The Economics of Monetary Unions: Past Experiences and the Eurozone

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February 2019
Clemens Jobst
Precedents of the euro area?
Some thoughts on the Habsburg monarchy as monetary union

Clemens Jobst
OeNB, CEPR, [University of Vienna]

The views presented here are not necessarily those of the Oesterreichische Nationalbank or the Eurosystem
A monetary union by fiscal divorce

• 1816 National-Bank receives monopoly for banknote issuance, monarchy with central budget
• 1867 Fiscal separation between (Imperial) Austria and (Royal) Hungary, but monetary space preserved
• 1878 National-Bank reorganized as bi-”national” bank
  – Centralized control of monetary policy, int rate, foreign exchange policy, conditions in lending operations (= discount)
  – Devolution of implementation to two head offices, assessment of discounters and bills, keeping of accounts
• Regular renegotiations of parts of the compact, notably tariffs and the bank
Habsburg and Euro area compared

• Common monetary policy, but separate budgets
• (Almost) no central budget
• Common monetary policy decided by board composed of representatives of member states
• Monetary policy decided centrally, but decentralized implementation
• But:
  – Habsburg compact renegotiated every 10 years, in the EU changes requires unanimity/qualified majority
  – Budapest and Vienna Directorates created in 1878, no historical legacy as in the case of national central banks in the ESCB
A contested union

• Habsburg monarchy known to have been rife with political conflict
  – even though recent literature has emphasized the cohesive forces of Empire offering a framework for the development of individual nations

• Conflicts between Austria and Hungary
  – Hungarian push for more independence and prestige

• Conflicts within Austria and Hungary
  – Different nations/groups pushing for increased participation, notably Slavs

• All reflected at the level of the joint central bank
Symbols and representation

- Parity between Austria and Hungary
- Czech representation
- Use of language on banknotes

Conflicts
- accentuated by decennial renegotiation of monetary union
- mixed up with army, contributions to common budget, tariffs

Consensus on stability
- though drawn-out debates on whether better ensured by formal gold convertibility or by shadowing the gold standard through forex interventions
Decentralized implementation – OeUB branch network 1878–1912
Decentralized implementation

• Two head offices, about 100 branch offices in 1913
• Why?
  – providing access to small/local banks
  – access to local information
  – legitimacy
• Consequence: reporting by subunits makes regional distribution (more) visible that can be judged unfair by some
• Parallels here to EA
OeUB balance sheet

<table>
<thead>
<tr>
<th>Assets</th>
<th>Liabilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gold, silver, foreign exchange</td>
<td>Capital and reserves</td>
</tr>
<tr>
<td>Bills discounted</td>
<td>Banknotes issued</td>
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<td>Secured lending (lombard)</td>
<td>Current accounts</td>
</tr>
<tr>
<td>Gov’t debt</td>
<td>Gov’t accounts</td>
</tr>
<tr>
<td>Investment assets</td>
<td></td>
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</table>

- Discounting and secured lending done by local branch offices reported by branch
- So are current accounts
- But no full balance sheets
Decomposing the Oesterreichisch-ungarische Bank

„Central office“

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Local branches („NCBs“)

<table>
<thead>
<tr>
<th>Assets</th>
<th>Liabilities</th>
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<tbody>
<tr>
<td>Bills discounted</td>
<td>Banknotes issued minus withdrawn (can be negative)</td>
</tr>
<tr>
<td>Secured lending (lombard)</td>
<td>Current accounts</td>
</tr>
</tbody>
</table>

• Creation of money through lending and current accounts/banknote issuance need not to be equal (money moves freely)
# K.u.k. TARGET

## „Central office“

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<td>Net balancing item („TARGET“)</td>
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## Local branches („National central banks“)

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<td>Net balancing item („TARGET“)</td>
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</table>
Public debate focuses on lending

- i.e. *creation* of central bank money, not its *consequent movement* within the monetary area, as in the TARGET debate
- Creation of branch offices important topic whenever Bank statutes are renewed (every 10y)
- Hungarian representatives demand and obtain fixed lending quota in 1878
- Debates in parliament quote figures from the Bank’s annual reports
Challenge: Bank has only limited influence on distribution of lending

- Unlike asset purchases, lending through standing facility
- Bank sets conditions: eligible counterparties, eligible paper/collateral, interest rate
- But actual lending decided by commercial banks accessing discount/lending facilities
- Statutes require uniform criteria and single interest rate for entire monarchy
- Tender instead of standing facility, but otherwise similar setting in the EA
Giving in to Hungary’s demands?

Discounts end-of-year (million fl.)

Vienna
Prague and Bohemia
Lviv and Galicia
other Austria
Budapest
other Hungary
Another view at the same facts: discounting of bills vs. place of payment (1912)
Cui bono?

• What is the proper way of reporting discounts and lending?
  – Advantage to discounter: Viennese banks, that discount bills in Hungary and rediscount them at the OeUB?
  – Advantage to issuer: Hungarian firms, that use bills to finance their business

• Does it matter whether money is created in Hungary or Austria?
  – No apparent subsidy in accessing central bank facility
  – Location might be linked to payment flows

• More research would be worthwhile
Seignorage

- Bank is private joint-stock company
- 19th century: gov’ts claim increasing share of profits
- 1878: 70% Austria, 30% Hungary, analogous to contribution of both states to financing of common expenditures (army, navy)
- after 1899: shares according to Bank’s sources of profit
- Rare example of having the pie and eating it

 Shares of gov'ts in Bank's profits
Conclusions

• How Austria-Hungary dealt with questions of distribution gives us possibly a perspective on current debates in the euro area

• Decentralized implementation (and reporting!) opens Pandora’s box for internal conflict?
  – argument for centralization (Schollmeyer next session)

• Austria-Hungary as case, where conflict was open yet contained
  – Transparency on rules, practices and outcomes
  – *though seignorage-formula could have raised conflicts in the mid-term*

• “*The monarchy’s best-functioning joint institution*” (Tibor Kállay, Hungarian Minister of Finance, 1918)
Eric Monnet
THE FLEXIBILITY OF THE CLASSICAL GOLD STANDARD (1870s-1914).

ANY LESSONS FOR THE EUROZONE?

Guillaume Bazot (University Paris 8)
Eric Monnet (Banque de France, Paris School of Economics & CEPR)
Matthias Morys (University of York)

***This paper does not reflect the views of the Banque de France or Eurosystem***
HISTORY OF THE GOLD STANDARD.
INSPIRATION FOR THE EUROPEAN MONETARY UNION (EMU)

• Two waves:

• Focus on constraints of fixed-exchange rate with full capital mobility (*trilemma*).

• Adjustment cannot work through monetary policy because no autonomy in setting interest rates
OPPOSITE PERSPECTIVE: THE FLEXIBILITY OF THE GOLD STANDARD

• Polanyi (1944), Bloomfield (1959, 1963): central banks could sterilize, absorb asymmetric shocks. A “buffer between internal and external economy”. The role of the balance sheet.

• New paper (Bazot, Monnet, Morys 2018): comprehensive investigation using monthly balance sheets of 21 central banks

• Sterilization was the norm in core countries (key role of domestic assets of CBs). Peripheral countries relied on capital controls (restrictions on gold convertibility)

• Key mechanism: a central bank provides liquidity on demand at a fixed rate. Absorbs asymmetric shocks when responding to this demand

• Discussion: can the ECB provide a similar buffer through refinancing operations (MRO; LTRO, ELA)? When are capital controls needed?
INTERNATIONAL SHOCKS AND CENTRAL BANK BALANCE SHEETS

• How did central banks respond to an increase in the Bank of England rate?
• Follow Bazot, Bordo & Monnet (2016) on France
• Use an ‘exogenous measure’ of BoE decisions (Lennard 2018)
• Theoretical predictions (for countries in the gold standard):
  • If “rules of the game”/trilemma, the CB follows the BOE. Positive correlation between domestic & international assets.
  • If sterilization, stable interest rate and negative correlation between domestic and international assets
  • If restrictions on gold convertibility, stable interest rates and gold reserves.
• 3 groups: core, periphery, out of the gold standard

• Martin-Acena et al. (2012): “imperfect gold convertibility was the norm in the peripheral gold standard countries”

<table>
<thead>
<tr>
<th>Core</th>
<th>Periphery</th>
<th>Out</th>
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<tbody>
<tr>
<td>Germany, France, Netherlands, Belgium, Austria-Hungary</td>
<td>Norway, Sweden, Denmark, Finland, Romania, + Japan, Russia, Italy, Bulgaria, Serbia, Greece</td>
<td>Portugal, Spain, Russia (before 1897), Italy (before 1902), Greece (before 1910), Bulgaria &amp; Serbia (before 1906)</td>
</tr>
</tbody>
</table>

• Control for international business cycle

• Panel local projections (Jorda, Schularick, Taylor 2017, 2018). Robust to different specifications and estimation methods.
PERIPHERY

BoE shock

BoE->cycle

BoE->international

BoE->domestic

BoE->BoE

BoE->rate

BoE->x

BoE shock

-0.01 -0.005 0 0.005 0.01 0.015

0 5 10

Months

BoE->cycle

-0.02 -0.01 0 0.01 0.02 0.03

0 5 10

Months

BoE->international

-0.1 ... -0.1 -0.05 0 0.05 0.1

0 5 10

Months

BoE->rate

-0.001 -0.0005 0 0.0005 0.001 0.0015

0 5 10

Months

BoE->x

BoE shock
UNITED STATES (GOLD STANDARD WITHOUT A CENTRAL BANK)
CONCLUSION: THE GOLD STANDARD WAS NOT A RIGID FRAMEWORK

- Not a single central bank followed the “rules of the game”

- Sterilization in core countries. Convertibility restrictions (and sterilization) in periphery

- In the US, the impact of BoE rate on New York money market rate was 10 times higher than in countries with central banks

- Central banks as shock absorbers

- Mechanism driven by increasing demand at the central bank in times of international financial shocks. Sterilization = maintaining the money/credit supply constant and stable interest rates
ANY LESSONS FOR THE EUROZONE?

- More flexibility in the eurosystem than usually thought.

- As in the gold standard, the ECB lends to banks on demand in order to achieve homogenous credit conditions across the zone. Decentralized operations

- Responses to asymmetric shocks show up in Target II imbalances

- Capital controls as substitutes to sterilization when the latter is no longer (politically/economically?) feasible

- Such function of central banks works for smoothing short-term shocks. Do not solve structural imbalances (as in the gold standard)
Juan Castaneda
&
Alessandro Roselli
A measurement of asymmetry in the running of the classical gold standard

Juan Castaneda (Institute of International Monetary Research and University of Buckingham) and Alessandro Roselli (Cass Business School and University of Buckingham)
Summary (1)

• Main features of the gold standard (including symmetry)
• Purpose of the paper: measurement of symmetry and legal constraint to symmetry
• Symmetry in a (quasi) fixed exchange rate system (Bretton Woods). The case of a single currency: the Eurozone
• Symmetry in a gold specie standard, and in a system with notes and bank deposits
Summary (2)

• Comparison of 5 European countries, pre-WW1 ("classical" gold standard period)
• Common definition of aggregates, common conversion ratio ("apprehension ratio")
• Obstacles to symmetry
• Empirical analysis: how much reserves, the current account account balance and the apprehension ratio help to explain changes in the monetary base
Gold standard: rules of the game

The expression was first mentioned by Keynes (The Economic Consequences of Mr Churchill):

- Currency’s gold parity
- Free gold movements within the system; no currency controls
- Fixed conversion ratio currency/gold
- Money supply linked to movements of gold in/out: hence, symmetry
- High degree of price/wage flexibility
Purpose of the paper

• We try to respond to two basic questions:
  • Whether changes in the monetary base followed changes in the international reserve (symmetry)
    – Previous studies measured symmetry by observing changes in interest rates
    – When not observed, we provide a measure of the asymmetry gap
  • Whether the observance of the legal conversion ratio was a constraint to symmetry
Symmetry in a fixed exchange rate system

• Adoption of macroeconomic policies (demand management) coherent with the surplus/deficit position of each country member of the system.

• Asymmetries under the Bretton Woods system (US as hegemonic country):
Symmetry in a single currency system (monetary union)

- The Eurozone
- Single monetary policy (by definition); fiscal policy: budget consolidation, balanced budget: ordoliberalism, neutrality of money.
- Resort to supply side policies.
- Germany as hegemonic country. Asymmetries difficult to assess
Gold (*specie*) standard symmetry

- In a gold *specie* standard: symmetry is market-induced, non-discretionary:
- Trade deficit $\rightarrow$ gold outflow $\rightarrow$ money supply shrinks $\rightarrow$ prices/wages decrease $\rightarrow$ exports increase $\rightarrow$ trade rebalanced
- Vice versa in surplus countries

(Hume, 1764)
Gold standard symmetry in a notes and bank deposits system

- Not an embedded symmetry, potential strong expansion of the money supply
- To maintain convertibility: legal limits to this expansion
- Two targets (the ‘rules of the game’):
  - a legally defined rule: statutory conversion ratio currency (notes)/gold
  - a non statutory rule: to adjust money supply to gold movements (symmetry). Being non statutory, the surplus country is free not to expand money supply (potential asymmetry)
Complying with the two rules of the game

• The first rule, being a legal requirement, is very important because its observance may affect compliance with the second, non statutory rule (symmetry).

• For instance: if a country has difficulty to comply with the legal ratio, it will be reluctant to expand money supply even though in a certain year it has an increase in the gold reserve, following a surplus in its trade balance.
To verify symmetry: Focus on 5 countries

• **Britain, France, Germany, Italy, Spain**, the largest European economies in the second half of the 19th century (A. Maddison’s GDP estimates)

• Broadly speaking, they were, de jure or de facto, on a gold standard basis, save periods of suspension

• Starting date varies, according to availability of statistics; final date 1913 (WW1)
To verify symmetry, we need to know:

• Level and changes in each country’s balance of payments\(^{(1)}\), international reserve, money supply, and

• *Conversion ratio*, whose observance may affect – as mentioned – changes in money supply due to changes in the reserves, i.e. may affect symmetry

• We also need a *common definition* for the aggregates, and a common conversion ratio, for comparison

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\(^{(1)}\) *The balance of payments, though important, will not be used because its data are often inconsistent with reserves data. And, in fact, the relevant variable that affects money supply is the international reserve*
International reserve, money supply

- **Different legal situations in different countries**, particularly in reference to components of money supply, where we can observe: notes issued by the central bank, or more than one central bank (Italy), by private commercial banks (UK), by the Treasury, and coins.
  - Necessity to take homogeneous data, for comparison.

- Regarding the **reserves**, we have taken into account that the *international reserve was made of gold*, but in some countries also of “hard” currencies (gold exchange standard).

- About the **money supply**, for convertibility purposes gold standard countries never considered the whole money supply (however defined, various Ms). They either considered just circulation, or –also- bank balances at the central bank: monetary base. From the monetary base we have subtracted coins, in the assumption that they were often not directly convertible into gold.

- In summary, for purpose of comparison, for each country we take: (1) reserves: gold and foreign exchange; (2) Money supply: notes circulation and bank balances (monetary base), less coins.
Conversion ratio and “apprehension ratio” (1)

- **Different conversion ratios** in different countries (levels and money aggregates as denominator)

- Of an “arbitrary and variable character” (Keynes); “30-40%, or 1/3 of the note issue” (Hawtrey); 1/3 of circulation (Hayek); “no royal road to the amount of the apprehension minimum” (Bagehot)
Conversion ratio and “apprehension ratio” (2)

- **Legal approach**: to rely on (changing) different legislation; difficulties and unfair comparison
- **Economic approach**: to rely on a common definition of the relevant aggregates (as mentioned), and on a single ratio that we call – from Bagehot – “**apprehension ratio**, at 35% of the monetary base
Our equation to measure symmetry

- Linking coverage ratio, international reserve, notes circulation and bank balances at the central bank

\[
\text{Coverage ratio (CR,\%)} = \frac{\text{Metallic Reserves} + \text{Foreign Exchange Reserves}}{\text{Circulation (notes)} + \text{Banks reserves}} \times 100
\]
Symmetry and obstacles to symmetry

• Symmetry implies that changes in the reserve are accompanied by changes in the monetary base in the same direction (passive: in absolute terms; active: in proportional terms)

• Obstacles: legal conversion ratio; precaution, inflationary concerns, national interest/prestige, bank’s profitability; international investment position
Empirical analysis (1)

• Panel data estimate of the main determinants of the changes in the monetary base (dependent variable):
  – **Reserves**: (+) and significant
  – **Coverage ratio**: (-) and significant
    • This shows that other factors, such as (implicitly) following/targeting a certain level of the CR, may also explain changes in the monetary base
    • The sign indicates that when R increased, but yet the CR was considered as low (not safe enough or close to the 35% AR), central banks were more conservative/cautious in the issue of currency
  – **Current account balance**: no significant
    • Only significant when lagged 2 periods
MB \_\_t = \text{Constant} + \text{Changes in Current Account Balance \_\_t-2} + \text{Changes in the Coverage Ratio \_\_t} \\
\text{(Eq. 2)}

[Table 2: Panel data estimation results (changes in the monetary base as the dependent variable)]

<table>
<thead>
<tr>
<th>Variables</th>
<th>Coefficient (t-statistic)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>3.852 (5.729)**</td>
</tr>
<tr>
<td>Current Account Balance __t-2</td>
<td>0.015 (1.824)</td>
</tr>
<tr>
<td>Coverage ratio</td>
<td>-0.460** (-6.576)</td>
</tr>
<tr>
<td>AR(1)</td>
<td>-0.155 (-1.395)**</td>
</tr>
<tr>
<td>\text{R}^2</td>
<td>0.468</td>
</tr>
<tr>
<td>F-statistic</td>
<td>23,836***</td>
</tr>
<tr>
<td>Durbin Watson statistic</td>
<td>1.809</td>
</tr>
<tr>
<td>Total observations</td>
<td>85</td>
</tr>
</tbody>
</table>

Note: (***) significant at 2.5% level. An auto-regressive component of order 1 (AR (1)) has been added to the equation to address autocorrelation in the residuals.
Empirical analysis (2)

• We compare the actual monetary base figures per country with the following rules:

Reserves-based rule. The gold standard symmetry rule: a policy rule based on changes in the reserves held by the central bank:

\[ MB_t = MB_{t-1} \times (1 + \frac{R}{R_t}) \quad R = R_t - R_{t-1} \quad (Eq. 1) \]

Coverage ratio-based rule: a policy rule based on changes in the CR, irrespective of its level:

\[ MB_t = MB_{t-1} \times \left(1 + \frac{CR}{CR_t}\right) \quad CR = CR_t - CR_{t-1} \quad (Eq. 2) \]

Apprehension ratio-based rule: a policy rule based on changes in the deviations of the CR from the AR, 35%:

\[ MB_t = MB_{t-1} \times \Delta \left(\frac{CR}{AR} - 35\%\right) \quad (Eq. 3) \]
Empirical analysis (3)

• Calculation of the asymmetry gap as the deviations of the actual monetary base from the reserves-based rule (see Eq. 1).

- When the asymmetry gap is positive (Monetary Base > Prescriptions of the reserves rule): An inflationary gap
- When the asymmetry gap is negative (Monetary Base < Prescriptions of the reserves rule): A deflationary gap
**Results:**

**Estimates of asymmetry gap per country**

<table>
<thead>
<tr>
<th>Measurement of asymmetry in the running of the gold standard</th>
</tr>
</thead>
<tbody>
<tr>
<td>Annual percentage deviation from the ‘reserves rule’ (symmetry),</td>
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<td>(Yearly average, %)</td>
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<tr>
<td></td>
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<tr>
<td>• Spain</td>
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<td>• France</td>
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<td>• Italy</td>
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<tr>
<td>• Germany</td>
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<tr>
<td>• UK</td>
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</tbody>
</table>

*A negative/positive sign indicates an under issue/over issue of currency as compared to the symmetry rule*
Observance of symmetry?
How big was the apprehension ratio?

Deviations of the coverage ratio from a 35% apprehension ratio

Coverage ratio – 35%
Conclusions

• Only the **UK abided by the rules of the game**: virtually no asymmetry gap from 1874 to 1913.

• The classical gold standard ran under asymmetry by all but the hegemonic country
  – The **system did not collapse because of asymmetry** but the outbreak of WW1

• The other 4 countries seem to have paid more **attention to the coverage ratio** in the running of the gold standard:
  – They systematically held a much greater than 35% coverage ratio as a ‘safety ratio’.
  – Only when the safety ratio was reached, they were more willing to follow symmetry.
Session 2: Chair - Charles Goodhart

Speaker 1 – Uwe Schollmeyer
Speaker 2 – Hans-Werner Sinn
Uwe Schollmeyer
The following presentation describes the personal opinion of the speaker and not necessarily the official position of the Deutsche Bundesbank.
Operating Payment Systems and Implementing Monetary Policy

Uwe Schollmeyer: Payment systems in a multinational currency union
21 February 2019
Page 61
1. Central Bank Money in Payment Systems
Payment Technologies and Central Bank Money

Money transfers between banks occur normally in central bank money and in accounts at large-value payment systems (LVPSs)

- credit risk = liquidity risk = market risk = 0

Who has access to central bank accounts?

Not in the focus of this presentation:

- Distributed-ledger technology, digital central bank money
- Free banking
- Sovereign money initiative (Switzerland)
- Retail payment systems, incl. instant payments solutions involving central banks

Possible monopolistic competition in case of imperfect substitutability between public and private LVPS
Ownership and Management of Large-Value Payment Systems in CPMI Member Countries (I)

<table>
<thead>
<tr>
<th>Countries</th>
<th>LVPS owner</th>
<th>LVPS manager</th>
<th>Remarks</th>
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<tbody>
<tr>
<td>Argentina</td>
<td>Central Bank</td>
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<td>Australia</td>
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<td>Korea</td>
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<td>Netherlands</td>
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<td>United Kingdom</td>
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<td>Central Bank</td>
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<tr>
<td>India</td>
<td>Central Bank</td>
<td>Central Bank</td>
<td>Central Bank operates more than one LVPS for different purposes</td>
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<tr>
<td>Mexico</td>
<td>Central Bank</td>
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</tbody>
</table>
### Ownership and Management of Large-Value Payment Systems in CPMI Member Countries (II)

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<tbody>
<tr>
<td>Switzerland</td>
<td>other (Consortium of Commercial Banks)</td>
<td>Central Bank</td>
<td>-</td>
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<tr>
<td>Canada</td>
<td>Payment Association</td>
<td>Payment Association</td>
<td>-</td>
</tr>
<tr>
<td>Hong Kong SAR</td>
<td>• Central Bank for own currency LVPS</td>
<td>Commercial Bank</td>
<td>Central Bank is joint owner of the institution which manages the LVPS and owns the foreign currency LVPSs</td>
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<tr>
<td></td>
<td>• Commercial Bank for foreign currency LVPSs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Russia</td>
<td>• Central Bank</td>
<td>• Central Bank</td>
<td>Central Bank operates more than one LVPS for different purposes</td>
</tr>
<tr>
<td></td>
<td>• Commercial Bank</td>
<td>• Commercial Bank</td>
<td>Central Bank is joint owner of the institutions which own and manages the remaining LVPS semi-private LVPS has a limited purpose</td>
</tr>
<tr>
<td>Euro Area</td>
<td>• Central Bank</td>
<td>• Central Bank</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>• Payment Association</td>
<td>• Payment Association</td>
<td>-</td>
</tr>
<tr>
<td>Japan</td>
<td>• Central Bank</td>
<td>• Central Bank</td>
<td>Japan: private LVPS has a limited purpose</td>
</tr>
<tr>
<td>USA</td>
<td>• Central Bank</td>
<td>• Central Bank</td>
<td>USA: Central Bank operates more than one LVPS for different purposes</td>
</tr>
<tr>
<td></td>
<td>• Commercial Bank</td>
<td>• Commercial Bank</td>
<td></td>
</tr>
</tbody>
</table>
Russia: Large-Value Payment Systems (Value of transactions processed)

Data source: BIS Statistics Explorer, Table T9: Value of transactions processed by selected payment systems
Japan: Large-Value Payment Systems
(Value of transactions processed)

Data source: BIS Statistics Explorer, Table T9: Value of transactions processed by selected payment systems
USA: Large-Value Payment Systems
(Value of transactions processed)

Data source: BIS Statistics Explorer, Table T9: Value of transactions processed by selected payment systems
Euro Area: Large-Value Payment Systems (Value of transactions processed)

Data source: BIS Statistics Explorer, Table T9: Value of transactions processed by selected payment systems
Microeconomics and Governance of LVPSs

− Other (historical) cases:
  • Phasing out of LVPSs in Euro area, other than TARGET and EURO1
  • POPS in Finland still operating
  • ECHO vs. Multinet before introduction of CLS

− Industrial Economics of LVPSs
  • Subadditivity of costs: development and the running of a LVPS incurs a high volume of fixed costs and only few variable costs
  • Increasing returns to scale
  • Network effects lead to a positive externality of using the bigger LVPS

− Special LVPS governance cases:
  • SIC (Switzerland), LVTS (Canada), CHATS (Hong Kong)
2. Systems of Central Banks
Who looks after the Euro?
Eurosysterm Governance Structures

**ECB Governing Council**

- Executive Board (6 members)
- Governor
  - Executive Board
  - National Central Bank 1
  - National Central Bank 19

---

Uwe Schollmeyer: Payment systems in a multinational currency union
21 February 2019
Page 74
### Selected Legal Provisions in EU Treaties

<table>
<thead>
<tr>
<th>Basic Tasks: (inter alia)</th>
<th>Treaty on the Functioning of the European Union (TFEU)</th>
<th>ECB statute (Protocol No. 4)</th>
</tr>
</thead>
<tbody>
<tr>
<td>• definition and implementation of the monetary policy</td>
<td>Article 127 Abs. 2</td>
<td>Article 3.1</td>
</tr>
<tr>
<td>• promotion of the smooth operation of payment systems</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Institutional independence of ECB, NCBs and members of their decision making bodies</td>
<td>Article 130</td>
<td>Article 7</td>
</tr>
<tr>
<td>Functional or legal independence</td>
<td>Article 132</td>
<td></td>
</tr>
<tr>
<td>Implementation of tasks by either ECB or NCBs</td>
<td></td>
<td>Article 9.2</td>
</tr>
<tr>
<td>Centralized decision-making and principle of operational decentralization</td>
<td></td>
<td>Article 12.1</td>
</tr>
<tr>
<td>Account keeping</td>
<td></td>
<td>Article 17</td>
</tr>
</tbody>
</table>

21 February 2019

Uwe Schollmeyer: Payment systems in a multinational currency union
<table>
<thead>
<tr>
<th>Assets</th>
<th>Liabilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. Monetary Policy Operations (liquidity-providing), e.g.:</td>
<td>2. Monetary Policy Operations (liquidity-absorbing), e.g.:</td>
</tr>
<tr>
<td>• Open Market Operations</td>
<td>• Bank’s Current Accounts</td>
</tr>
<tr>
<td>• Marginal Lending Facility</td>
<td>• Minimum Reserve Accounts</td>
</tr>
<tr>
<td></td>
<td>• Deposit Facility</td>
</tr>
<tr>
<td>3. Securities</td>
<td>3. other Liabilities</td>
</tr>
<tr>
<td>• held for monetary policy purposes</td>
<td>• Government Deposits</td>
</tr>
<tr>
<td>• other securities</td>
<td>• other (e.g. Deposits from Foreigners)</td>
</tr>
<tr>
<td>5. Intra-Eurosystem Claims</td>
<td>5. Intra-Eurosystem Liabilities</td>
</tr>
<tr>
<td>• Participating interest in the ECB</td>
<td>• Net liabilities related to the allocation of euro banknotes</td>
</tr>
<tr>
<td>• Claims equivalent to the transfer of foreign reserves to the ECB</td>
<td>• Other liabilities net (i.e. TARGET2)</td>
</tr>
<tr>
<td>• Net claims related to the allocation of euro banknotes</td>
<td></td>
</tr>
<tr>
<td>• Other claims net (i.e. TARGET2)</td>
<td></td>
</tr>
<tr>
<td>6. other Assets</td>
<td>6. Capital and Reserves</td>
</tr>
</tbody>
</table>
Money Creation in a Decentralized System of Central Banks

- Intra-Eurosysterm positions can neither create nor destroy central bank money
  - Usually the monetary policy operations would do
  - Net financial assets could also have the same effect
- Banknotes and deposits of banks at the central bank can only distribute asymmetrically
- Ability to “pay” for an NCB is dependent on its ability to change its intra-Eurosysterm positions
  - Settlement of TARGET2-liabilities not further possible in Euro (what else?) → it has already happened!
  - Case study: increase of ECB capital by NCB payments 2010-2012
Thought experiment: a United Kingdom central bank system

- Scenario: Constitutional changes in the UK would lead to a decentralization of the central banking function of Bank of England
  - The currency (GBP) and the LVPS (CHAPS) are left untouched
  - Coordination and decision making cf. monetary policy at newly created “Central Bank of the UK” (CBUK)  still at Threadneedle Street
  - Rest of the Bank of England is only responsible for operational tasks in England & Wales (→ account keeping for banks, banknote issuance, etc.)
  - Private banknote issuing rights in Scotland and Northern Ireland to be transferred to newly created public entities called “Central Bank of Scotland” (CBS) and “Central Bank of Northern Ireland” (CBNI) with same tasks as BoE in their parts of the UK

➢ How would cashless payment flows develop?
➢ How would intra-”CBUK”-positions develop?
➢ Would anyone not want to settle these positions in Pound Sterling?
3. Alternative Solutions for LVPSs in a Multinational Currency Union
Alternative Solutions (I)

− Decentralized and federal architecture of Eurosystem fits well into broader context of European unification efforts
  • Centralization of account-keeping would make NCBs mere regional offices of ECB
  • parallel to foundation of Bundesbank 1957

− Total privatization of money creation?
  • Can free banking or privately issued currencies really provide for monetary and financial stability?

− Larger role for private clearing houses?
  • Clearing is only processing of information
  • Settlement needs to be done on central bank accounts
  • Could a clearing house act as lender-of-last-resort?
Alternative Solutions (II)

- More competition between TARGET2 and private LVPSs?
  - EURO1 already exists, other LVPSs have disappeared (except POPS in Finland)
  - Industrial organization of financial market infrastructures suggests a duopoly at the maximum

- Spreading out private LVPSs that settle only payments for banks of one country?
  - CPMI-IOSCO principle No. 9: central bank money as settlement asset in financial market infrastructures at the end of the day
  - Recourse to central bank money facilities thus necessary
  - Similar discussion as about access of CCPs to central bank money
Alternative Solutions (III)

- Limitation of (growth of) TARGET2-balances?
  - Parallel to backing of privately issued banknotes in Scotland & N.-Ireland
    - Restrict unlimited growth of issued banknotes
  - NCB with highest inflow of payments would determine whether or not to swap “large-value payment facilities” with other NCBs
    - This NCB would de facto dominate the Eurosystem
  - Similar to ERM I 1979-1998
    - Instabilities 1992
      - UK & Italy
  - Inappropriate solution for Eurosystem with free movement of capital and a single euro payments area (SEPA)

- A decentralized central bank system plus a LVPS settling in central bank money leads to an architecture as TARGET2
Session 3: Chair – Geoffrey Wood

Speaker 1 – Juan Castaneda & Pedro Schwartz
Speaker 2 – Lars Jonung & Felix Roth
Juan Castaneda & Pedro Schwartz
The measurement of the optimality of a currency area: the US dollar and the Eurozone

Juan Castaneda (Institute of International Monetary Research and University of Buckingham) and Pedro Schwartz (Universidad Camilo Jose Cela and University of Buckingham)
A rough and ready convergence index for the Eurozone

Member economies in a currency area should converge:
• We try to observe dispersion with 11 indicators (real and monetary)
  – By calculating their standard deviation per country per year
• We aggregate those 11 indicators into four chapters
  – For each chapter we have calculated the simple arithmetical average of the standard deviation per index and per year
• We then calculate our over-all index of dispersion for the Eurozone
  – This index is the arithmetical average of the four chapters
Table 1: Indicators and indices used for the Eurozone

<table>
<thead>
<tr>
<th>Indicators used</th>
<th>Business Cycle</th>
<th>Public Finance</th>
<th>Competitiveness</th>
<th>Monetary Dispersion</th>
<th>Overall index</th>
</tr>
</thead>
<tbody>
<tr>
<td>Real GDP growth, Unemployment rate</td>
<td>Deficit (%GDP), Debt (%GDP)</td>
<td>Annual inflation rate (HICP), Unit Labour Costs, Real Exchange Rate(a)</td>
<td>Contribution to the Eurozone annual M3 growth by the Member State, Credit to the Private Sector (% GDP), Current Account balance of each Member State with the rest of the world (b)</td>
<td>Arithmetic average of all the indicators</td>
<td></td>
</tr>
</tbody>
</table>

Notes (a): We calculate the real exchange rate as follows: the nominal exchange rate between the euro in one Member State versus the others, times the difference of the price index in a Member State over the price index in the Eurozone. (b) These balances do not include intra-Eurozone operations.
Calculation of the indices

– We collect 11 indicators per country and standardize them as indices with 1999 as the base year (1999 = 100), for all indicators except credit to the private sector (2000) and the current account balance (2001)

– We use the standard deviation of each indicator per year for the Euro area (changing composition): 11 members in 2000, 12 in 2006, 13 in 2007, 15 in 2008, 16 in 2010, 17 in 2013, 18 in 2015:
  • Standard deviation not affected by different scales in the original data.
Figure 1: Partial Indices - Eurozone 19 (1999 = 100)

(Competitiveness index, right-hand scale; all the others on the left-hand scale)

Note that the greater the value of the indices, the greater dispersion,
Figure 3: Monetary Sub-Index (1999 = 100)

Note that the higher the value of the indices, the greater the dispersion.
The over-all € zone convergence index

Our final convergence index is the simple arithmetic average of the four chapters gathering the dispersion (standard deviations) of the 11 indicators

What does the index show? Caveats:

- 1999 – 2018 is a short time for a monetary zone to become ‘optimal’, however defined
- The US monetary zone took 150 years to become optimal, according to Hugh Rockoff (2003)
Figure 4: Overall index of dispersion, Euro-12 and Euro-19 (1999 = 100)

Note that the higher the value of the index, the greater the dispersion.
Changing pattern by chapter (I)

• The good years: 1999 – 2007
  – Cycle indicators indicate greater convergence: by 2006 nearly half of dispersion in 1999
  – Monetary indicators show greater convergence but only until 2004.
    • Sharp increase in dispersion in 2006 and 2007, more notably when Target2 balances are added to the index
    • ECB had downgraded the weight of the monetary pillar in 2003
  – Steady increase in public finance dispersion: 22% increase by 2006
  – Competitiveness dispersion deteriorated quite significantly: 125% by 2006

• Overall, from 1999 to 2007, dispersion doubled
Changing pattern by chapter (II)

• The crisis years: 2008 - 2014
  – All indicators show an increase in dispersion, much more notable in public finances and competitiveness
  – And in Target2 balances after 2008.

• After the Great Recession
  – Internal devaluation policies in the economies in crisis seem to have stopped the crisis and have started to mitigate dispersion in competitiveness after 2014
  – More rigorous fiscal policies across the euro area have cut down dispersion in public deficit and debt since 2013.
  – Leaving Target2 balances aside, QE by the ECB have restored monetary stability since 2015
Changing pattern of the overall index of optimality (I)

• The favourable years: 1999 – 2007
  – An increase in dispersion even before the Great Recession
  – A 25% deterioration in the index of optimality of the euro from 1999 – 2005, escalating to a 40% increase in internal asymmetries by 2006 and nearly 100% by 2007.

• Contrary to the expectations at the time of the launch of the euro, the mere adoption of a single currency did not increase convergence *per se*. 
Changing pattern of the overall index of optimality (II)

• The crisis years: 2008 – 2014
  – Rapid and sharp deterioration in the index
  – Peak in dispersion in 2010, at the peak of the euro crisis: an accumulated 182% increase since 1999

• After 2014
  – Slow reduction in dispersion since 2014 onwards but still 2.5 times greater than in 1999

• What are the determinants of these dispersion patterns since 1999?
Real exchange rates

Peripheral € economies vs. Germany

Nominal exchange rate x (Inflation\textsubscript{MS}/Inflation\textsubscript{EMU})
Applying these base indices to calculate an index of dispersion for the US dollar
<table>
<thead>
<tr>
<th>Indicators used</th>
<th>Business Cycle</th>
<th>Public Finance</th>
<th>Competitiveness</th>
<th>Monetary Dispersion</th>
<th>Overall index</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Real GDP annual growth,</td>
<td>Deficit (%GDP),</td>
<td>Consumer Price Index (CPI),</td>
<td>Deposits by households,</td>
<td>Arithmetic average of all the indicators (calculated with and without monetary dispersion)</td>
</tr>
<tr>
<td></td>
<td>Unemployment rate</td>
<td>Debt (%GDP)</td>
<td>Labour Costs</td>
<td>Credit to the Private Sector:</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Real Exchange Rate</td>
<td>- Loans and Leases</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>- Real Estate Loans (both % GDP)</td>
<td></td>
</tr>
</tbody>
</table>

Sources: Bureau of Economic Analysis (Real GDP), Bureau of Labor Statistics (Unemployment rate), US Census Bureau (States deficit, % State Nominal GDP), USgovernmentspending.com (Total Debt per State, % State Nominal GDP), Bureau of Labor Statistics (for CPI and Labor Cost) and Federal Deposit Insurance Corporation (for Deposits, Leases and Loans, and Real Estate Loans).
The over-all US$ convergence index

• We have collected data for the 50 (mainland) US states. However:
  – Regarding inflation, we have resorted to the CPI per region calculated by the BLS.
  – No data for States’ current account balances
  – No data on the contribution of each State to the US rate of growth of money: instead we have used the ratio of bank deposits held by households to the state GDP as a proxy
Comparable data/indices to those in the €zone

• USA is a fiscal union, with a meaningful Federal budget
  – Fiscal transfers to address asymmetrical/lateral shocks

• USA is a banking union too:
  – Funds move across States borders to attend saving and borrowing needs
    • Are then monetary indicators relevant at all to measure divergence in this case?
Figure 5: US dollar zone dispersion indices: 1999 – 2017

Note: the greater the value of the indices the greater dispersion.
Changing pattern of the indices for the US$

• Both the cycle dispersion and public finance dispersion indicators show a return to pre-crisis levels (even less dispersion than in 2007)
• Dispersion in competitiveness steady increase since 2003
• Very significant increase in monetary dispersion since 2008
Figure 6: US dollar and Eurozone-19 dispersion indices: 1999 – 2017

Note: We adopt for both economies 1999 as the base year so we can compare their performance since then, therefore focusing on changes in asymmetry; this does not mean that the level of asymmetries in both areas in 1999 was the same.
Lars Jonung & Felix Roth
Buckingham the 22\textsuperscript{nd} of February 2019,
Institute of International Monetary Research,
University of Buckingham, UK: 
“The Economics of Monetary Unions. Past Experiences and the Eurozone”

Public support for the euro and trust in the ECB:
The first two decades of the common currency

Felix Roth* and Lars Jonung**

* Department of Economics, University of Hamburg, Hamburg
** Department of Economics and Knut Wicksell Centre for Financial Research, Lund University, Lund
1. Introduction

• The euro is unique in at least two ways:

1. Monetary policy is centralized to an independent central bank, the European Central Bank (ECB), while fiscal policy is decentralized.

2. The euro is the only currency for which we have a long and consistent time series on public support for the currency and on public trust in the central bank that supplies the currency (ECB).
1. Introduction

• The purpose of our paper is to examine:

  1. how the public has viewed the euro and the ECB during its first two decades and

  2. to identify determinants of the popularity of the euro by econometric estimations

• A gold mine of data!
1. Introduction

• We stress that we are looking at support for the euro and its governance from the perspective of the public as revealed in public opinion polls,

• This is not the typical approach adopted by economists.

• Our approach should be looked upon as a complementary strategy to these more conventional ways of studying the euro.
2. The role of public support for the euro

• The literature on monetary unions and monetary unification identifies public support for the common currency as a key determinant of its long-term prospects for survival.

• The Scandinavian currency union (1873-1920) is a nice case!
3. Previous studies

- Several studies (macro- as well as micro-based) have been published on the euro.

- **But** they cover shorter periods than we do. We are the first dealing with the first two decades of the euro.
4. Eurobarometer data – the data we use

• Our measures for public support for the euro are based upon the biannual Standard Eurobarometer (EB) surveys (European Commission, 2018) from 3-5/1999 (EB51) to 11/2018 (EB90). These surveys ask a representative group of respondents the following question:

‘What is your opinion on each of the following statements? Please tell me for each statement, whether you are for it or against it. A European economic and monetary union with one single currency, the euro.’

• Respondents can then choose between ‘For’, ‘Against’ or ‘Don’t Know’.

• For each Standard EB survey, which covers about 1,000 respondents per country, new and independent samples are drawn. Interviews are conducted face-to-face in the respondent’s home. A multi-stage and random sampling design is used.
4. Eurobarometer data – the data we use

- Measures for trust in the ECB are based on the following question:

  ‘Please tell me if you tend to trust or tend not to trust these European institutions. The European Central Bank’. Respondents can then choose between ‘Tend to trust’, ‘Tend not to trust’ or ‘Don’t Know’.

- Measures for trust in the national government are based on the following question:

  ‘I would like to ask you a question about how much trust you have in certain media and institutions. For each of the following media and institutions, please tell me if you tend to trust it or tend not to trust it. The National Government’. Respondents can then choose between ‘Tend to trust’, ‘Tend not to trust’ or ‘Don’t Know’.
4. Eurobarometer data – the data we use

• Net public support measures are constructed as the number of ‘For’ responses minus ‘Against’ responses, according to the equation: Net support = (For – Against)/(For + Against + Don’t Know).

• Net trust measures are constructed as the number of ‘Tend to trust’ responses minus ‘Tend not to trust’ responses, according to the equation: Net trust = (Trust – Tend not to trust)/(Trust + Tend not to trust + Don’t Know).
5. Descriptive statistics

Figure 1: Unemployment and net support for the euro and net trust in the ECB and in the national government, average EA19, 1999-2018

Source: Standard Eurobarometer Data 51-90; Notes: The left-hand y-axis plots unemployment ranging from 7.3 to 12.1 percent. The right-hand y-axis displays net support/trust in percent. Since the figure depicts net support/trust, all values above 0 indicate that a majority of the respondents support the euro and trust the ECB. The dashed lines distinguish the actual physical introduction of the euro in January 2002, the start of the financial crisis in September 2008 and the start of economic recovery at the end of 2013. Average EA-19 is population weighted.
5. Descriptive statistics

**Figure 1a:** Net Public Support for the euro in the EA19, 1999-2018

*Source:* Figure 1a is an updated version of Figure 1 until 11/2018 (by EB’s 89-90) in Roth et al. (2019).
5. Descriptive statistics

**Figure 1b:** Unemployment and Net Public Support for the euro in the EA19, 1999-2018

*Source:* Figure 1b is an updated version of Figure A2 until 11/2018 (by EB’s 89-90) in Roth et al. (2019).
5. Descriptive statistics

Figure 2a: Net support for the euro and net trust in the ECB and in the national government, EA12, 1999-2018. Source: Standard Eurobarometer Data 51-90.
5. Descriptive statistics

Figure 2B: Net support for the euro and net trust in the ECB and in the national government, EA7, 1999-2018

Source: Standard Eurobarometer Data 51-90.
5. Descriptive statistics

Figure 3: Net support for the euro and net trust in the ECB and in the national government, outside the euro area, 1999-2018.

Source: Standard Eurobarometer Data 51-90.
5. Descriptive statistics

Figure A1: Support for the euro and trust in the ECB, EA19, 1999-2018
Source: Standard Eurobarometer Data 51-90.
6. Econometric results

- Following Roth et al. (2016, 2019) we estimate support for the euro and trust in the ECB as a function of unemployment, inflation, growth in real GDP per capita and control variables deemed of potential importance in explaining the within variation of support. Our baseline model (1) reads:

\[
\text{Support/Trust}_{i,t} = \alpha_i + \beta_1 \text{Unemployment}_{i,t} + \chi_1 \text{Inflation}_{i,t} + \delta_1 \text{Growth}_{i,t} + \phi_1 Z_{i,t} + w_{i,t}. \tag{1}
\]

where Support/Trust\(_{i,t}\) is the net support for the euro and net trust in the ECB for country \(i\) during period \(t\).
6. Econometric results

We estimate equation (1) by means of dynamic ordinary least squares (DOLS), a method that permits full control for endogeneity of the regressors. In order to correct for autocorrelation, we apply a FGLS (Feasible General Least Squares) procedure. Both applications lead to the following equation (2), representing our FE-DFGLS (Fixed Effect Dynamic Feasible General Least Squares) approach - for a detailed explanation of the FE-DFGLS approach see Roth et al. (2016, 2019):

\[
\begin{align*}
    \text{Support}_t^* &= \alpha_i + \beta_i \text{Unemployment}_t^* + \chi_i \text{Inflation}_t^* + \delta_i \text{Growth}_t^* + \phi_i Z_t^* \\
    &+ \sum_{p=1}^{p_{\text{max}}} \beta_{2p} \Delta \text{Unemployment}_{t-p}^* + \sum_{p=1}^{p_{\text{max}}} \chi_{2p} \Delta \text{Inflation}_{t-p}^* + \sum_{p=1}^{p_{\text{max}}} \delta_{2p} \Delta \text{Growth}_{t-p}^* \\
    &+ \sum_{p=1}^{p_{\text{max}}} \phi_{2p} \Delta Z_{t-p}^* + u_t
\end{align*}
\]

(2)
6. Econometric results

• Equation (1) is estimated with an EA-19 country sample for 1999-2018 with a total number of 548 observations.

• The underlying micro dataset for public support for the euro has more than 850,000 individual observations.

Table 1: Net support for the euro, FE-DFGLS Estimation, EA-19, 1999-2018

<table>
<thead>
<tr>
<th>Regression</th>
<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
<th>(4)</th>
<th>(5)</th>
<th>(6)</th>
<th>(7)</th>
<th>(8)</th>
<th>(9)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dependent Variable</td>
<td>Euro</td>
<td>Euro</td>
<td>Euro</td>
<td>ECB</td>
<td>ECB</td>
<td>ECB</td>
<td>NG</td>
<td>NG</td>
<td>NG</td>
</tr>
<tr>
<td>Unemployment</td>
<td>-1.3***</td>
<td>-1.7</td>
<td>-2.1***</td>
<td>-4.2***</td>
<td>1.1</td>
<td>-3.4***</td>
<td>-4.6***</td>
<td>-3.1*</td>
<td>-3.7***</td>
</tr>
<tr>
<td>Inflation</td>
<td>-4.9***</td>
<td>-14.9***</td>
<td>-4.8***</td>
<td>0.3</td>
<td>-2</td>
<td>-1.4</td>
<td>-0.1</td>
<td>1.2</td>
<td>-0.6</td>
</tr>
<tr>
<td>GDP per capita growth</td>
<td>-0.5</td>
<td>-2.1</td>
<td>0</td>
<td>1.2</td>
<td>0.1</td>
<td>0.7</td>
<td>1.2</td>
<td>7.7**</td>
<td>0.2</td>
</tr>
<tr>
<td>Durbin-Watson statistic</td>
<td>2.25</td>
<td>2.49</td>
<td>2.13</td>
<td>2.46</td>
<td>2.49</td>
<td>2.36</td>
<td>2.09</td>
<td>1.96</td>
<td>2.13</td>
</tr>
<tr>
<td>Adjusted R-Squared</td>
<td>0.81</td>
<td>0.79</td>
<td>0.85</td>
<td>0.9</td>
<td>0.79</td>
<td>0.91</td>
<td>0.84</td>
<td>0.78</td>
<td>0.85</td>
</tr>
<tr>
<td>Country fixed effects</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Control for endogeneity</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
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Table 2: Unemployment and net support for the euro, FE-DFGLS Estimation, EA-19, 2008-2018

<table>
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<th>Regression</th>
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<td>ECB</td>
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<td><strong>-0.8</strong>*</td>
<td><strong>-3.6</strong>*</td>
<td><strong>-3.4</strong>*</td>
<td><strong>-5.3</strong>*</td>
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<td><strong>3.7</strong>*</td>
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</table>

Notes: Standard Eurobarometer Data 51-90. † = Inflation Coefficient lacks robustness. Excluding the two time periods (EB 70 and 71) in the direct aftermath of the financial crisis renders insignificant coefficients if tested in sensitivity analysis. ECB=European Central Bank. NG=National Government. CR=Crisis-Recovery. CR=Crisis. RE=Recovery.
7. Why is public support so important? Two recent cases

The case of Italy in 2018

• In short, the attempt by the Italian populist coalition government to dismantle EA cooperation was effectively countered by the popularity of the euro, serving in this way as a shield against populism.

• A similar story can be told in the case of France. The populist party of Marie Le Pen has dropped its critique of the euro on the eve of the presidential elections in France.
7. Why is public support so important? Two recent cases

The case of the ECB becoming the lender of last resort in the government bond market

- It took the ECB four years after the start of the crisis in 2008 to turn into the lender of last resort in the government bond market of the EA in 2012. The announcement by the president of the ECB in July 2012 to “do whatever it takes” swiftly resolved the sovereign debt crisis in the EA.
- The quantitative easing (QE) programme implemented from 2015-2018 paired with a European Investment plan contributed to the recovery from 2013 onwards. Given the loss of majority trust in the ECB during the crisis, the large public support for the euro granted the ECB political legitimacy to secure its independence against growing criticism against its actions.
8. Conclusions

We find that a majority of the respondents supports the euro in each member country of the euro area 1999-2018. Although the crisis in the EA led to a slight decline in public support, the recovery since 2013 has triggered an upturn in support.

• As the euro turns 20, the currency enjoys historically high levels of support among the citizens of the EA. We detect a similar, although less pronounced rise in trust in the ECB.
• Looking ahead, we argue that the high esteem in which the euro is held by a persistent majority makes it well equipped to weather the challenges it will surely face in its third decade.
8. Conclusions

• Our results suggest that keeping unemployment and inflation at bay, particularly the former, will be important for sustaining public support for the euro and public trust in the ECB.

• Ultimately, the public judges the euro and the ECB on the basis of the economic performance within the euro area. This gives policymakers in the member states an important responsibility to design measures that succeed in enhancing growth and employment.
Buckingham the 22nd of February 2019,
Institute of International Monetary Research,
University of Buckingham, UK:
“The Economics of Monetary Unions. Past
Experiences and the Eurozone“

Public support for the euro and trust in the ECB:
The first two decades of the common currency

* Department of Economics, University of Hamburg, Hamburg
** Department of Economics and Knut Wicksell Centre for Financial Research, Lund University, Lund
Selected references by the authors:


Session 4: Chair – Juan Castaneda

Speaker 1 – Lorenzo Codogno & Paul van den Noord
Speaker 2 – Tim Congdon
A safe asset and fiscal capacity for the Eurozone

Lorenzo Codogno  
London School of Economics  
L.Codogno@lse.ac.uk

Paul van den Noord  
Amsterdam School of Economics  
p.j.vandennoord@uva.nl

The Economics of Monetary Unions. Past Experiences and the Eurozone  
University of Buckingham, United Kingdom, 21-22 February, 2019
The motivation of the paper

- **Financial and fiscal integration** in the Eurozone is experiencing another setback due to the surge of populism and the desire to bring sovereignty back.

- **Unity of liability and control remains** the guiding principle, but there is still a need for a smooth transition that avoids unnecessary strains to macro economic and financial stability.

- Need for lightening the **burden of stabilisation** from national sovereigns (legacy debt) and the ECB (zero-lower-bound).

- **Safe assets and fiscal capacity** would strengthen the transmission of monetary and fiscal policy.

- Therefore, need for an **analytical framework** to make clear its rationale and tradeoffs.
Literature review – before the crisis

- **Monetary policy** cannot absorb asymmetric shocks (‘one size cannot fit all’) and **fiscal policy** is constrained by fiscal rules. ‘Alternative adjustment mechanisms’ were underdeveloped.

- Asymmetric shocks lead to temporary economic divergence, which become **persistent once ‘hysteresis’ kicks in**.

- **Policy prescriptions:**
  1. EU ‘Internal Market’ for labour and capital for alternative adjustment mechanisms;
  2. Deep **product and labour market reforms** to rein in hysteresis;
  3. Fiscal consolidation to create ‘**fiscal space**’ and allow the operation of automatic stabilisers.
A SAFE ASSET AND FISCAL CAPACITY FOR THE EUROZONE

Literature review – since the crisis

◆ The ‘doom loop’ between sovereigns and banks:
  1. Higher risk of sovereign default due to insolvencies of the domestic banking system;
  2. Liquidity and solvency problems of banks also due to sovereign debt in their balance sheets.

◆ ESM rules and restructuring risk may become in itself a source of financial instability.

◆ Monetary policy continues to edge at the brink of a de facto zero-lower-bound (ZLB), i.e. ‘one size fits nobody’.

◆ Need for an asset to serve as collateral for interbank loans and repos and ECB funding and break the banks-sovereign doom loop.
A SAFE ASSET AND FISCAL CAPACITY FOR THE EUROZONE

Literature review – safe assets proposals

◆ **ESBies (and others):** Issued at the centre against national sovereign bonds purchased in the secondary market according to the ‘capital key’. Reduced risk due to first pooling and then tranching (senior tranche rated triple-A) and diversification. It could be done by private intermediaries.

◆ **E-Bonds: New issuance by a triple-A entity** (Eurozone budget or SWF) with a joint guarantee by sovereigns (‘blue bonds’) against ‘soft loans’ to national sovereigns to replace sovereign debt as it matures. No tranching. Long transition period.

◆ **ESBies & E-Bonds:** (1) Capped at 60% of national GDP (risk premium and market discipline above 60%). (2) Possible encouragement of purchases by exempting ESBies/E-Bonds from risk-weighting.
Fiscal capacity: It directly affects the fiscal stance, either at the national or Eurozone level or both (not with safe bonds).

Loans from the centre: Loans to member states in recession, subject to conditionality. The rationale is that the centre could borrow at lower rates than the national sovereign (E-Bonds).

Public works at the centre and top-down grants: Entity that can raise its own taxes and raise capital through bonds issued against future proceeds. Redistribution, fiscal stimulus or restrain.

Horizontal transfers: Spending on welfare and other ‘cyclical needs’, i.e. unemployment insurance, affecting the fiscal stance at national and Eurozone level. Risks: fiscal dominance, lack of democratic legitimacy.
Analytical framework – Mundell-Fleming +++

◆ A standard Mundell-Fleming model adapted to the features of a closed monetary union.

◆ Two-country setting comprising a ‘core’ country and a ‘periphery’ country, which differ only in one aspect, i.e. fiscal policy space (e.g. higher debt burden) resulting in higher sensitivity of sovereign bond yields to fiscal expansion.

◆ Alongside the two national sovereigns, a supra national entity (‘fiscal capacity’), which can issue a single bond with a guarantee from the national sovereigns, and then purchase existing sovereign bonds or issue new loans.

◆ Two distribution rules to sovereigns: (1) minimising the aggregate output loss, (2) minimising difference in output losses.
The model – the demand side

\[
\begin{align*}
    y^d &= -\phi_1 (r - \pi^e) + \phi_2 (d + f) - \phi_3 (\pi - \pi^*) - \phi_4 (y - y^*) + \varepsilon^d \\
    y^{*d} &= -\phi_1 (r^* - \pi^e) + \phi_2 (d^* + f^*) + \phi_3 (\pi - \pi^*) + \phi_4 (y - y^*) + \varepsilon^{*d}
\end{align*}
\]

◆ The **periphery country** is always indicated by an asterisk (*)

◆ In each country aggregate demand, \( y^d \) and \( y^{*d} \), is determined by the **real interest rate** \( r - \pi^e \) and \( r^* - \pi^e \) (where \( \pi^e \) denotes ‘expected inflation’ which is assumed to be uniform across the monetary union

◆ The **primary fiscal deficit** \( (d \text{ and } d^*) \) and cross-border trade, which is a function of the inflation differential \( (\pi - \pi^*) \), and the relative pace of economic growth \( (y - y^*) \).

◆ The **fiscal multiplier effect** (assumed to be the same) of transfers from the ‘fiscal capacity’ is denoted by \( f \) and \( f^* \). Finally, \( \varepsilon^d \) and \( \varepsilon^{*d} \) are demand shocks.
The model – the supply side

\[
\begin{align*}
    y^s &= (\pi - \pi^e) / \omega + \varepsilon^s \\
    y^* &= (\pi^* - \pi^e) / \omega + \varepsilon^* \\
\end{align*}
\]

◆ **Aggregate supply** $y^s$ and $y^*$ is determined via an inverted Phillips-curve type of equation, including the inflation ‘surprises’ $\pi - \pi^e$ and $\pi^* - \pi^e$ and **supply shocks** $\varepsilon^s$ and $\varepsilon^*$.  

◆ The parameter $\omega$ captures the **slope of the Phillips-curve**. All variables are defined as deviations from a not specified steady state and, accordingly, expected inflation is assumed to be nil ($\pi^e = 0$) and all shocks are normally distributed also around nil.
The model – the doom loop

\[
\begin{align*}
    r &= i \\
    r^* &= i + \eta d^*
\end{align*}
\]

◆ The interest rates \( r \) and \( r^* \) can be seen as the rate charged on bank loans, which we assume to carry a risk premium over and above the monetary policy rate (\( i \)), induced by fiscal developments.

◆ Given that we consider the ‘core’ country to have a fiscally prudent history and the ‘periphery’ country a profligate one, we assume that only the ‘periphery’ country’s bank lending rate carries a risk premium.

◆ \( \eta > 0 \), to captures the banks-sovereign ‘doom loop’ in the periphery. Once a ‘safe asset’ is introduced: \( \eta = 0 \).
The model – structural vs discretionary fiscal balance

\[
\begin{align*}
    d &= -\tau y + g \\
    d^* &= -\tau y^* + g^*
\end{align*}
\]

◆ The primary fiscal deficits \(d\) and \(d^*\) are partly endogenous on the account of ‘automatic stabilisers’.

◆ \(g\) and \(g^*\) denote the stance of the ‘structural’ or ‘discretionary’ (as opposed to the ‘cyclical’ or ‘induced’) component of the fiscal deficit in each country and \(\tau\) roughly corresponds to the tax burden, or size of the government sector relative to aggregate output, in each country.
The model – short-hand notation

◆ Reduced form equations for output and inflation may be derived from equations (1) – (4) assuming that \( y^d = y^s = y \), \( y^{*d} = y^{*s} = y^* \). For convenience it is assumed that \( \pi^e = 0 \).

\[
(5) \quad y = y(i, g, g^*, f, f^*, \epsilon^d, \epsilon^{*d}, \epsilon^s, \epsilon^{*s})
\]

\[
(6) \quad y^* = y^*(i, g, g^*, f, f^*, \epsilon^d, \epsilon^{*d}, \epsilon^s, \epsilon^{*s})
\]

\[
(7) \quad \pi = \pi(i, g, g^*, f, f^*, \epsilon^d, \epsilon^{*d}, \epsilon^s, \epsilon^{*s})
\]

\[
(8) \quad \pi^* = \pi^*(i, g, g^*, f, f^*, \epsilon^d, \epsilon^{*d}, \epsilon^s, \epsilon^{*s})
\]
The model – results of demand shocks

- **Fiscal expansion in the ‘core’ boost output and inflation** in both countries. This is a priori not clear for fiscal expansions in the ‘periphery’; only if in the ‘periphery’ the negative feedback via costlier bank lending falls short of the standard multiplier effect of fiscal policy the net impact becomes positive.

- **Fiscal expansions conducted by the ‘fiscal capacity’ are unambiguously positive** for output and inflation in both countries as this does not impinge on the bank lending channel.

- Similarly, **monetary policy easing is unambiguously positive for output and inflation in both countries**, and so are (positive) demand shocks (and *vice versa* for adverse demand shocks).
The model – results of supply shocks

◆ For supply shocks, the impact is more diverse than for demand shocks.

◆ Domestic supply shocks have an unambiguously positive impact on domestic output and a negative impact on domestic inflation.

◆ However, positive supply shocks abroad have a negative impact on output at home due to a loss of competitiveness.

◆ Positive supply shocks have an unambiguously negative impact on inflation at home and abroad.
The model – welfare loss minimising behaviour

- The monetary and discretionary fiscal policy variables in our model \((i, g, g^*, f, f^*)\) are endogenously determined via a set of policy reaction functions.

- However, rather than postulating these reaction functions (e.g. a Taylor rule for monetary policy) we will derive these from welfare loss minimising behaviour by the relevant actors (the central bank, the national governments and the ‘fiscal capacity’).
The model – monetary policy

◆ The central monetary authority is assumed to **minimise the welfare loss** $L_\pi$ associated with aggregate inflation $\bar{\pi}$ measured against targeted inflation (assumed to be nil).

$$ \min_i L_\pi = \frac{1}{2} \bar{\pi}^2 + \alpha \frac{1}{2} i^2 $$

(9)

$$ \bar{\pi} = \frac{1}{2} \pi + \frac{1}{2} \pi^* $$

◆ $\alpha$ measures the welfare cost of interest rate volatility relative to that of missing the inflation target. The monetary policy reaction function then reads:

$$ i = i(g, g^*, f, f^*, \varepsilon^d, \varepsilon^d, \varepsilon^s, \varepsilon^s) $$

(10)
The model – national fiscal policies

◆ Both countries are assumed to minimise the welfare loss $L_g$ or $L_g^*$ associated with variations in their output gap

$$\min_g L_y = \frac{1}{2} y^2 + \beta \frac{1}{2} g^2$$

(11)

$$\min_{g^*} L_{y^*} = \frac{1}{2} y^{*2} + \beta \frac{1}{2} g^{*2}$$

◆ where $\beta$ represents the cost of changing the budget relative to excess demand or supply. Minimisation yields:

$$g = g(i, g^*, f, f^*, \varepsilon^d, \varepsilon^{*d}, \varepsilon^s, \varepsilon^{*s})$$

(12)

$$g^* = g^*(i, g, f, f^*, \varepsilon^d, \varepsilon^{*d}, \varepsilon^s, \varepsilon^{*s})$$

(13)
The model – what objectives for fiscal capacity?

◆ ‘promoting the stability of the monetary union’?

◆ Need to stem the cyclical fluctuations in the aggregate output of the monetary union as a whole? The ‘fiscal capacity’s role would then be to support monetary policy in the pursuit of its aggregate inflation goal.

◆ However, ‘stability’ could also refer to the ‘cohesion’ of the monetary union: the role of the ‘fiscal capacity’ would be to minimise this divergence, i.e. support or ease the burden for national fiscal policies. This could be particularly welcome where fiscal policy in the ‘periphery’ is constrained by the banks-sovereign ‘doom loop’.
The model – ‘fiscal capacity’

◆ If minimising **cyclical fluctuations in aggregate output**:

\[
\text{min}_{f, f^*} L \bar{y} = \frac{1}{2} \bar{y}^2 + \gamma \frac{1}{2} (f^2 + f^{*2})
\]

\[
\bar{y} = \frac{1}{2} y + \frac{1}{2} y^*
\]

◆ The parameter \(\gamma\) captures the **adjustment costs** associated with supra-national fiscal policy relative to cyclical fluctuations in the aggregate output gap.

\[
f = f (i, f^*, g, g^*, \varepsilon^d, \varepsilon^{*d}, \varepsilon^s, \varepsilon^{*s})
\]

\[
f^* = f^* (i, f, g, g^*, \varepsilon^d, \varepsilon^{*d}, \varepsilon^s, \varepsilon^{*s})
\]
The model – ‘fiscal capacity’

◆ If minimising the welfare loss stemming from deviations of fluctuations in output from one country against the other:

\[
\min_{f, f^*} L_{\bar{y}} = \frac{1}{2} \bar{y}^2 + \gamma \frac{1}{2}(f^2 + f'^2)
\]

(17)

\[
\bar{y} = \frac{1}{2}y - \frac{1}{2}y^*
\]

◆ \(\bar{y}\) gauges the (standard) deviation of output fluctuations from the mean, as opposed to the mean of these fluctuations themselves (\(\bar{y}\)). This gives rise to the following policy reaction functions:

\[
f = f(i, f^*, g, g^*, \varepsilon^d, \varepsilon^*d, \varepsilon^s, \varepsilon^*s)
\]

(18)

\[
f^* = f^*(i, f, g, g^*, \varepsilon^d, \varepsilon^*d, \varepsilon^s, \varepsilon^*s)
\]

(19)
A SAFE ASSET AND FISCAL CAPACITY FOR THE EUROZONE

The model – ‘fiscal capacity’ interesting results

◆ A monetary contraction produces a fiscal contraction by the fiscal capacity in the ‘core’ and expansion by the fiscal capacity in the ‘periphery’. Fiscal policy at the supra-national level tends to go in **opposite directions in one country versus the other** for a given shock to stem cyclical divergence.

◆ **Fiscal transfers** from one country to the other are **inevitable** if the ‘fiscal capacity’ pursues goals other than the stabilisation of the aggregate business cycle, or if the ‘banks-sovereigns doom loop’ is active and biased against the ‘periphery’.

◆ However, if the ‘fiscal capacity’ is geared towards **stabilising aggregate output** (regardless of cross-country divergence), such transfers are highly unlikely.
Types of shocks

◆ Shocks considered:

- $\varepsilon^d = \varepsilon^*d = -5\%$ (symmetric demand shock)
- $\varepsilon^d = -\varepsilon^*d = 5\%$ (asymmetric demand shock)
- $\varepsilon^s = \varepsilon^*s = -5\%$ (symmetric supply shock)
- $\varepsilon^s = -\varepsilon^*s = 5\%$ (asymmetric supply shock).

◆ The results for each of these sets of shocks are presented in graphical form.
A SAFE ASSET AND FISCAL CAPACITY FOR THE EUROZONE

Current situation, no fiscal capacity, doom loop (policy)

<table>
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<tr>
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A SAFE ASSET AND FISCAL CAPACITY FOR THE EUROZONE

Current situation, no fiscal capacity, doom loop (economy)

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A SAFE ASSET AND FISCAL CAPACITY FOR THE EUROZONE

Safe asset (policy)

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<tr>
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## Safe asset (economy)

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Fiscal capacity 1 (policy)

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A SAFE ASSET AND FISCAL CAPACITY FOR THE EUROZONE

**Fiscal capacity 1 (economy)**

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[Diagram 1: Baseline, Fiscal Capacity 1, Safe Asset + Fiscal Capacity 1]

[Diagram 2: Baseline, Fiscal Capacity 1, Safe Asset + Fiscal Capacity 1]
Fiscal capacity 2 (policy)

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<thead>
<tr>
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<td>Supply</td>
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A SAFE ASSET AND FISCAL CAPACITY FOR THE EUROZONE

Fiscal capacity 2 (economy)

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**Demand**
- Baseline
- Fiscal Capacity 2
- Safe Asset + Fiscal Capacity 2

**Supply**
- Baseline
- Fiscal Capacity 2
- Safe Asset + Fiscal Capacity 2
Conclusions (1)

- Our modelling shows that the current situation leaves Eurozone’s peripheral countries exposed to symmetric and asymmetric demand shock. In case of supply shocks, fiscal policy in the core responds more strongly than in the periphery. Hence, regardless of the type of shock, the ‘periphery’ is always worse off.

- The introduction of the safe asset removes the doom loop, and impulse responses of both countries become perfectly symmetric, while the yield spread disappears. The output loss reduced for both economies and the stabilisation properties of fiscal policy improves for both countries, especially in the case of symmetric demand shocks. Moreover, the safe asset creates some space for the periphery to expand its fiscal policy more than in the baseline.
Conclusions (2)

- The introduction of fiscal capacity aimed at macro stabilisation is able to provide additional fiscal impetus to both countries. In combination with a safe asset, it provides a relatively powerful stabilisation mechanism in the case of demand shocks, but is by comparison of little help in the case of supply shocks, especially when these are asymmetric.

- When fiscal capacity aims at minimising cyclical divergence, it helps minimising output losses in both countries in case of asymmetric demand shocks. In combination with a safe asset, the periphery can expand its fiscal policy (relative to baseline) as well and fiscal capacity becomes a powerful way to address asymmetric demand shocks, but it also implies cross-country fiscal transfers.

- In general, fiscal capacity is of little help in case of supply shocks.
The constitutional problems faced by a multi-government monetary union in the “managed currency” era

by Professor Tim Congdon CBE – Chairman of the Institute of International Monetary Research at the University of Buckingham
The monetary theory of national income determination: an uncompromising statement

• According to standard theory, the equilibrium level of national income in nominal terms is determined by the interaction between the demand to hold money balances and the quantity of money created by the banking system. The proposition was elaborated by Keynes at the end of Chapter 7 of *The General Theory* and is routine in macroeconomics textbooks.

• Non-bank private sector agents have a money demand function, with their demand to hold money depending on the level of income (and/or wealth), the attractiveness of money relative to other assets and other variables. With the quantity of money given, and with the non-income variables in the demand function also set at particular values, the money demand function implies that only one level of nominal national income is consistent with macroeconomic equilibrium.

• In that sense the quantity of money determines nominal national income.
The monetary theory of national income determination: an uncompromising statement

- If (quite a big “if” in practice) the non-income variables in the money demand function are stable over time, theory says that changes in the quantity of money and *equilibrium* national income are equi-proportional. In the real world changes in the quantity of money usually differ from changes in nominal national income in short-run periods of a few quarters or even two or three years.
- The differences are largely due to agents’ difficulties in matching the demand to hold money with the actual quantity of money in existence. In other words, over extended periods agents suffer from “monetary disequilibrium”.
- Nevertheless, in nearly all countries over the long run the differences between the annual rates of change of money and national income are small compared with the cumulative changes in both money and national income.
The monetary theory of national income determination: an uncompromising statement

• In a large body of writings I have argued that the ‘proportionality hypothesis’ – and all the key related propositions of the monetary theory of national income determination – are valid only if the quantity-of-money aggregate at work includes, or at any rate tries to include, all money balances. By implication, in analytical exercises and discussions we must always use a broadly-defined measure of money.

• Further, and crucially, if policy-makers want to achieve a certain $x\%$ inflation rate and an associated $y\%$ rate of increase in nominal GDP, a rate of increase in broadly-defined money close to $y\%$ is necessary.
The monetary theory of national income determination: an uncompromising statement

• If the rate of increase in broadly-defined money over the medium term is much above $y\%$, then inflation will exceed the target figure; if it is much beneath $y\%$, then the price level may fall over a period of several years, accompanied by disappointing output and employment outcomes.

• Nowadays policy-makers do not anchor their currencies in a fixed relationship with gold or any other commodity. As explained by Keynes in his 1923 Tract on Monetary Reform, we live in a world of “currency management”, whether we like it or not. Maintaining similarity of the growth rate of broad money with the growth rate of nominal GDP associated with price stability is the crux of contemporary currency management, as explained by Friedman & others many times.
Applying the monetary theory of national income determination to today’s Eurozone

• The increase in the quantity of broad money can be viewed as the result of credit extension by the banking system. (I will ignore for the moment the complications that arise from international money flows and banks’ incurrence of non-deposit liabilities.)

• Such credit extension – if it is only to domestic agents – can be to either the private sector or the state sector. The effect of such credit extension on the expansion of broad money is reduced by banks’ capital increases (and increases in other non-deposit liabilities).
Applying the monetary theory of national income determination to today’s Eurozone

• The trend rate of output growth in the Eurozone may be 1½ % a year. Given the adverse demographics, it is not much above this figure.

• Price stability is defined as an increase in the price level of under 2% a year, say, 1% a year in the middle.

• Then the desired increase in nominal GDP is about 2 ½% a year.
Applying the monetary theory of national income determination to today’s Eurozone

• Then – if we assume that the ratio of broad money to GDP is rising by 1% a year over time – the ECB needs to keep broad money growth at about 3% a year to meet its objectives or, to give it some flexibility, *the annual rate of broad money growth should be between* – say – 2% and 5%.

• If the rate of increase in broadly-defined money over the medium term is much above 5%, then inflation will exceed the target figure; if it is much beneath 2%, then the price level will fall over a period of several years, accompanied by disappointing output and employment outcomes.
Applying the monetary theory of national income determination to today’s Eurozone

• It follows that – in keeping to a target band of broad money growth between 2% and 5% - the sum of bank credit extension to both the Eurozone’s private sector and its state sector in a one-year period should be at a figure that is slightly above between 2% and 5% of the stock of broad money at the start of the year in question, i.e., between, say, 3% and 6%. (We have allowed for some build-up of bank capital.)

• In the middle a figure of just under 5% is implied.
Bank credit to the Eurozone domestic economy (i.e., government and private sector), in 12-month periods, as % of stock of M3 at period start
Two decades of credit extension in the Eurozone

Bank credit to the sum of general government and the rest of the economy (mostly private sector) as a % of period-start M3:

- from October 1998 to October 2008 12.1%
- from November 2008 to October 2018 3.4%
Banks' capital-raising in annual periods, as % of stock of M3 money at period start

REMEMBER, BANKS’ CAPITAL-RAISING REDUCES BANK DEPOSITS & MONEY

October 2008
Two decades of bank capital-raising in the Eurozone

Bank capital-raising (which reduces deposits & the quantity of money) as a % of period-start M3:

- from November 1998 to October 2008 1.07%
- from November 2008 to October 2018 1.13%

Banks’ capital-raising was (very slightly) higher, as a negative influence on money growth, after October 2008 than before, even though bank balance-sheet expansion was much slower in the later period.
The institutional requirements of a managed currency

• To achieve successful currency management, central banks (and the state sector as a whole) have a range of instruments. *They must influence/control bank credit extension*
  - to the private sector, and
  - to the state itself.

• In a traditional monetary jurisdiction, currency management involves one government, one money, one central bank and one commercial banking system; in a monetary union, it involves several governments and several commercial banking systems.
The institutional requirements of a managed currency

• Traditionally, the central bank is understood to have two types of customer/counter-party,
  - the government, and
  - the [(usually) private sector and profit-seeking] commercial banking system.
• So in a monetary union the central bank’s customers/counter-parties are several (or even many) governments and several/many commercial banking systems.
The institutional requirements of a managed currency

• So in a monetary union the central bank’s customers/counter-parties are several (or even many) governments and several/many commercial banking systems.

• This feature of a monetary union – the multiplicity of its actors – that gives rise to differential costs and benefits, and resulting conflicts of interest, of currency management. They are not found (to the same degree) in a traditional monetary jurisdiction.
The institutional requirements of a managed currency: central bank claims on commercial banks

• For the commercial banking system in a standard monetary jurisdiction, the central bank’s functions have been i. to provide base money to settle debts and meet deposit withdrawals, ii. to set interest rates by repo operations etc., and iii. to act at lender of last resort for cash-short, solvent banks, and also to serve as “honest broker” in emergency banking system consolidations.

• The third of these is often highly controversial, with possible rough justice to managements and shareholders. In a multi-government monetary union, problems are likely to be greater, because of nationalistic tinge to central bank decisions.
The institutional requirements of a managed currency: central bank claims on commercial banks

- In my 1992 *Central Banking* paper I said, “Because banking emergencies differ from each other in important and unpredictable ways, the central bank has to respond flexibly, pragmatically and with full discretion. Often there is a large element of rough justice in its actions.” (p. 61)

- So, “A refusal by the ECB, on grounds of monetary discipline, to act as lender of last resort to a particular bank in a crisis could therefore severely damage one country’s banking system...Therefore in practice LLR facilities are likely to be given quite liberally...” (p. 62)
Institutional requirements of a managed currency: central bank claims on the state

- But the really serious problems in a monetary union are likely to arise when bank credit – from either the central bank or the commercial banks – is extended to the state sectors of different countries.

- 1. Bank finance for governments is generally short-term and low-cost compared to bond market finance, but it leads to the creation of money. **The central bank has to decide on the legitimacy of particular nations’ borrowings from it, which leads, for example, to the further role of monitoring budget balances.**

- 2. The management of public debt has implications for money growth and monetary policy. Again, the central bank has to be able to override national decision-takers.
Institutional requirements of a managed currency: central bank claims on the state

In my 1992 *Central Banking* paper I noted that the Maastricht Treaty prohibited overdraft finance to governments, but “there is no objection to the ECB buying government debt in the secondary market...The ECB directors would come under strong pressure to ‘accommodate’ such indirect government borrowing, and all kinds of plausible argument (and other kinds of persuasion) would be used by governments to gain access to finance.” (p. 56) Further, “Extremely awkward questions relate to the ECB’s holdings of different governments’ debts.” (p. 57)
The institutional requirements of a managed currency: some implications and predictions

Our discussion suggests that a monetary union is likely to be successful if

1. The dominant kind of credit extension is bank lending to the private sector, rather than the monetary financing of budget deficits.

2. The rate of growth of bank credit to the private sector is just right – not too high, not too low – to sustain domestic credit expansion at a level consistent with inflation-target money growth. (If bank credit to the private sector is too low, such policies as ‘quantitative easing’ become necessary, but they are highly political.)

3. Governments balance budgets or run surpluses, because that avoids the contentious monetary financing of budget deficits.

4. Banks are profitable and well-capitalised, since that eases asset funding and limits their need for problematic central bank finance to maintain asset portfolios or to meet cash runs. And...

5. Banks are able to fund themselves easily from reliable market sources (nowadays retail deposits, not the wholesale or inter-bank markets) as – again – that limits their need for problematic central bank finance.
Destinations and growth rates of bank credit in the Eurozone, 1998 - 2018
Figures are annual totals as % of M3 at period start

To private sector
To general government
The management of a monetary union: a discussion of the Eurozone in its first two decades

In the Eurozone’s 1st decade (when the euro was seen as a success), bank credit to the private sector was the dominant source of money creation. Such credit rose cumulatively by almost 7½ trillion euros, whereas bank credit to government was up by under 100b. euros.

In the Eurozone’s 2nd decade (which has been much more difficult), bank credit to the private sector rose cumulatively by about 1.05 trillion euros, whereas bank credit to government was up by more than twice as much, almost 2.2 trillion euros.
Much bank credit to general government is extended not by loans as such, but arises from purchases of government securities. Such purchases are an aspect of public debt management, which is naturally a matter of concern to the issuing governments. Huge controversies from 2010 over ECB purchases of Greek, Irish and Portuguese government debt (and later Italian and Spanish), and the ECB’s status as a ‘preferred creditor’ of these governments.
The management of a monetary union:
a discussion of bank credit to government
in the Eurozone’s first two decades

The contention arises because a monetary union has many governments with competing claims, instead of just one government. The creation of the European Financial Stability Facility in May 2010 and the European Stability Mechanism in September 2012, jointly owned by all Eurozone governments but separate from them, an attempt to create union-wide institutions and a step towards debt mutualisation.
The management of a monetary union: a discussion of bank credit to government in the Eurozone’s first two decades

But the EFSF is small, with maximum borrowing of only 440b. euros. Germany’s resistance to a “debt union”. (It can help Greece or Portugal; it cannot help Italy, if Italy has big problems.)

Chancellor Merkel’s remark in June 2012 that, “There will be no collectivization of debt in the European Union as long as I live.”
The management of a monetary union: a discussion of bank credit to the private sector in the Eurozone’s first two decades

In the Eurozone’s 1st decade explosively rapid growth of bank credit in some EZ countries (Spain, Ireland, Portugal) was financed partly by borrowing from the international inter-bank market and was associated with large current account deficits. By contrast, most German banks were lenders in in the inter-bank market and Germany had a large current account surplus.

The closure of the inter-bank market in August 2007 was therefore an “asymmetric shock”, using a favourite term of British Euro-sceptics. The ECB was supportive of cash-short banks until spring 2010 (and again from December 2011), making loans readily available to them. But the facilities were low-cost and therefore unfair to Germany and other EZ nations with safely funded banking systems. (Germany tried to be tough from late 2009...leading to the 2010 EZ sovereign debt crisis...)
Credit/debit positions in the Eurozone's Target 2 settlement system

In m. of euros, final figures relate to end-October 2018
The management of a monetary union: a discussion of bank credit to the private sector in the Eurozone’s first two decades

The net indebtedness of the Italian and Spanish banking systems (to EZ member’s banking systems) is not charged interest. Implicitly, a significant resource benefit is being received by Italy and Spain, and a resource cost is being incurred by the creditor nations. The sums must run into the tens of billions of euros every year. Nevertheless, the issue is complex and opaque.
Between mid-2007 and autumn 2009 the ECB was easy-going with its “non-standard measures” (i.e., low-cost, long-term loans from ECB to cash-short banks). It tightened up, under Germany pressure, in the two years from autumn 2009, causing the Eurozone’s “existential crisis”, with severe weakness in credit and money growth. It then reverted, under Draghi’s bazooka, to an easy-going stance with the LTROs....and, from January 2015, QE.
Draghi’s 8-yr term as ECB President ends in November 2019. As at the end of Trichet’s term from autumn 2009, the German stance (opposition to both monetary financing of governments and relaxed central bank finance for commercial banks) is again gaining ground. ECB asset purchases are to end in January 2019, while the LTROs may not be extended beyond 2020. As in 2010 and 2011, broad money growth may fall to very low levels and risk deflation.
Recent trends in Eurozone money growth

% M3 growth rates, data from the European Central Bank

Annual rate

Annualised rate in last three months
At the start of this presentation it was suggested that the Eurozone needs, in any one year, the sum of bank credit to the state and the private sector to be just under 5% % of the M3 stock at the year’s start, if the ECB is to meet its objectives. There is no public evidence that this sort of argument figures much in ECB policy debates...although it may do. **Current policy – motivated by German/Protestant ethic resentment of Club Med irresponsibility** – risks weak credit and money growth, and resumed deflation.
Conclusions 1.

• **Monetary union can succeed in the long run only if accompanied by political union**, including a. centralization of fiscal and public debt management powers, and b. centralization of banking supervision and resolution powers, provision of LLR finance and deposit insurance arrangements. The central bank then interacts only with one government and one commercial banking system. *But Germany - the nation with the largest and strongest EZ economy – is plainly opposed to the mutualisation of banking risk and public debt liability.*

• On the other hand, exit from a monetary union of the EZ type (which is virtually unique) would be legally and administratively very messy, and seems to be extremely unpopular when broached in public debate. Greece chose to stay in...
Conclusions 2.

• For the last decade Eurozone “policy” has been characterised by expediency and cunctation (i.e., “extend and pretend”), but the sceptics must accept that the EZ is still very much in being. *Reluctance to re-introduce national currencies seems to be very strong across the EZ, even in nations where public opinion is now hostile to the EU as such.*

• In my view, the one measure that would check the centrifugal pressures for a few more years would be a major easing of banks’ capital requirements. Debate and discuss.