



International Hierarchy of Money: Payment Systems and Economic Development

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My Research

"International payment systems and capital flight: capital controls for South-North financial flows"

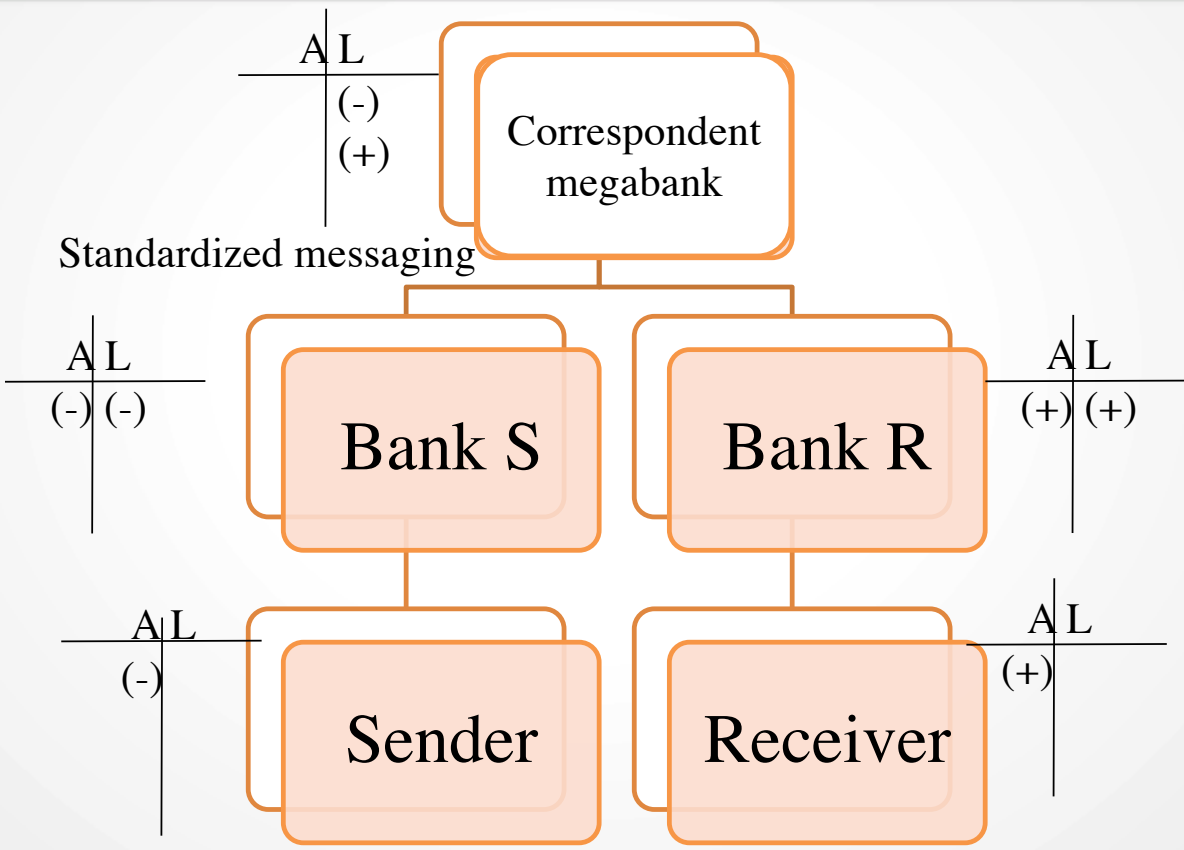
Contributions:

- relation of theories of money to payment systems and capital flight
- review of historical transformation of international payment systems
- taxonomy of post-crisis capital controls with relation to payment systems
- **hierarchical pyramid of money for the case of Ecuador**
- alternative measurement methods of capital flight based on payment systems information
- proposal for innovative (post BIT, FTA, WTO) regulations for capital controls

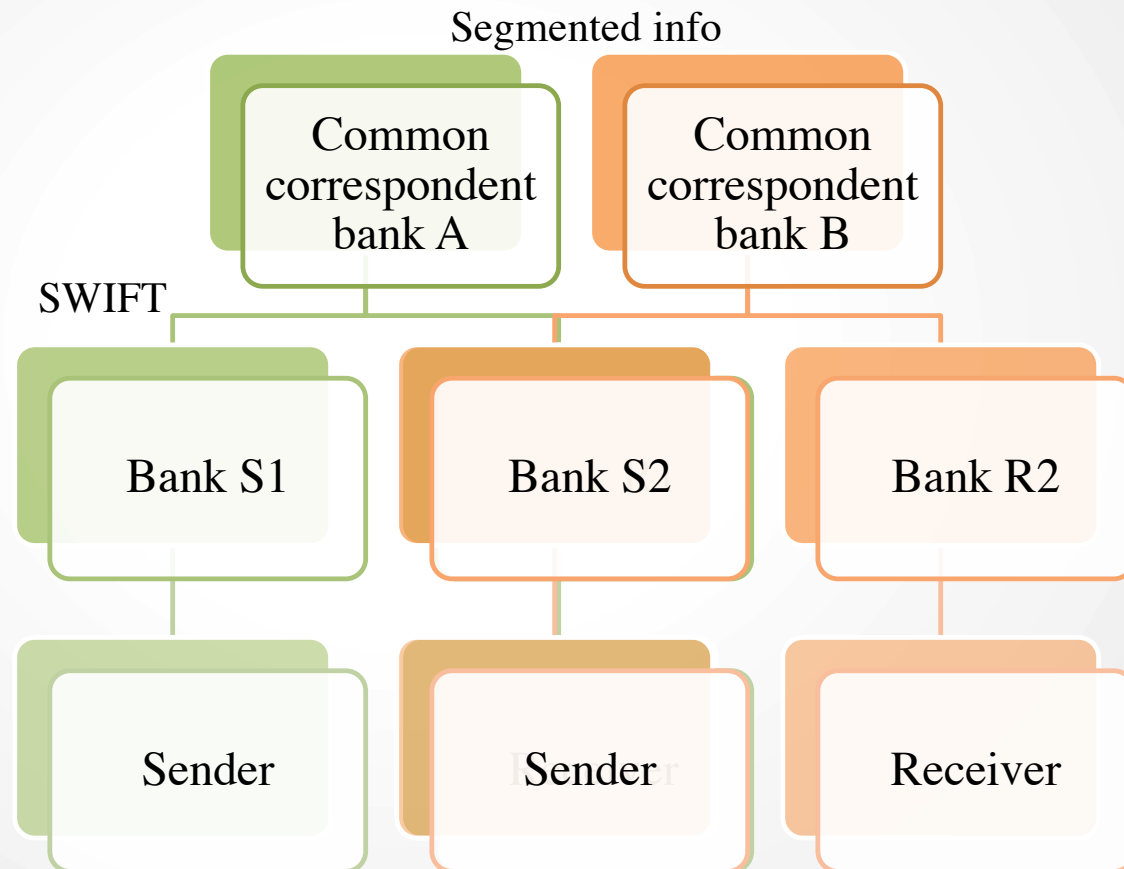
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1. What's a payment system?
2. Some of the issues
3. A proposal for central banks

Payment System

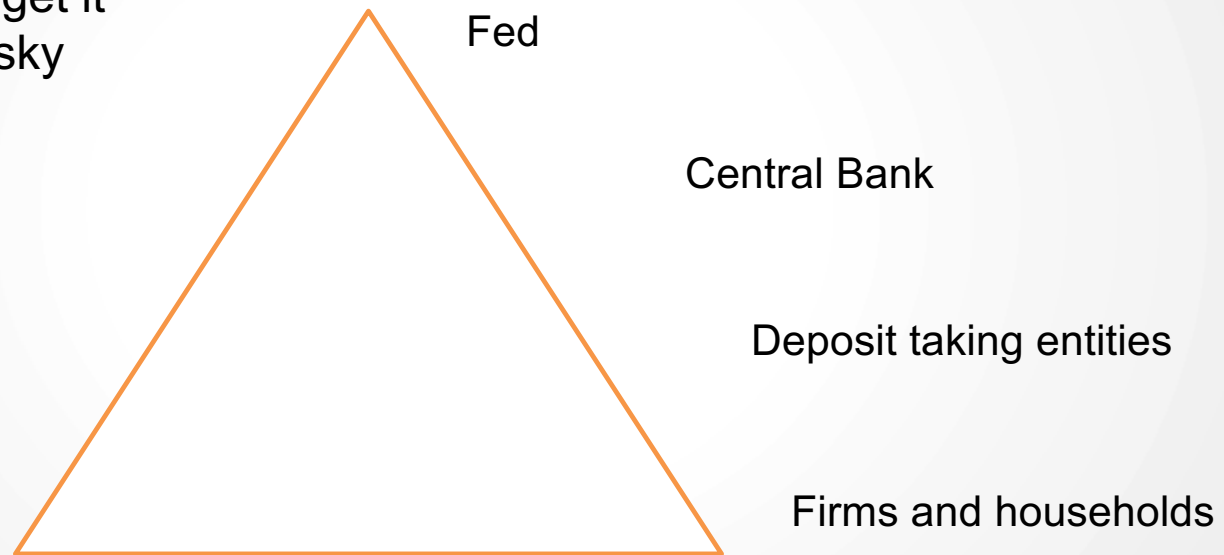


International Payment System



Hierarchy of money

“everyone can create money;
the problem is to get it
accepted” -Minsky



Pyramid of liabilities
(Wray, 2011)

Sanctions

Program Tag:	Definition:		
[561LIST]	The List of Foreign Financial Institutions Subject to Part 561 (the "Part 561 List"), 31 C.F.R. part 561	[IFCA]	Iran Freedom and Counter-Proliferation Act of 2012 (IFCA) (PL 112-239)
[BALKANS]	Western Balkans Stabilization Regulations, 31 C.F.R. part 588 ; Executive Order 13304	[IFSR]	Iranian Financial Sanctions Regulations, 31 CFR part 561
[BELARUS]	Belarus Sanctions Regulations, 31 C.F.R. part 548 ; Executive Order 13405	[IRAN]	Iranian Transactions and Sanctions Regulations, 31 CFR part 560
[BPI-PA]	Blocked Pending Investigation, Patriot Act	[IRAN-HR]	Executive Order 13553
[BPI-SDNTK]	Blocked Pending Investigation, Foreign Narcotics Kingpin Sanctions Regulations, 31 C.F.R. part 598	[IRAN-TRA]	Iran Threat Reduction and Syria Human Rights Act of 2012
[BURUNDI]	Executive Order	[IRAQ2]	Executive Order 13315 ; Executive Order 13350
[CAATSA - RUSSIA]	Countering America's Adversaries Through Sanctions Act of 2017 (CAATSA), - Section 224	[IRAQ3]	Executive Order 13438
[CAR]	Central African Republic Sanctions, 31 C.F.R. part 553	[IRGC]	Iranian Financial Sanctions Regulations, 31 CFR Part 561
[COTED]	Cote d'Ivoire Sanctions Regulations, 31 C.F.R. part 543	[ISA]	Iran Sanctions Act, Executive Order 13574
[CUBA]	Cuban Assets Control Regulations, 31 C.F.R. part 515	[LEBANON]	Lebanon Sanctions Regulations, 31 C.F.R. part 549 ; Executive Order 13441
[CYBER]	Executive Order 13694	[LIBERIA]	Former Liberian Regime of Charles Taylor Sanctions Regulations, 31 C.F.R. part 593
[CYBER2]	Executive Order 13757	[LIBYA2]	Libyan Sanctions, 31 C.F.R. part 570
[DARFUR]	Darfur Sanctions Regulations, 31 C.F.R. part 546	[LIBYA3]	Executive Order 13726
[DPRK]	North Korea Sanctions Regulations, 31 C.F.R. part 510 ; Executive Order 13551	[MAGNIT]	Sergei Magnitsky Rule of Law Accountability Act of 2012
[DPRK2]	Executive Order 13687	[NPWMD]	Weapons of Mass Destruction Proliferators Sanctions Regulations, 31 C.F.R. part 544
[DPRK3]	Executive Order 13722	[NS-ISA]	Non-SDN Iranian Sanctions Act, Executive Order 13574
[DPRK4]	Executive Order 13810	[NS-PLC]	Non-SDN, Palestinian Legislative Council List, General License 4 issued pursuant to the Global Terrorism Sanctions Regulations (31 C.F.R. Part 594),
[DRCONGO]	Democratic Republic of the Congo Sanctions Regulations, 31 C.F.R. 547	[SDGT]	Global Terrorism Sanctions Regulations, 31 C.F.R. part 594
[FSE-SY]	Foreign Sanctions Evaders Executive Order 13608 - Syria	[SDNTK]	Narcotics Trafficking Sanctions Regulations, 31 C.F.R. part 536
[FSE-IR]	Foreign Sanctions Evaders Executive Order 13608 - Iran	[SDNTK]	Foreign Narcotics Kingpin Sanctions Regulations, 31 C.F.R. part 598
[FSE-WMD]	Foreign Sanctions Evaders Executive Order 13608 - Non Proliferation	[SDT]	Terrorism Sanctions Regulations, 31 C.F.R. part 595
[FSE-SDGT]	Foreign Sanctions Evaders Executive Order 13608 - Anti-terrorism	[SOMALIA]	Somalia Sanctions Regulations, 31 C.F.R. part 551
[FTO]	Foreign Terrorist Organizations Sanctions Regulations, 31 C.F.R. part 597	[SUDAN]	Sudanese Sanctions Regulations, 31 C.F.R. part 538
[GLOMAG]	Executive Order 13818 - (Global Magnitsky)	[SOUTH SUDAN]	South Sudan Sanctions Regulations, 31 C.F.R. part 558 ; Executive Order 13664
[HRIT-SY]	Executive Order 13606 - Syria	[SYRIA]	Syrian Sanctions Regulations, 31 C.F.R. part 542 ; Executive Order 13399 ; Executive Order 13460
[HRIT-IR]	Executive Order 13606 - Iran	[TCO]	Transnational Criminal Organizations Sanctions Regulations, 31 C.F.R. part 590 ; Executive Order 13581
		[UKRAINE-EO13660]	Executive Order 13660
		[UKRAINE-EO13661]	Executive Order 13661
		[UKRAINE-EO13662]	Executive Order 13662 (See Directive 1 As Amended , Directive 2 as Amended , Directive 3 , Directive 4)
		[UKRAINE-EO13685]	Executive Order 13685
		[VENEZUELA]	Executive Order 13692
		[YEMEN]	Yemen Sanctions Regulations, 31 C.F.R. part 552
		[ZIMBABWE]	Zimbabwe Sanctions Regulations, 31 C.F.R. part 541 ; Executive Order

Sanctions

Bloomberg

Politics

EU Looking to Sidestep U.S. Sanctions With Payments System Plan

By William Horobin and Birgit Jennen

27 de agosto de 2018 13:07 CEST

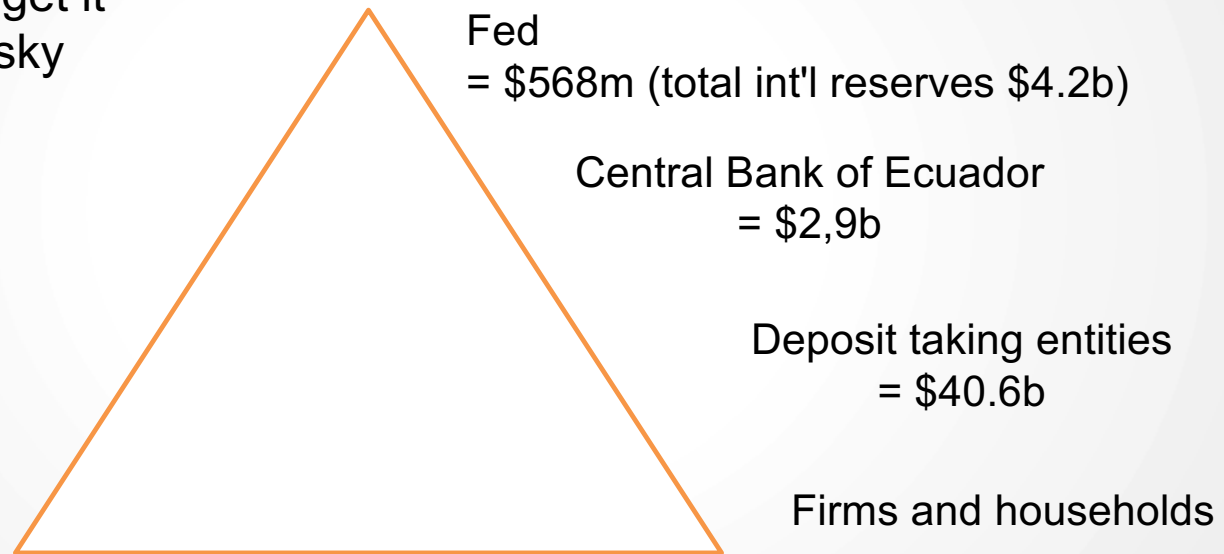
- ▶ Europe must avoid being 'vassal continent': French minister
- ▶ Goal is to maintain business ties with nations like Iran

[reuters.com](https://www.reuters.com)

**Germany urges EU payment system
without U.S. to save Iran deal**

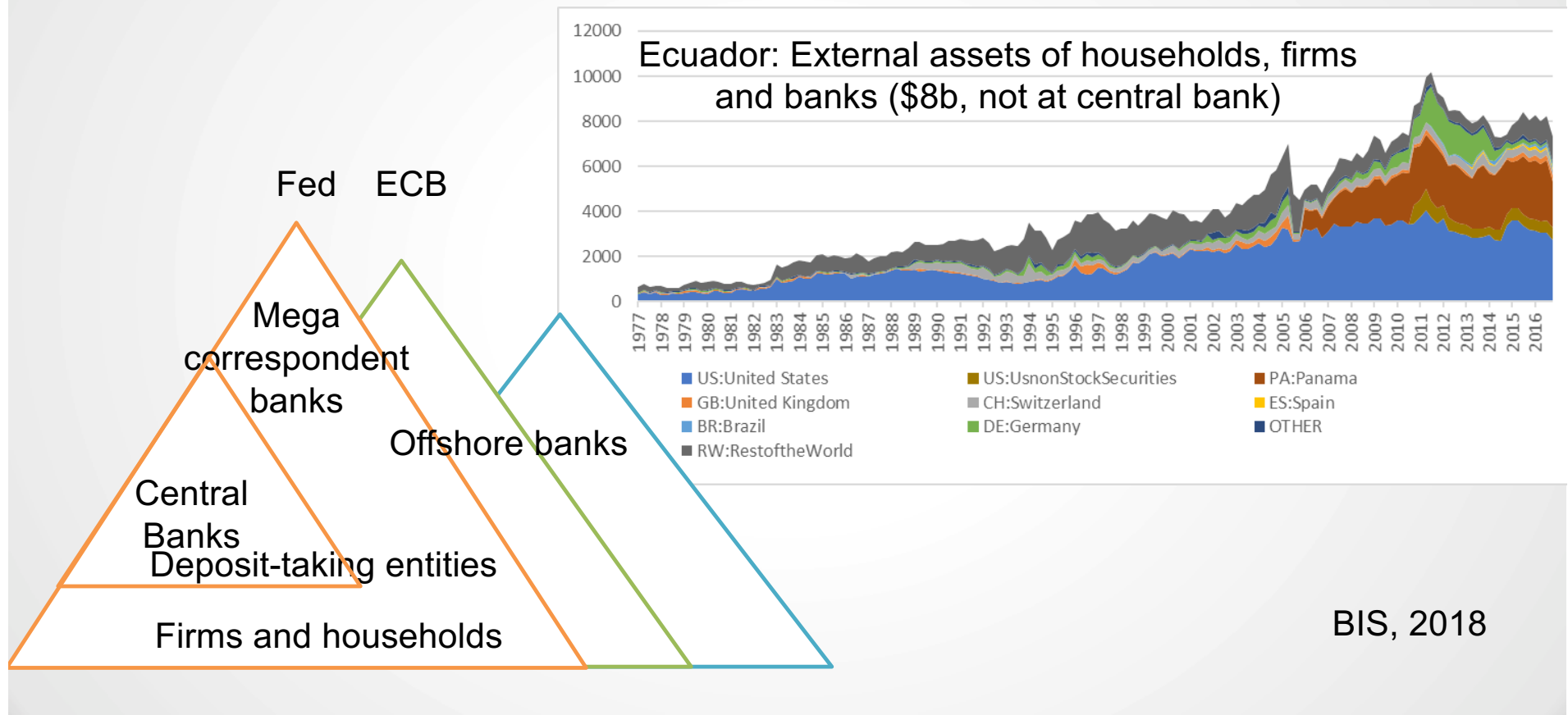
How we model

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Pyramid of liabilities
(Wray, 2011)

What's really going on



Market power

Payment systems and network effects

Club effect: price differential for intrabank vs. Interbank
No interoperability



Big data

Total Retail Payments

Three examples ([WB, 2015](#)):

Brazil: 32.73 billion transactions worth USD 3.73 trillion

Germany: 22.68 billion transactions worth USD 64.89 trillion

China: 25.16 billion transactions worth USD 424.6 trillion

Regression anyone? Even better, 21st century Leontieff

Monetary and financial statistics are bank-centered and institutional sector-centered.
If balance sheet statistics were grouped by ISIC...

"Financial inclusion" vs. ...

BETTER THAN CASH ALLIANCE

RESOURCE PARTNER

Bill & Melinda Gates Foundation

[Website](#)



RESOURCE PARTNER

Citi Foundation

[Website](#)



RESOURCE PARTNER

MasterCard

[Website](#)



RESOURCE PARTNER

Omidyar Network

[Website](#)



RESOURCE PARTNER

SIDA

[Website](#)



RESOURCE PARTNER

United Nations Capital Development Fund

[UNCDF Website](#)



RESOURCE PARTNER

USAID

[Website](#)



RESOURCE PARTNER

Visa

[Website](#)









Financial inclusion and empowerment

Instead of taking citizens to the megabank (PrPrP corner store model), include the community credit unions in the CB payment system

68,000 cooperatives in
109 countries with
235 million members

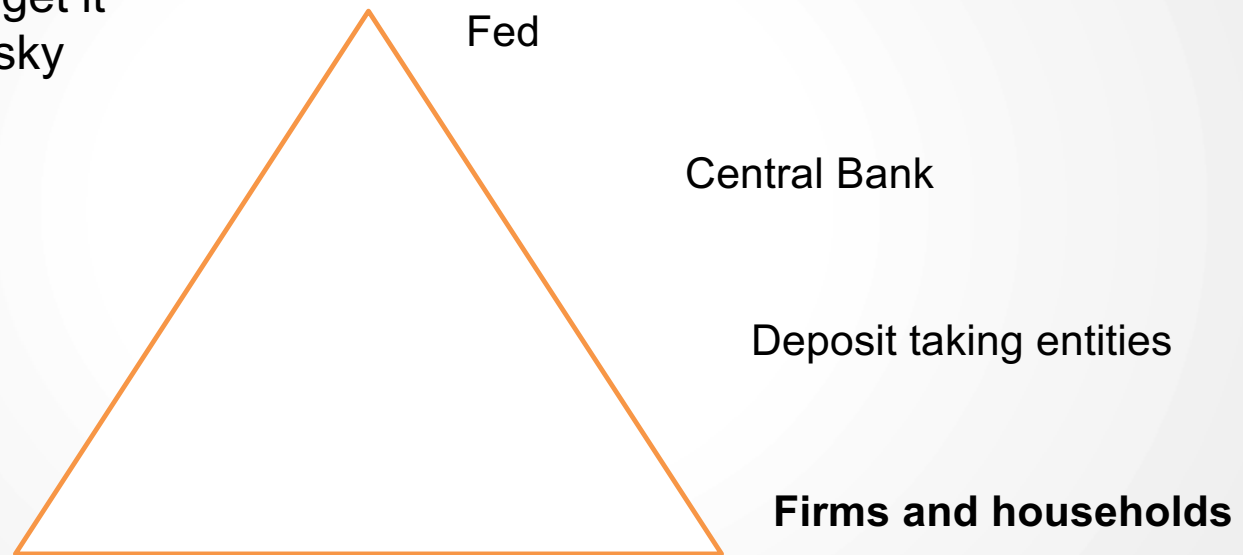
Excluding even smaller communal *caixas*
([WOCCU, 2016](#))

AFRICA

	Credit Unions and Other Financial Cooperatives	Members
Benin ^(b)	36	1,830,428..
Burkina Faso ^(b)	67	1,632,773..
 Cameroon.....	220	457,539..
Ethiopia ^(a)	5,500	1,112,195..
Gambia.....	71	69,296..
 Ghana ^(a)	476	571,479..
Guinea-Bissau ^(b)	6	9,905..
Ivory Coast ^(b)	64	1,171,212..
 Kenya.....	6,468	6,272,077..
Lesotho ^(a)	90	76,000..
 Liberia ^(a)	45	3,459..
 Malawi.....	32	80,807..
Mali ^(b)	70	1,042,995..
Mauritius ^(a)	138	66,000..
Niger ^(b)	44	262,465..
Rwanda.....	416	1,607,560..
Senegal ^(b)	214	2,247,473..
 Seychelles.....	1	14,889..
South Africa ^(a)	26	33,400..
Swaziland ^(a)	73	40,582..
Tanzania ^(a)	5,559	1,153,248..
Togo ^(b)	82	1,979,208..
Uganda.....	1,940	1,325,517..
Zambia ^(a)	11	20,767..
Zimbabwe.....	75	167,500..
TOTAL Member Countries.....	7,242	7,400,250..
TOTAL Other Countries.....	14,482	15,848,524..
TOTAL for Africa	21,724	23,248,774

Model

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Pyramid of liabilities
(Wray, 2011)

LETS + Complementary Currencies (El Salvador)

Así funcionamos

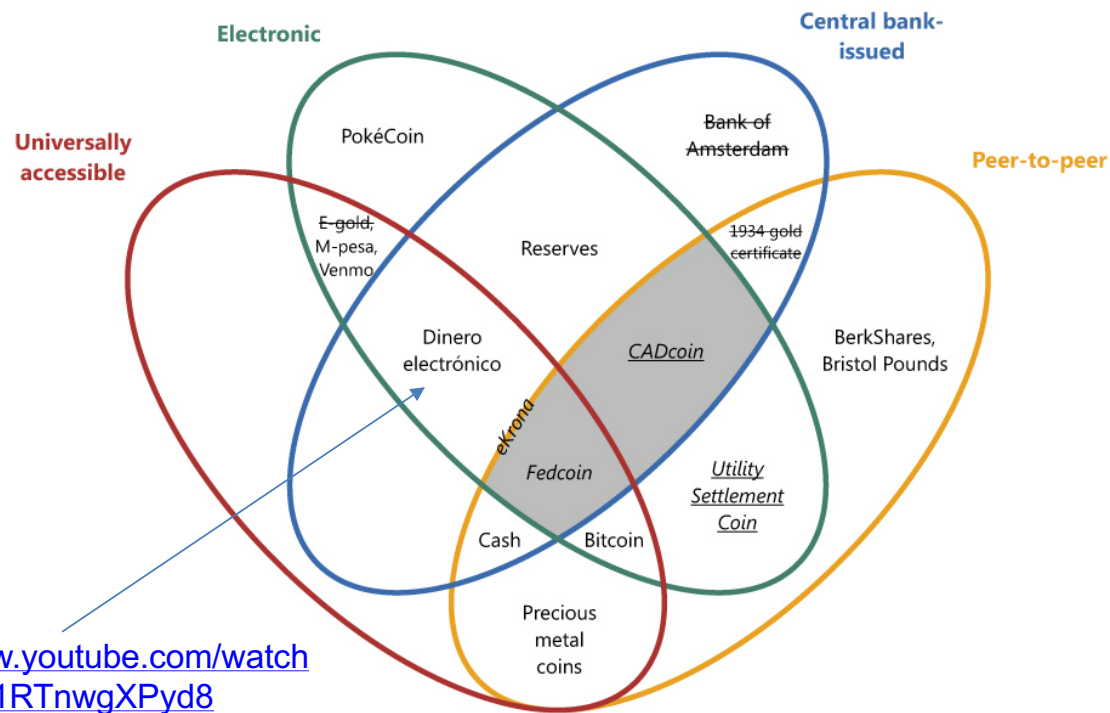
En la Red de puntoTRANSacciones usted vende sus productos y servicios a otras empresas afiliadas. Por esas ventas adicionales usted recibe créditos de intercambio denominados TRANS, válidos únicamente para comprar dentro de la Red. Todas las transacciones de intercambio se registran en nuestra plataforma web y móvil. De esta manera usted convierte sus productos y servicios en su forma de pago, mejora la liquidez, aumenta sus ventas y consolida la rentabilidad de su empresa.



CB issued electronic currency (Ecuador)

The money flower: example

Graph B

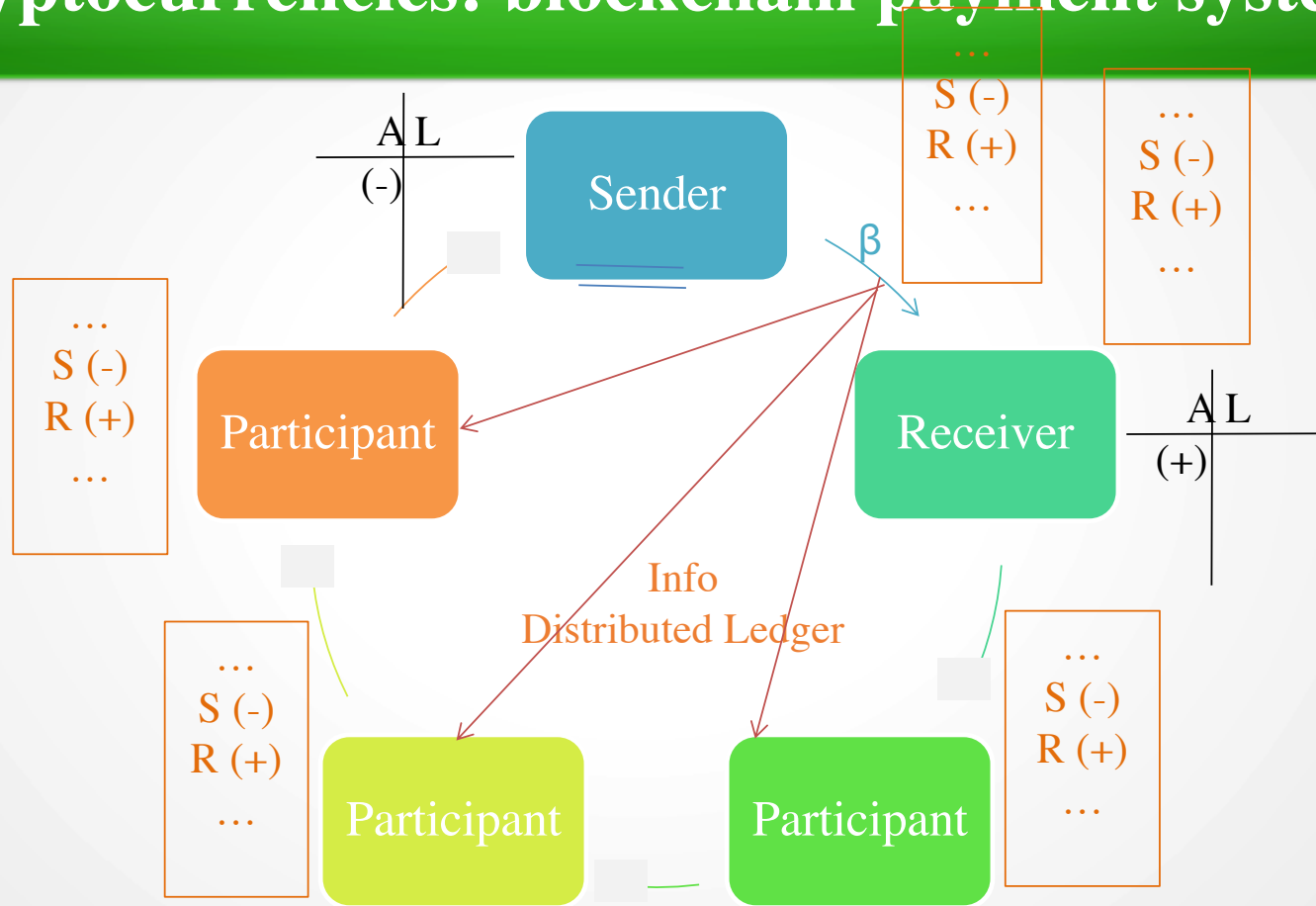


<https://www.youtube.com/watch?v=1RTnwgXPd8>

A standard font indicates that a system is in operation; an *italic* font indicates a proposal; an *italic and underlined* font indicates experimentation; a ~~strikethrough~~ font indicates a defunct company or an abandoned project.

India,
Russia,
Sweden,
Uruguay,
UK,
Norway,
Estonia,
China,
Venezuela,
Australia,
 Thailand,
 Israel, ...

Cryptocurrencies: blockchain payment system



Lightning
Ripple
Swift DLT

High-tech radical democratization and openness of central banks

- Launch central bank digital currency for all citizens, then fine-tuned QE for the people
- Launch open platforms for local exchange trading systems initiatives
- Launch open platforms with clearinghouses for productive firms
- Open national payment systems to remittance firms and credit unions
- Regulate interoperability and cost-neutrality of all payment systems
- Establish APIs for open and socially-oriented democratic fintech
- Open payment systems' big data (without personal data) for researchers and developers
- Monitor and research BTC, ETH, XRP, XMR ledgers
- Transform monetary balance-sheet statistics to serve production
- Re-regulate international payment systems to fight illicit flows
- Democratize governance of central banks