International Hierarchy of Money: Payment Systems and Economic Development

Andrés Arauz
UNAM

UNCTAD-YSI Summer School
Geneva, September 2018
"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
Contents

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

Correspondent megabank

Standardized messaging

Bank S

Sender

Bank R

Receiver
Hierarchy of money

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

Pyramid of liabilities  
(Wray, 2011)
<table>
<thead>
<tr>
<th>Program Tag</th>
<th>Definition</th>
<th>Source</th>
<th>Sanctions</th>
</tr>
</thead>
<tbody>
<tr>
<td>[Sanctions]</td>
<td>The List of Foreign Financial Institutions Subject to Part 561 (the “Part 561 List”), 31 C.F.R. part 561</td>
<td>[Sanctions]</td>
<td>[Sanctions]</td>
</tr>
<tr>
<td>[BALKANS]</td>
<td>Western Balkans Stabilization Regulations, 31 C.F.R. part 588, Executive Order 13465</td>
<td>[Sanctions]</td>
<td>[Sanctions]</td>
</tr>
<tr>
<td>[BELARUS]</td>
<td>Belarus Sanctions Regulations, 31 C.F.R. part 546, Executive Order 13404</td>
<td>[Sanctions]</td>
<td>[Sanctions]</td>
</tr>
<tr>
<td>[BPI-PA]</td>
<td>Blocked Pending Investigation, Patriot Act</td>
<td>[Sanctions]</td>
<td>[Sanctions]</td>
</tr>
<tr>
<td>[BURUNDI]</td>
<td>Executive Order</td>
<td>[Sanctions]</td>
<td>[Sanctions]</td>
</tr>
<tr>
<td>[CAATSA - RUSSIA]</td>
<td>Countering America’s Adversaries Through Sanctions Act of 2017 (CAATSA), Section 224</td>
<td>[Sanctions]</td>
<td>[Sanctions]</td>
</tr>
<tr>
<td>[COTED]</td>
<td>Cote d’Ivoire Sanctions Regulations, 31 C.F.R. part 543</td>
<td>[Sanctions]</td>
<td>[Sanctions]</td>
</tr>
<tr>
<td>[CUBA]</td>
<td>Cuban Assets Control Regulations, 31 C.F.R. part 515</td>
<td>[Sanctions]</td>
<td>[Sanctions]</td>
</tr>
<tr>
<td>[CYBER]</td>
<td>Executive Order 13694</td>
<td>[Sanctions]</td>
<td>[Sanctions]</td>
</tr>
<tr>
<td>[CYP]</td>
<td>Executive Order 13757</td>
<td>[Sanctions]</td>
<td>[Sanctions]</td>
</tr>
<tr>
<td>[DR]</td>
<td>North Korean Sanctions Regulations, 31 C.F.R. part 510; Executive Order 13551</td>
<td>[Sanctions]</td>
<td>[Sanctions]</td>
</tr>
<tr>
<td>[DPRK]</td>
<td>Executive Order 13850</td>
<td>[Sanctions]</td>
<td>[Sanctions]</td>
</tr>
<tr>
<td>[DSPK]</td>
<td>Executive Order 13851</td>
<td>[Sanctions]</td>
<td>[Sanctions]</td>
</tr>
<tr>
<td>[FSE-6Y]</td>
<td>Foreign Sanctions Evaders Executive Order 13006</td>
<td>[Sanctions]</td>
<td>[Sanctions]</td>
</tr>
<tr>
<td>[FSE-IR]</td>
<td>Foreign Sanctions Evaders Executive Order 13006</td>
<td>[Sanctions]</td>
<td>[Sanctions]</td>
</tr>
<tr>
<td>[FSE-WMD]</td>
<td>Foreign Sanctions Evaders Executive Order 13006</td>
<td>[Sanctions]</td>
<td>[Sanctions]</td>
</tr>
<tr>
<td>[FSE-BG]</td>
<td>Foreign Sanctions Evaders Executive Order 13006</td>
<td>[Sanctions]</td>
<td>[Sanctions]</td>
</tr>
<tr>
<td>[GLOMG]</td>
<td>Executive Order 13963</td>
<td>[Sanctions]</td>
<td>[Sanctions]</td>
</tr>
<tr>
<td>[HRIT-SD]</td>
<td>Executive Order 13061</td>
<td>[Sanctions]</td>
<td>[Sanctions]</td>
</tr>
<tr>
<td>[HRIT-IR]</td>
<td>Executive Order 13061</td>
<td>[Sanctions]</td>
<td>[Sanctions]</td>
</tr>
</tbody>
</table>
EU Looking to Sidestep U.S. Sanctions With Payments System Plan

By William Horobin and Birgit Jannan
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

Germany urges EU payment system without U.S. to save Iran deal
How we model

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

Pyramid of liabilities
(Wray, 2011)

Fed
= $568m (total int'l reserves $4.2b)

Central Bank of Ecuador
= $2.9b

Deposit taking entities
= $40.6b

Firms and households
What's really going on

Fed
ECB
Mega correspondent banks
Offshore banks
Central Banks
Deposit-taking entities
Firms and households

Ecuador: External assets of households, firms and banks ($8b, not at central bank)

BIS, 2018
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. ...
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)
“everyone can create money; the problem is to get it accepted” - Minsky

Pyramid of liabilities (Wray, 2011)
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)

https://www.youtube.com/watch?v=1RTnwgXPyd8

India, Russia, Sweden, Uruguay, UK, Norway, Estonia, China, Venezuela, Australia, Thailand, Israel, ...
Cryptocurrencies: blockchain payment system

- Sender
- Receiver
- Participant
- Participant
- Participant

Distributed Ledger

- Lightning
- Ripple
- Swift DLT

\( \beta \)
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