

4. The essence and varying definitions of money

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What is money? And what isn't? How unclear the definition...

Comparison of harmonized and national monetary statistics		
	Harmonized monetary statistics ^{a)}	National monetary statistics ^{b)}
M1	Cash in circulation + demand deposits	Cash in circulation + demand deposits
M2	M1 + deposits with due period up to 2 months + deposits with notice period above 3 months	M1 + all term deposits
M3	M2 + repo operations + equities/mutual funds ^{c)} + bonds with maturity up to 2 years issued by monetary institutions	Not defined

a) ECB – does not include deposits of central government

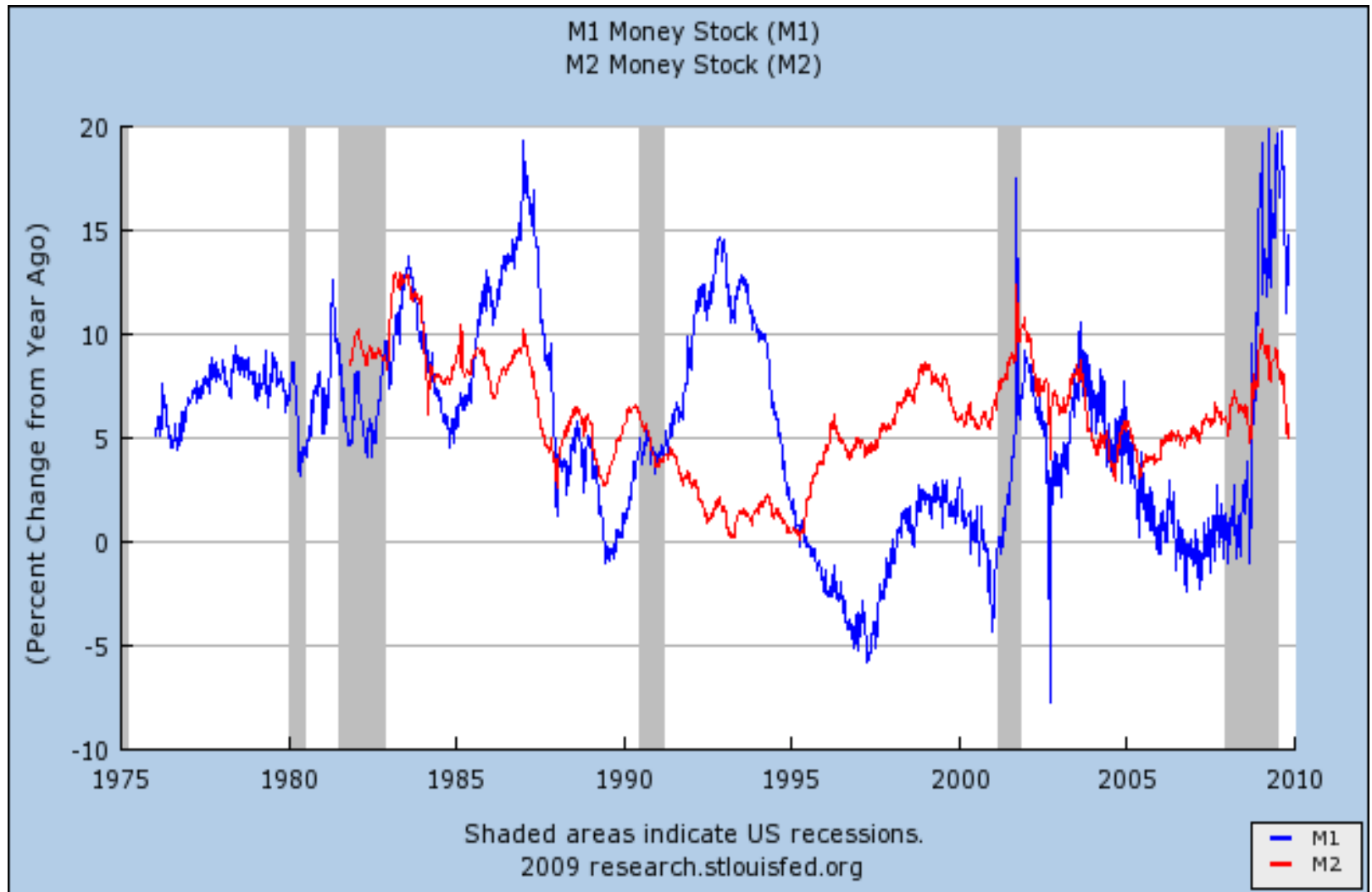
b) CNB – does not include deposits of the whole public sector (central government, local governments and health insurance undertakings)

c) Money-market funds

Key observations regarding the definition of money

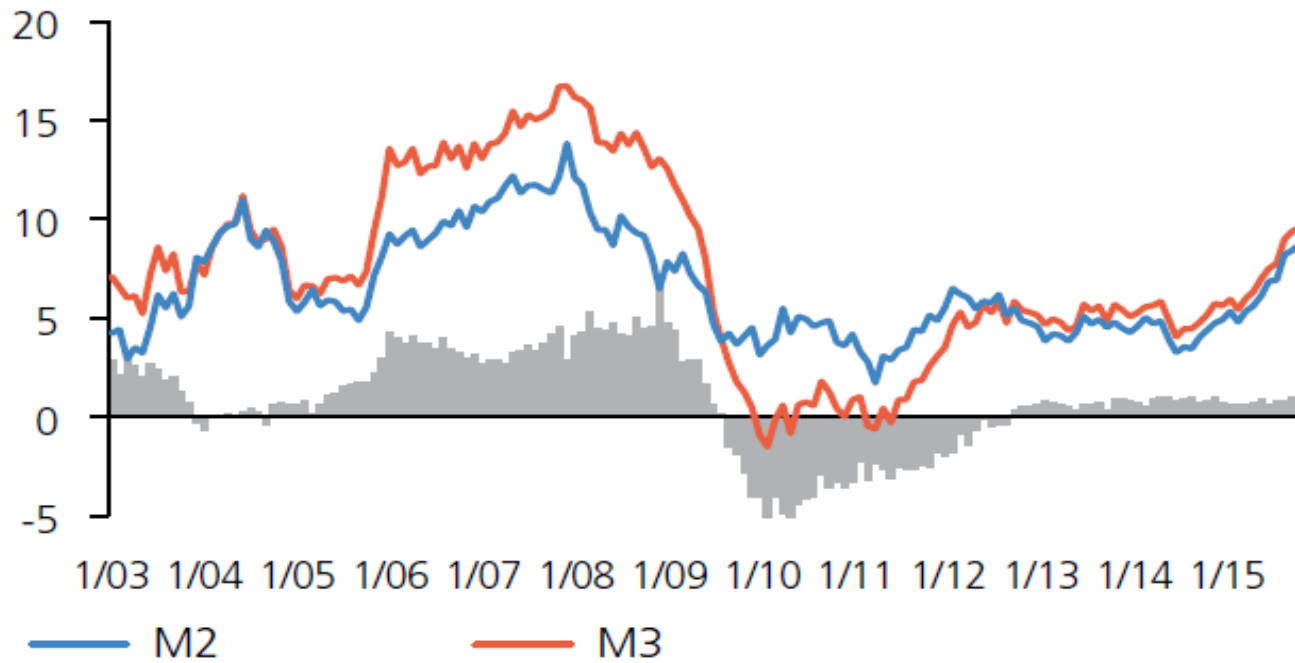
- The definition of money cyclically determined!
- What we do and do not accept as money is related to the state of the economy and state of the financial sector (see Greece and Germany during the financial crisis)
- At some points government bills a perfect substitute of cash, at some points even demand deposit not a good substitute of cash! (see Cyprus during the financial crisis)

Differences M1 and M2 in the US



Source: Federal Reserve

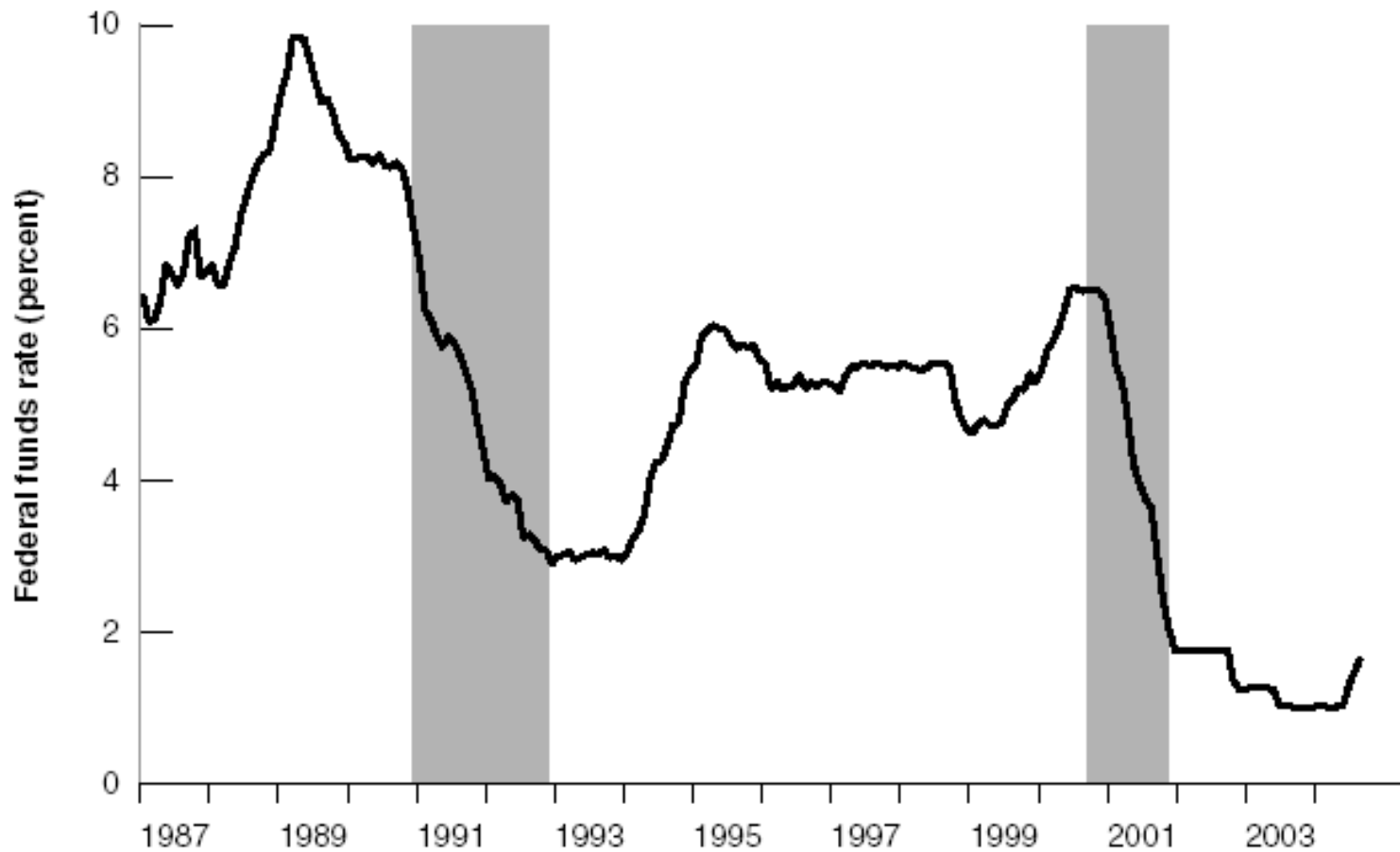
Differences M1 and M2 in the Czech republic



Source: CNB

- The relation between $M1$ growth and inflation is not tighter because of *shifts in the demand for money*.
- When people reduce their bank account balances and move to money market funds, there is a negative shift in the demand for money.
- Frequent and large shifts in money demand created serious problems for central banks.

- Measures that include not only money, but other liquid assets are called **monetary aggregates**, under the name of *M2*, *M3* as described above.
- In many countries *M2* is also called **broad money**.
- The central bank could choose *M2* growth as target, however the relation between *M2* growth and inflation is not very tight either, and the central bank does not control *M2*. Many financial assets are very **liquid**, which makes them attractive as substitutes for money. However, these assets are not included in *M1*.



Source: Federal Reserve

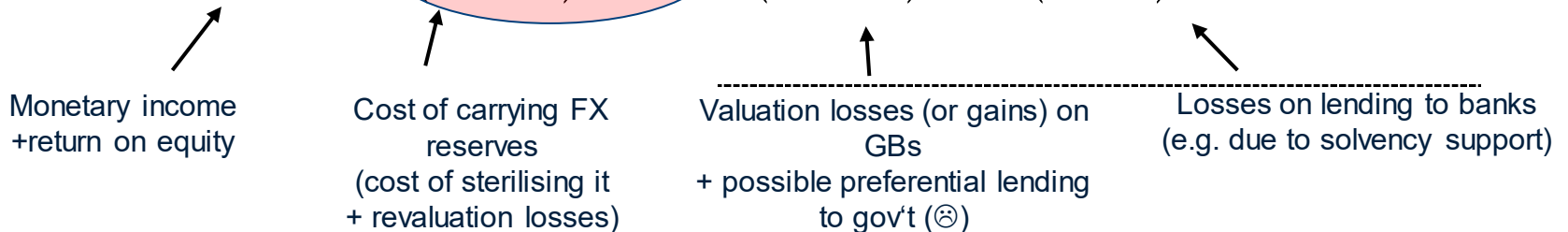
Bonus: Can central bank make a loss?

Stylised P&L of a Central Bank

Incomes	Costs
on Net FX assets = $y^{fx} * NFXA$	on Currency = 0
on Gov't bonds = $y^{gb} * GB$	Sterilisation cost = $i * SL$
on Lending to banks = $i^{lb} * LB$	on Equity = 0
-----	Operating outlays (OL)
Profit π = Incomes - Costs	

$$\pi = y^{fx} NFXA + y^{gb} GB + i^{lb} LB - iSL - OL$$

$$\pi = i(CU + EQ) - (i - y^{fx}) NFXA - (i - y^{gb}) GB - (i - i^{lb}) LB - OL$$



Source: Author

- The structurally profit-making nature of CBs can be undermined by an unpleasant yield differential between the FX reserves and sterilisation costs (either due to an interest rate differential or FX revaluation).

Thank you for your attention!

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