Essex EC248-2-SP
Lecture 10

Money, the State and the Trend toward Cashlessness

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Plan of Talk

- **Introduction**

1. Money and the State
2. The Trend toward Cashlessness
3. Financial Innovation and Monetary Control
4. Money Standards: Gold, Paper, Electronic
5. **Wrap-up**

Aims and Learning Outcomes

- **Aim:** understand how recent financial innovation has changed the role of the central bank in nation states in
  - providing money
  - facilitating payments
  - exercising monetary policy
- **Learning outcomes**
  - Consider potential risks to the monopoly of mint
  - Discuss the major trends in payment systems
  - Analyse traditional monetary control and its limitations
  - Look back to monetary standards from a historical perspective

Money and the State

- Recall the origins of
  - **money**: only the *sovereign* had the right to mint coins
  - **central banks**: originated mostly to help finance the *government*
- Glasner (1989), "Free Banking and Monetary Reform"
  - **competing** for providing money: the central bank vs. other banks
  - **monopolising** the right to currency issue: *national* central banks
- The state and the central bank
  - **monopoly of the mint**: the government, or – more precisely – the monetary authority, still has the monopoly to issue the currency
  - which is the **legal tender** (i.e. the lawful means of payment and of discharging debt) on the *national* territory
  - hence, the state (the central bank) receives **seigniorage**
    - an important source of government finance in *developing* economies
    - not so much in *developed* ones

Changing Trends in Payment Systems

- Markose and Loke (2000), "Changing Trends in Payments Systems for Selected G10 and EU Countries 1990-1998", *International Corresponding Banking Review Yearbook* 2000/2001, April 2000
- transactions **data** in payment systems for 19 developed economies (EU15 and G10, i.e. + US + Canada + Japan + Switzerland)
- 4 major **findings**
  - overall **trend toward cashlessness**: from cash to noncash payment *instruments*
  - from paper-based noncash processes (checks and giro) to **electronic-based noncash processes** (EFT in *wholesale* payments and EFTPoS utilising debit and credit cards in *retail* payments)
  - in cash dispensing, from closed-system bank-based withdrawals to **open-system ATM-based networks**
  - from older forms of electronic money such as credit cards to newer forms such as smart cards and related **reloadable "purses"**

Markose and Loke (2000) - Table 1: measures for cash based payments: 1990-1998

Countries	Cash as a percentage of narrow money[1] (I)		volume of ATM transactions (millions) (II)		average ratio of private consumption to currency[2] (III)		value of cash holdings per person- USD (IV)	
	1990	*1998*	*1990*	*1998*	*1970-1998*	*1988-1998*	*1990*	*1998*
Canada	46.08	36.03	786.3	1603.1	16.65	17.57	608	703
Japan	29.97	34.29	207.6	633.16	7.13	6.49	2003	3340
Switzer-land	32.71	15.65	39.4	80.92	5.10	6.18	2811	2800
USA	29.57	39.48	5800	10900	14.3	13.78	998	1617
Austria	61.16	29.35	41.7	81.3	8.18	9.07	1827	1456
Belgium	31.34	23.79	70.9	159.29	8.06	11.49	1238	1186
Denmark	9.68	9.82	n.a	n.a	17.21	17.67	742	971
Finland	6.36	6.54	121	230.9	25.19	26.07	472	537
France	15.13	14.34	547.7	1205.9	12.56	16.42	829	827
Germany	27.14	23.28	n.a	1405.5	9.39	8.37	1230	1681
Greece	61.78	42.02	n.a	78.5	7.02	9.75	724	714
Ireland	41.06	27.59	33.5	178.1	10.15	11.56	616	997
Italy	14.40	16.07	100.7	486.5	12.73	19.35	1004	1152
Luxem-bourg	21.70	18.36	2.7	4.8	n.a	n.a	1244	1614
Nether-lands	29.46	14.83	116	427	8.97	9.29	1337	1222
Portugal	25.90	15.89	39.2	260.3	7.63	11.46	442	514
Spain	19.68	20.77	355	638	7.27	6.3	1145	1435
Sweden	9.74	9.74	170	333	9.83	12.10	1224	1109
UK	5.96	4.52	992	1850	16.66	21.26	473	652

Markose and Loke (2000) - Table 2: average growth in monetary base

	average growth in monetary base (%)	
	1970-1998	*1988-1998*
Austria	6.08	5.09
Bel.	4.81	5.11
Can.	7.29	4.02
Den.	11.85	13.83
Fin.	14.61	8.20
France	5.65	-0.11
Ger.	6.83	5.32
Greece	20.95	17.42
Ireland	11.91	12.64
Italy	10.55	0.43
Japan	9.24	5.85
Lux.	n.a	n.a
Neth.	5.69	2.71
Port.	18.33	17.26
Spain	14.76	3.81
Sweden	7.14	1.64
Swit.	2.51	-0.05
UK	7.19	5.32
USA	7.03	6.76

The Trend toward Cashlessness

- cash payments: two **measures** (BIS and EMI)
  - cash in circulation as % of *GDP*
  - cash in circulation as % of *narrow money (M1)*
    - decreased in nearly all countries
    - except in US, Japan, Italy and Spain
- major **implication**: the growth of the *monetary base*
  - comparing the 1980s with the 1990s
  - all countries (except Denmark and Ireland) in Markose-Loke (2000) sample have experienced a decline in monetary base growth
- decline in the **demand for cash** in *retail* transactions
  - as larger proportions of total expenditure is *noncash financed*
  - *currency in circulation* has declined

Financial Innovations and the Money Supply

- Podolski (1986), "Financial Innovations and the Money Supply"
- "… the present economic environment both increases the inducement and enhances the capacity of financial agents to innovate and thereby circumvent monetary regulation and control. Current macroeconomic policies based on the presumption of our ability to identify and to control the money supply must, in this situation,be reviewed fundamentally, for financial innovation alters unpredictably the relationship between variables, upon whose stability the effectiveness of monetary control depends."

Financial Innovations and Monetary Control

- Goodhart (1986), "Financial Innovation and Monetary Control"
- 1960s: under the direction of J. Polak, an early version of the **monetary approach to BoP** was developed at the IMF
  - this approach depended on there being a *stable* function of the demand for money
  - i.e. on *constant* or *predictable* velocity of money
- Main point: the rate of change in MB is given by BoP
  - fluctuations in *domestic credit* expansion (DCE), i.e. in MB, relative to the
  - *demand for money*, M^D, determined by nominal incomes and interest rates,
  - would lead to *inflows* or *outflows* over the exchanges at the *pegged* exchange rate that would restore equilibrium
- Hence, IMF sought to apply DCE limits to the *monetary base*

UK Version of IMF Monetary Control

- UK contended that such monetary base control was inappropriate in a more complex (than in LDCs) financial system
- Instead, DCE could be
  - measured, monitored and influenced at the level of the aggregate *money supply*
  - through the **credit counterparts approach**, whereby
  - the growth of *total* bank *liabilities*, **money M3**
  - is by accounting identity related to the growth of *total* bank *assets*:
    dM3 = PSBR – debt sales to the private sector + bank lending to the private sector + external flows – increase in non-deposit liabilities
- The *narrower* aggregate, **M1**, would not have fitted so well in the counterpart approach
  - because M1 is only a *fraction* of total bank liabilities
  - => changes in M1 could not be so *directly* related to changes in bank assets...
  - ...if money multipliers are *not* stable or predictable

UK Money Demand (In)Stability

- Hacche (1974), The Demand for Money in the United Kingdom: Experience since 1971"
  - **M3** demand in UK is *unstable* since the early 1970s!
- **Deregulation** in the UK
  - *credit ceilings* removed: 1971
  - *exchange controls* abandoned: 1979
- Johnston (1984), "The Demand for Non-Interest Bearing Money in the United Kingdom"
  - **M0**, demand for *currency* in UK remains *stable*!

Financial Innovations in the UK

- *Monetary* innovations: liabilities (deposit) side on banks B/S
  - *Credit* cards: banks, since the late 1960s
  - *Liability* management: banks, after 1971
  - *Interest-bearing* retail sight deposits: banks, after 1983
  - Improved *deposit terms*: building societies, early 1980s
  - Technological changes in *payment* systems
    - 1970s: *ATMs*
    - 1990s:
      - *EFT* (wholesale)
      - related *EFTPoS* (retail): smart cards with inbuilt electronic memory
    - competition in the *provision of currency*: to come?
- *Credit* innovations: asset (lending) side on banks B/S
  - Medium-term *variable* rate lending to companies: banks, 1970s
  - *Mortgage* lending: banks, after 1981
  - *Securitisation*: banks, after 1982

Recent Evolution of Banking and Money

- entry of nonbank financial intermediaries into banking business
- entry of banks into nonbank financial services
- driving forces
  - competition
  - disintermediation
  - deregulation
  - lower profitability and higher risk => off-balance sheet activities
    - derivative instruments
    - financial guarantees
  - advances in telecommunications technology => EFTPoS and related cards

Financial Innovation and Monetarism

- The dividing line of what constitutes **money** – once one has gone beyond currency – is becoming fuzzier
- Given increasing competition, the elasticity of asset holders of more or less closer substitutes to "money" to minor changes in *relative* interest rates is also increasing
- The relationship to money holdings to nominal income, i.e. velocity, and to the *general* level of interest rates will therefore become less stable
- The monetary authorities will thus obtain *less information* from monitoring the growth of monetary aggregates, as a guide to future trends in inflation (and output)
- Finally, central banks will have a *diminishing ability to control* monetary aggregates by varying the short-term interest rate, their traditional instrument
- To sum-up, **intermediate monetary targets**, or *monetarism*, more generally – as predicated on certain historical statistical regularities – are now gone…

Monetary Standards: Gold, Paper, EFT, …

- Monetary standards: 3 (or 4) main stages in the history of money since the emergence of nation states
  - *gold* standard
  - paper standard: *convertibility* into gold
  - paper standard: *fiat* money
  - "*electronic* standard": the trend toward cashlessness
- What about the future of money? …

Concluding Wrap-Up

- **What have we learnt?**
  - What is monopoly of mint and how it may be threatened
  - Which the major trends in payments are
  - Why financial innovation has limited monetary control
  - How monetary standards have evolved historically
- **Where you may go next:** to developing further your understanding of money, banking, finance and monetary policy