

**Can it happen again?**

**Structural policies to avert further systemic crises**

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**Outline**

**Introduction**

1. On money and the mechanics of payments by banks
2. The monetary-structural origins of the 2007–9 crisis
3. Secondary reforms to avoid systemic crises


**Conclusion**

«Physiology»

«Pathology»

«Posology»

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**Introduction**


The 2007–9 financial crisis originated from two **structural** flaws in the workings of bank-based payment **systems**:

**a) domestic level:** loans-to-deposits causal chain is not enough to avoid macroeconomic imbalances (affecting the money–output relationship);

**b) international level:** national currencies as objects of trade (explaining global imbalances).

➔ Money, banks, and payments are at stake!

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**1. The mechanics of payments**

- What is money?


*"Views on money are as difficult to describe as are shifting clouds."* (Schumpeter 1954/1994: 289)

*"The definition of money can still be regarded as an almost unresolved issue."* (Bofinger 2001: 3)

*"What we need is a theory that treats money [...] as what it really is, namely a medium of exchange."* (Niehans 1978: 16)

*"The real problem is not one of classification but of a better analytical understanding of the functions of a medium of exchange."* (note 39)

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**1. The mechanics of payments**

- How does money fulfill its means-of-payment role?

*"Every transaction involves three parties, buyer, seller, and banker."* (Hicks 1967: 11)

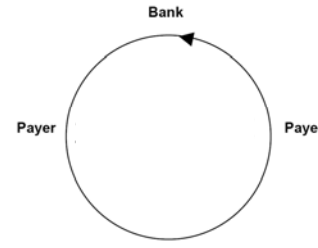
*"Money therefore only comes into existence the moment a payment is made. At that moment, in one and the same act, money is created, the borrower becomes a debtor to the bank and the agent receiving a payment becomes the creditor of the same bank."* (Graziani 1990: 11)

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**1. The mechanics of payments**


- The emission of the means of payment by the bank



```

graph TD
    Payer --> Bank
    Bank --> Payee
    
```

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### 1. The mechanics of payments

- The emission of the means of payment by the bank

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### 1. The mechanics of payments

- The emission of the means of payment by the bank

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### 1. The mechanics of payments

- The emission of the means of payment by the bank

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### 1. The mechanics of payments

- The emission of the means of payment by the bank

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### 1. The mechanics of payments

- The emission of the means of payment by the bank

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### 1. The mechanics of payments

- The result of a payment through the bank (*tabula rasa*)

Bank	
Assets	Liabilities

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### 1. The mechanics of payments

- The result of a payment through the bank (*tabula rasa*)

Bank	
Assets	Liabilities
Loan to the payer	+x CHF

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### 1. The mechanics of payments

- The result of a payment through the bank (*tabula rasa*)

Bank	
Assets	Liabilities
Loan to the payer	+x CHF
	Deposit of the payee

$\Delta M = +x$   
+x CHF

- ➔ The loans-make-deposits mechanism **increases** the relevant monetary aggregate (or “**money supply**”), which then “**circulates**” until the loan is paid back!

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### 1. The mechanics of payments

- In a nutshell...

*“There is thus a constant circulation of debts and credits through the medium of the banker who brings them together and clears them as the debts fall due. This is the whole science of banking as it was three thousands years before Christ, and as it is today.” (Innes 1913: 403)*

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### 2. Monetary–structural disorders

- Within the domestic economy

- \* The loans-make-deposits mechanics of bank payments:
  - is sound for payments on the factor market, as it does not affect the money–output relationship ( $\Delta M = \Delta Q$ ):

Bank	
Assets	Liabilities
Loan to firm F	+x CHF
	Deposit of wage earners

$\Delta M = +x$   
 $\Delta Q = +x$   
+x CHF

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### 2. Monetary–structural disorders

- Within the domestic economy

- \* The loans-make-deposits mechanics of bank payments:
  - is sound for payments on the factor market, as it does not affect the money–output relationship ( $\Delta M = \Delta Q$ );
  - but originates “**extra money**” on the financial market, as it gives rise to new bank deposits to which no new output corresponds ( $\Delta M > \Delta Q$ ).
- ➔ No CPI inflation, as these deposits are spent on real or financial assets rather than on the goods market!

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### 2. Monetary–structural disorders

- Example: bilateral credit lines on the interbank market

Bank A	
Assets	Liabilities

Bank B	
Assets	Liabilities

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## 2. Monetary–structural disorders

- Example: bilateral credit lines on the interbank market

Bank A			
Assets		Liabilities	
Loan to bank B	+x m.u.	Deposit of bank B	+x m.u.

Bank B			
Assets		Liabilities	

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## 2. Monetary–structural disorders

- Example: bilateral credit lines on the interbank market

Bank A			
Assets		Liabilities	
Loan to bank B	+x m.u.	Deposit of bank B	+x m.u.

Bank B			
Assets		Liabilities	
Deposits (into bank A)	+x m.u.		
Securities (sold to bank A)	-x m.u.		

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## 2. Monetary–structural disorders

- Example: bilateral credit lines on the interbank market

Bank A			
Assets		Liabilities	
Loan to bank B	+x m.u.	Deposit of bank B	+x m.u.

Bank B			
Assets		Liabilities	
Deposits (into bank A)	+x m.u.		
Securities (sold to bank A)	-x m.u.		
Loan to bank A	+y m.u.	Deposit of bank A	+y m.u.

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## 2. Monetary–structural disorders

- Example: bilateral credit lines on the interbank market

Bank A			
Assets		Liabilities	
Loan to bank B	+x m.u.	Deposit of bank B	+x m.u.
Deposits (into bank B)	+y m.u.		
Securities (sold to bank B)	-y m.u.		

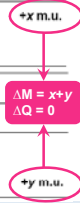
  

Bank B			
Assets		Liabilities	
Deposits (into bank A)	+x m.u.		
Securities (sold to bank A)	-x m.u.		
Loan to bank A	+y m.u.	Deposit of bank A	+y m.u.

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## 2. Monetary–structural disorders

- In the inter-national economy

\* No national currency is a final means of payment:

- **payment finality** obtains when “a seller of a good, or service, or another asset, receives something of equal value from the purchaser, which leaves the seller with no further claim on the buyer” (Goodhart 1989: 26);
- any national currency is a **promise of payment** when it intervenes in an inter-national payment, as the payee's country is left with a claim on the payer's country.

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## 2. Monetary–structural disorders

- National currencies as I.O.U. of inter-national debt

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## 2. Monetary–structural disorders

- National currencies as I.O.U. of inter-national debt

Banking system of importing country A ( $BS_A$ )	
Assets	Liabilities

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## 2. Monetary–structural disorders

- National currencies as I.O.U. of inter-national debt

Banking system of importing country A ( $BS_A$ )	
Assets	Liabilities

Banking system of exporting country C ( $BS_C$ )	
Assets	Liabilities

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## 2. Monetary–structural disorders

- National currencies as I.O.U. of inter-national debt

Banking system of importing country A ( $BS_A$ )	
Assets	Liabilities
Loan to the payer +y MA	

Banking system of exporting country C ( $BS_C$ )	
Assets	Liabilities

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## 2. Monetary–structural disorders

- National currencies as I.O.U. of inter-national debt

Banking system of importing country A ( $BS_A$ )	
Assets	Liabilities
Loan to the payer +y MA	Deposit of $BS_C$ +y MA

Banking system of exporting country C ( $BS_C$ )	
Assets	Liabilities

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## 2. Monetary–structural disorders

- National currencies as I.O.U. of inter-national debt

Banking system of importing country A ( $BS_A$ )	
Assets	Liabilities
Loan to the payer +y MA	Deposit of $BS_C$ +y MA

Banking system of exporting country C ( $BS_C$ )	
Assets	Liabilities
Official reserves (+y MA) +z MC	

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## 2. Monetary–structural disorders

- National currencies as I.O.U. of inter-national debt

Banking system of importing country A ( $BS_A$ )	
Assets	Liabilities
Loan to the payer +y MA	Deposit of $BS_C$ +y MA

Banking system of exporting country C ( $BS_C$ )	
Assets	Liabilities
Official reserves (+y MA) +z MC	Deposit of the payee +z MC

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Duplication

## 2. Monetary–structural disorders

- In the inter-national economy
- \* The “non-system” for inter-national payments implies:
  - “deficits without tears” (Rueff 1963: 322) for any key-currency countries;
  - “payment deficits” (Machlup 1963: 256), as there is no payment finality between countries.
- ⇒ National currencies considered as objects of trade!
- ⇒ Source of “exorbitant privilege” & global imbalances!

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## 2. Monetary–structural disorders

- Indeed...

*“If I had an agreement with my tailor that whatever money I pay him returns to me the very same day as a loan, I would have no objection at all to ordering more suits from him.” (Rueff & Hirsch 1965: 2)*

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## 2. Monetary–structural disorders

- To be sure...
- “[T]he huge liquidity denominated in US dollars that exists as a result of the enormous US current account deficit cannot but be «recycled» in the local financial sector, providing the means for the creation and then bursting of bubbles that may ravage the local economy.” (Rossi 2009: 2)*

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## 2. Monetary–structural disorders

- In a nutshell...

*“The desirable goal of reforming the international monetary system, therefore, is to ensure that international reserve currencies are not created from individual national currencies, but from a common pool of national currencies.”*

**LET US LEAVE IT TO SOME NEXT G-20 MEETINGS!**

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## 3. Structural–monetary reforms

- Principles for a new inter-national monetary order
- \* Payment finality for every inter-national transaction between any two countries (regardless of the currency).
- \* Emission of supranational currency, with a central bank settlement in the same currency (to avoid “duplication” and contain global imbalances).
- \* Voluntary transfer of money, transferring the book-keeping of any banking operations in two functionally distinct and separate «departments» (similarly to the 1844 “Bank Act” (reforming the BoE)):
  - «Issue department» (to record money emissions);
  - «Banking department» (to record financial operations).

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## 3. Structural–monetary reforms

- Principles for domestic monetary order
- \* Divide the book-keeping of any banking operations in two functionally distinct and separate «departments» (similarly to the 1844 “Bank Act” (reforming the BoE)):
  - «Issue department» (to record money emissions);
  - «Banking department» (to record financial operations).

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### 3. Structural–monetary reforms

- Example 1: recording the payment of wages for firm A

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### 3. Structural–monetary reforms

- Example 1: recording the payment of wages for firm A

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Current (single) department

Bank A		
Assets	Banking department (II)	Liabilities

### 3. Structural–monetary reforms

- Example 1: recording the payment of wages for firm A

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New (first) department

Bank A		
Assets	Issue department (I)	Liabilities

Bank A		
Assets	Banking department (II)	Liabilities

Current (single) department

### 3. Structural–monetary reforms

- Example 1: recording the payment of wages for firm A

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New (first) department

Bank A		
Assets	Issue department (I)	Liabilities
(1) Credit to firm A	+x m.u.	

Bank A		
Assets	Banking department (II)	Liabilities

Current (single) department

### 3. Structural–monetary reforms

- Example 1: recording the payment of wages for firm A

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New (first) department

Bank A		
Assets	Issue department (I)	Liabilities
(1) Credit to firm A	+x m.u.	

Bank A		
Assets	Banking department (II)	Liabilities
	Deposit of workers A	+x m.u.

Current (single) department

### 3. Structural–monetary reforms

- Example 1: recording the payment of wages for firm A

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New (first) department

Bank A		
Assets	Issue department (I)	Liabilities
(1) Credit to firm A	+x m.u.	Department II
		+x m.u.

Bank A		
Assets	Banking department (II)	Liabilities
(1) Department I	+x m.u.	Deposit of workers A
		+x m.u.

Current (single) department

### 3. Structural–monetary reforms

▪ **Example 1: recording the payment of wages for firm A**

New (first) department

Bank A		
Assets	Issue department (I)	Liabilities
(1) Credit to firm A	+x m.u. Department II	+x m.u.
(2) Credit to firm A	-x m.u.	

Current (single) department

Bank A		
Assets	Banking department (II)	Liabilities
(1) Department I	+x m.u. Deposit of workers A	+x m.u.

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### 3. Structural–monetary reforms

▪ **Example 1: recording the payment of wages for firm A**

New (first) department

Bank A		
Assets	Issue department (I)	Liabilities
(1) Credit to firm A	+x m.u. Department II	+x m.u.
(2) Credit to firm A	-x m.u.	

Current (single) department

Bank A		
Assets	Banking department (II)	Liabilities
(1) Department I	+x m.u. Deposit of workers A	+x m.u.
(2) Loan to firm A	+x m.u.	

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### 3. Structural–monetary reforms

▪ **Example 1: recording the payment of wages for firm A**

New (first) department

Bank A		
Assets	Issue department (I)	Liabilities
(1) Credit to firm A	+x m.u. Department II	+x m.u.
(2) Credit to firm A	-x m.u. Department II	-x m.u.
(*)	0	0

Current (single) department

Bank A		
Assets	Banking department (II)	Liabilities
(1) Department I	+x m.u. Deposit of workers A	+x m.u.
(2) Loan to firm A	+x m.u. Department I	+x m.u.

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### 3. Structural–monetary reforms

▪ **Example 1: recording the payment of wages for firm A**

New (first) department

Bank A		
Assets	Issue department (I)	Liabilities
(1) Credit to firm A	+x m.u. Department II	+x m.u.
(2) Credit to firm A	-x m.u. Department II	-x m.u.
(*)	0	0

Current (single) department

Bank A		
Assets	Banking department (II)	Liabilities
(1) Department I	+x m.u. Deposit of workers A	+x m.u.
(2) Loan to firm A	+x m.u. Department I	+x m.u.

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### 3. Structural–monetary reforms

▪ **Example 1: recording the payment of wages for firm A**

New (first) department

Bank A		
Assets	Issue department (I)	Liabilities
(1) Credit to firm A	+x m.u. Department II	+x m.u.
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(*)	0	0

Current (single) department

Bank A		
Assets	Banking department (II)	Liabilities
(1) Department I	+x m.u. Deposit of workers A	+x m.u.
(2) Loan to firm A	+x m.u. Department I	+x m.u.
(*) Loan to firm A	x m.u. Deposit of workers A	x m.u.

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### 3. Structural–monetary reforms

▪ **Principles for domestic monetary order**

- \* Divide the book-keeping of any banking operations in two functionally distinct and separate «departments» (similarly to the 1844 “Bank Act” (reforming the BoE)):
  - «Issue department» (to record money emissions);
  - «Banking department» (to record financial operations).
- \* Make sure all financial market transactions are “always and everywhere” recorded in the «Banking department» of monetary and financial institutions.

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### 3. Structural–monetary reforms

▪ Example: recording a financial-market transaction

Suppose for instance that:

- Bank A sells some securities to workers B (who spend therefore their deposits at Bank B for an amount of  $y$ ).
- Bank A buys some financial assets from a trader (who banks with Bank B) and disposes therefore of the bank deposit (of  $y$ ) it has in Bank B.

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### 3. Structural–monetary reforms

▪ Example: recording a financial-market transaction

Bank A		
Assets	Banking department (II)	Liabilities

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### 3. Structural–monetary reforms

▪ Example: recording a financial-market transaction

Bank A		
Assets	Banking department (II)	Liabilities
(*) Loan to firm A	x m.u.	Deposit of workers A
		x m.u.

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### 3. Structural–monetary reforms

▪ Example: recording a financial-market transaction

Bank A		
Assets	Banking department (II)	Liabilities
(*) Loan to firm A	x m.u.	Deposit of workers A
		x m.u.
(3) Deposit (into bank B)	+y m.u.	
Securities (sold to workers B)	-y m.u.	

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### 3. Structural–monetary reforms

▪ Example: recording a financial-market transaction

Bank A		
Assets	Banking department (II)	Liabilities
(*) Loan to firm A	x m.u.	Deposit of workers A
		x m.u.
(3) Deposit (into bank B)	+y m.u.	
Securities (sold to workers B)	-y m.u.	
(4) Deposit (into bank B)	-y m.u.	
Financial assets (bought from a trader (a client of bank B))	+y m.u.	

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### 3. Structural–monetary reforms

▪ Example: recording a financial-market transaction

Bank A		
Assets	Banking department (II)	Liabilities
(*) Loan to firm A	x m.u.	Deposit of workers A
		x m.u.
(3) Deposit (into bank B)	+y m.u.	
Securities (sold to workers B)	-y m.u.	
(4) Deposit (into bank B)	-y m.u.	
Financial assets (bought from a trader (a client of bank B))	+y m.u.	
(**) Loan to firm A	x m.u.	Deposit of workers A
		x m.u.

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### 3. Structural–monetary reforms

▪ Example: recording a financial-market transaction

Bank A			
Assets	Banking department (II)		Liabilities
(*) Loan to firm A	x m.u.	Deposit of workers A	x m.u.
(3') Deposit (into bank B) Securities (sold to workers B)	+y m.u. -y m.u.		
(4') Deposit (into bank B) Financial assets (bought from a trader (a client of bank B))	-y m.u. +y m.u.		
(**) Loan to firm A <i>Trading book (inventory item):</i> Securities (sold) Financial assets (bought)	x m.u. -y m.u. +y m.u.	Deposit of workers A	x m.u.

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### 3. Structural–monetary reforms

▪ Example: recording a financial-market transaction

Bank B			
Assets	Banking department (II)		Liabilities

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### 3. Structural–monetary reforms

▪ Example: recording a financial-market transaction

Bank B			
Assets	Banking department (II)		Liabilities
(*) Loan to firm B	y m.u.	Deposit of workers B	y m.u.

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### 3. Structural–monetary reforms

▪ Example: recording a financial-market transaction

Bank B			
Assets	Banking department (II)		Liabilities
(*) Loan to firm B	y m.u.	Deposit of workers B	y m.u.
		(3'') Deposit of workers B	-y m.u.
		Deposit of bank A	+y m.u.

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### 3. Structural–monetary reforms

▪ Example: recording a financial-market transaction

Bank B			
Assets	Banking department (II)		Liabilities
(*) Loan to firm B	y m.u.	Deposit of workers B	y m.u.
		(3'') Deposit of workers B	-y m.u.
		Deposit of bank A	+y m.u.
		(4'') Deposit of bank A	-y m.u.
		Deposit of trader	+y m.u.

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		Deposit of trader	+y m.u.
(**) Loan to firm B	y m.u.	Deposit of trader	y m.u.

⇒ No macroeconomic imbalance, as  $M = x+y = Q$ .

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### 3. Structural–monetary reforms

- **After Bank of England performs two operations of banking, which are quite distinct, and have no necessary connection with each other: it issues a paper currency [...] and it advances money in the way of loan, to merchants and others. That these two operations of banking have no necessary connection, will appear obvious from this, that they might be carried on by two separate bodies, without the slightest loss of advantage, either to the country, or to the merchants who receive accommodation from such loans.** (Ricardo 1824/1951: 276)

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### Conclusion

A twofold **structural** reform in banking is necessary to avoid further **systemic** crises:

- a) **at international level** a settlement institution for NCBs is required to avert any payment deficits (and thus limit global imbalances);
- b) **at the domestic level** banks' business has to be framed within an issue and a banking department (to avoid issue of "extra money" by monetary and financial institutions).

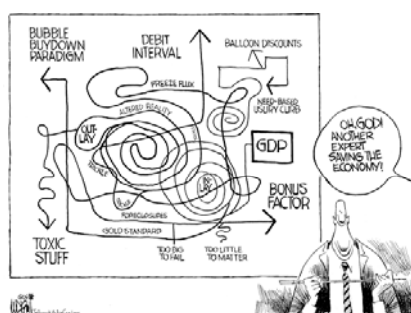
☞ Money, banks, and payments are the key for reforms!

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### Thank you for your attention!



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### Can it happen again? Structural policies to avert further systemic crises

Sergio Rossi

University of Macerata, Italy  
October 1, 2010

Conference on “Can It Happen Again? Sustainable  
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