnectedness via investment: **vulnerability indicator**
  - ...showing **debtor-creditor** links (represented by the transposed matrix of a creditor-debtor network), provides rankings of interconnectedness via financing: **systemic risk indicator**

# Agenda

- **«From whom to whom» in a data availability progress framework**
- The linear algebra kit
- Avenues for conceptualization and modelling

## Close to filling a key data gap?

***for developing symmetric who-to-whom data an important data gap had remained: information on the holding sector of securities was incomplete.*** This gap has been largely closed recently by the introduction of new ESCB statistics on securities holdings, collected on a security-by security basis from custodians and financial institutions. A comparison showed that the ***new securities holdings statistics cover around 83% of the EAA aggregate,*** which underlines its potential role for the EAA (see also ECB 2015) (1)

(1) Ahnert Henning and Gabriel Quirós *Sectoral Accounts for the Euro Area Improving contents and communication* European Central Bank, Bank of International Settlements (2016?)

## The w2w data: a «frontier» area....

- The ECB and the Fed publish sector/instrument matrices for the main financial instruments
- The ECB publishes w2w transaction matrices by instrument

- **A full w2w matrix of flows and stocks consolidating all instruments close to being achieved?**
- **Estimation issues remain, for example for non-listed shares?**
- **Need for consistency criteria in order to address transactions & levels?**
- **To what extent consistent analyses would effectively require a full dataset ?**

....and a step towards making the Brainard and Tobin approach operational?

*Pitfalls in Financial Model Building* The American Economic Review, vol LVIII, n. 2 May 1968

Debts of	Assets of			
	Government	Banks	Public	Total Debts
Government		$S^B$ Treasury Bills	$S^P$ Treasury Bills	$G - R$ Treasury Bills
		$E$ Required Reserves Net Free Reserves	$C$ Currency	$R$ Reserves of Currency
Banks			$D$ Demand Deposits $T$ Time Deposits	$D$ Demand Deposits $T$ Time Deposits
Public		$-L$ Loans		$-L$ Loans
Equities in physical capital			$V$ Equities	$V$ Equities
Net worth assets—debts	$-G$ Government Debt	0	$W^P$ Equities + Government Debt	

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## w2w matrices : «well behaved»

- Are consistent with network analysis, an area of increasing progress and sophistication
- Can be analysed through linear transformations
- Adapt to modelling using the linear programming toolkit



## Specific exercises

- Use of **inverse matrix** to show how sector investments (assets) are affected by purchases by the central bank of bank assets
- **Reduced dimensionality and network centrality** for characterizing propagation
- **Decomposing effects on propagation:** how the network structure of interdependencies shapes the process of diffusion of an exogenous shock

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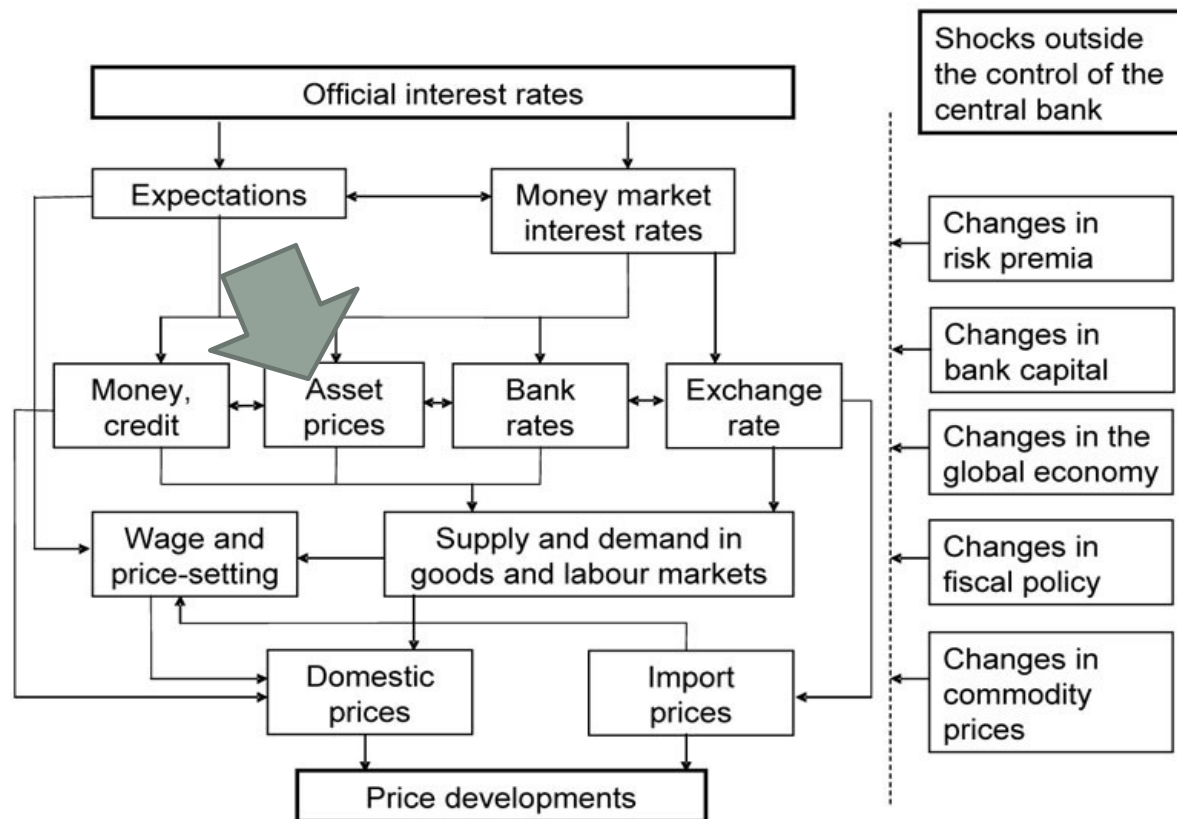
## From «induction»....

Stylized facts

- **Households highly systemic**
- **Disposals of assets by MFI result in less than proportional decreases in leverage**

# ...to more complete models and testing?

## THE MONETARY TRANSMISSION MECHANISM AS VIEWED BY THE ECB



Source: ECB, [www.ecb.europa.eu/mopo/intro/transmission/html/index.en.html](http://www.ecb.europa.eu/mopo/intro/transmission/html/index.en.html)