Financing a planned economy.
Institutions and credit allocation in the French Golden age of growth (1954-1974).

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Motivations : two paradoxes

1)

- Ubiquitous finance and growth literature (Levine et al. 2005 etc.)
- but... prominent studies of post-WWII European Golden Age (cf Postan 1967, Crafts 1995, Toniolo 1998, Temin 2002, Eichengreen 2008) have neglected the importance of financial development.
- cf. for France, "les Trente Glorieuses" : Carré, Dubois, Malinvaud 1972, Saint-Paul 1993, Sicsic, Wyplosz 1995.
- catch-up growth is not a sufficient explanation. Explain how funds were channeled.

Motivations : two paradoxes

2)

- Postwar France characterized by "financial repression" (Shaw 1973, Mckinnon 1973, Roubini & Sala-i-Martin 1993, Voth 2003) :
- controls on deposits, capital flows, interest rates; directed credit
- stock market returns and capitalization at the same level in 1952 and 1974 (↑ until 1961 , then ↓)
- but... financial deepening ('banking loans/GDP', from 30% to 60%) and growth (5 % av. GDP) !
- How did the state promote credit development ? What about the allocation of credit in such a *dirigiste* economy / "coordinated capitalism" (Eichengreen 2006) ?

This paper

- How public intervention in credit allocation worked ?
  - highlights the role of the central bank: information, incentives, selection
  - difficulties to understand/identify the instruments and objectives of state intervention in credit allocation
  - state intervention focused on medium and long term credit (more than 2 years)
- Did credit favor growth ?
  - A quantitative overview of credit allocation. A new database: credit to 49 sectors over 1954-1974 (matched with fiscal statistics).
  - mid-long term credit allocated in function of sectoral MPKs. Positive effect on investment and output growth.

State intervention in credit allocation

- France is the western European country that relied more on state financing and interventions.*Le Plan.*
- A planned economy *(économie concertée)* $\neq$ a command economy
- Credit selectivity works through many channels: direct investment, provision of information, advices and targets, rediscounting. Not quotas !
- Difficulties to disentangle 'private' credit from 'public'/'directed' credit (Wilson 1957, Aymard 1960)
- Focus on mid/long credit ("*crédit d'investissement*").
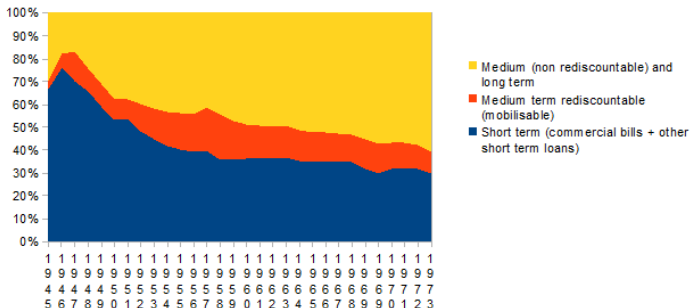
The crucial role of the central bank

- From dec. 1945, the National Credit Council (within the Banque de France) officially in charge of credit allocation $\neq$ Planning office.
- *Banque de France* considered the supervision of banks and credit allocation as one of its main tasks. (*Sélectivité du crédit*). Built statistics to achieve it. Credit controls and monetary controls intertwined.
- Choices of bank by bank rediscount ceilings. Information and advices at the national or local level (220 branches).
- From the archives, difficulties to identify the criteria of allocation: mimic a first best allocation or Schumpeterian big push ?
- Need for a global view on the whole system, an evaluation of the overall performance.

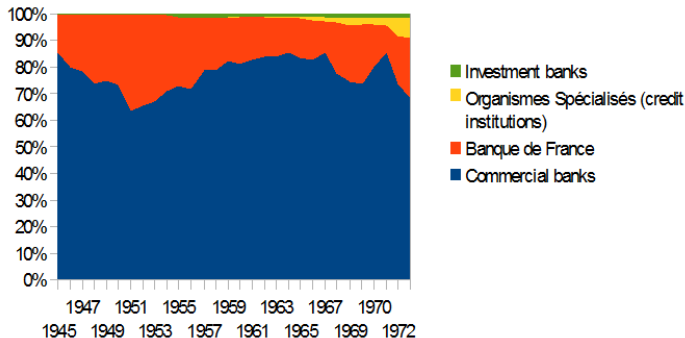Evolution des encours de crédits
France, 1949 -1973
% du PIB

- Court terme
- Moyen terme mobilisable
- Moyen et long terme
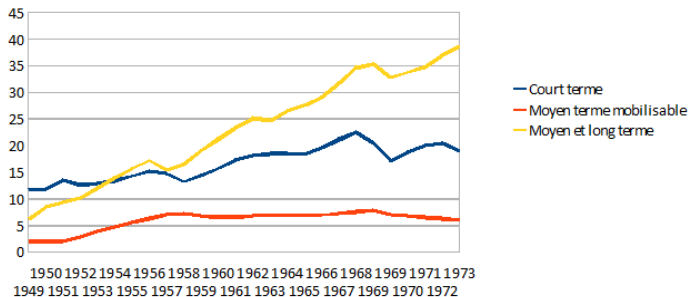
Shares

Evolution of loans maturities
France, 1945-1974.
% of the total of loans.

Legend:
- Medium (non rediscountable) and long term
- Medium term rediscountable (mobilisable)
- Short term (commercial bills + other short term loans)

Short term credit

Shares of lending institutions. Short-term credit.

% of total loans. 1945-1974.

Legend:
- Investment banks
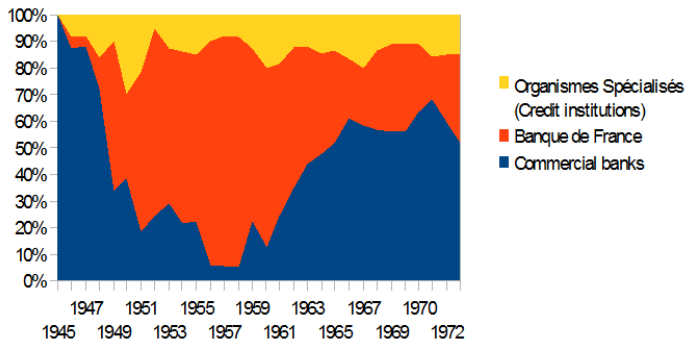- Organismes Spécialisés (credit institutions)
- Banque de France
- Commercial banks

Medium term credit

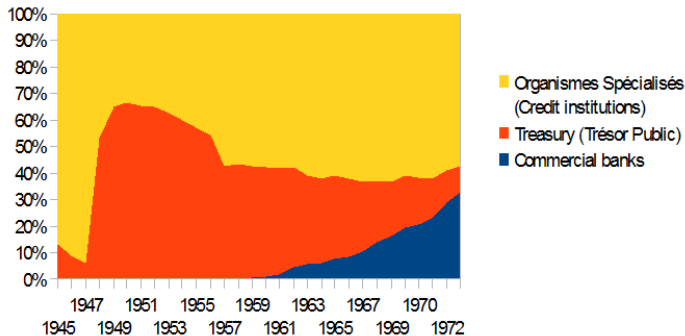Shares of lending institutions. Medium-term credit (rediscountable)

% of total loans. 1945-1974

Long term credit

Shares of lending institutions. Medium and long term credit.

% of total loans. 1945-1974

Data on credit allocation

- Banking credit by sector registered at 'Service central des risques' (CNC). Quarterly. Distinction short vs. medium-long term credit ("Crédit d'Investissement"). Matched to tax statistics (turnover, benefits, investment, wages, etc.)

- Focus on 1954-1974. First time these data are put together.

- Possible to match 49 sectors. 58% of total turnover, 50% of firms, 69% of wages, 76% of investment, 65% of total credit.

2 types of analysis

- Inter-sectoral (between) analysis. Allocation. Correlations with MPKs. $\Rightarrow$ efficiency ?

- Intra-sectoral (within) analysis. Panel data. Effects of credit on growth (causal impact estimated with GMM, standard in the "finance and growth" litterature (Levine et al. 2000, Bordo et Rousseau 2011).

- Distinction between mid/long term and short term credit.

Inter-sectoral credit allocation

- Standard neoclassical theory : efficiency allocation of credit equalizes the marginal return to capital. Then financial intermediation promotes growth (Greenwood, Jovanovic, 1990).

- Empirical issues (Lucas 1990) and many computation difficulties (Caselli, Feyrer, 2006, Caselli 2007).

- Cobb-Douglas : $R = \alpha Y / K$, with α, the capital share.

- Evolution of capital : $K_{t+1} = (1 - \delta)K_t + I_t$

- Computation of MPK by sector : difficulties with α and K . Hypothesis : α and δ are constant overtime.

Total credit/T and marginal return of capital

X axis = credit/turnover
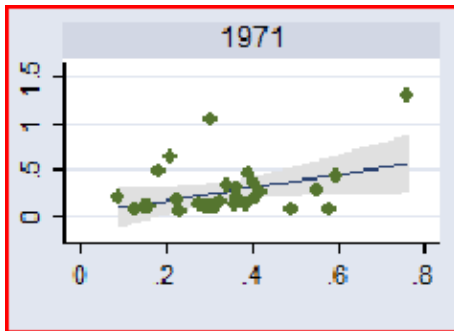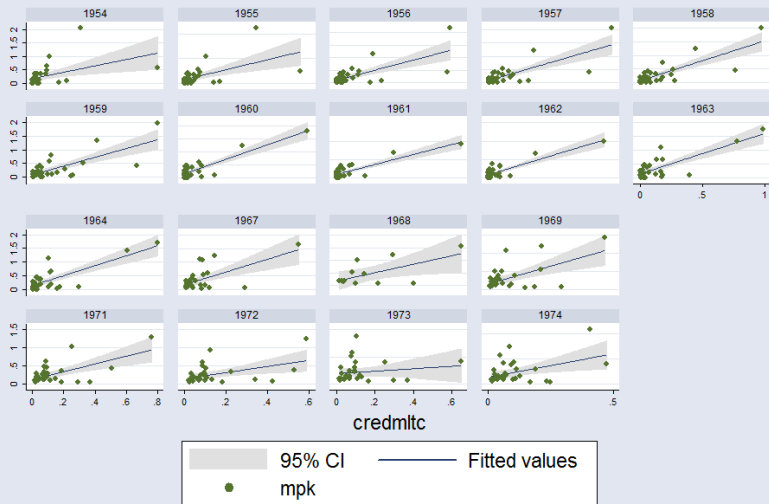Y axis = MPK

Figure: Credit vs MPK

Total credit/T and marginal return of capital

Graphs by year

Mid-long term credit/T and marginal return of capital

Graphs by year

Short term credit/T and marginal return of capital

Graphs by year

Sectoral allocation of credit

- Correlations still robust for the smallest sectors.

- No correlations between credit and number of employees per sector.

- Convergence of MPKs overtime.

- A neoclassical process in a *dirigiste* economy?

- Short-term credit for business transactions or inefficiency of the banking sector ?

- if theory is right, we should observe positive effect of mid-long term credit in investment and ouput growth !

Convergence of MPK

year	mean	sd
1954	0.24	0.38
1958	0.26	0.38
1962	0.29	0.39
1966	0.30	0.38
1970	0.26	0.27
1974	0.23	0.22

Within analysis: variables

- Credit. Short term ('effets escomptés' (3 months) + others) vs mid-long term credit ('crédits d'investissement').

- Turnover. Investment ('Immobilisation').

- 3 ratios (control for non-fixed sectoral characteristics): Investment/wages (capital intensity), Turnover/nb of firm (concentration, average size of firms), short term credit /medium-long term credit (financing structure)

- Dummy 'credit control' = number of months of 'official' credit restriction. A measure of restrictive monetary policy constructed with a narrative approach (cf Monnet 2011).

The effect of credit on growth

Use GMM estimator to avoid the endogenity bias (cf Beck et al. 1999, 2000).

VARIABLES	(1) Investment (% growth)	(2) Investment (% growth)	(3) Turnover (% growth)	(4) Turnover (% growth)
Investment (% growth)			0.244*	0.328***
			(0.135)	(0.147)
Turnover(% growth)	0.493***	0.579***		
	(0.137)	(0.101)		
Short-term credit / T	-1.242**	-1.263***	-0.589	-0.212
	(0.644)	(0.392)	(0.199)	(0.233)
Investment credit / T	0.389*	0.272*	0.269**	0.258**
	(0.234)	(0.168)	(0.152	(0.135)
Credit control	-0.006***	-0.004***	-0.001*	-0.001*
	(0.001)	(0.001)	(0.001)	(0.001)
Investment/wages		0.081**		-0.030**
		(0.032)		(0.012)
STC/MLTC		0.002		0.001
		(0.002)		(0.001)
Turnover/nb firms		-0.001		0.001
		(0.001)		(0.001)
Sargan test (p-values)	0.55	0.69		0.91
	1.00			
Number of sect	49	49	49	49

Arellano-Bond estimation. Two-step results
Standard errors adjusted for clustering on sectors
Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Effects of credit on growth

- Impact of 'investment credit' on growth. If the ratio investment credit/turnover increases by 5%, the annual growth rate of investment will be increased by 1.5%. (N.B compatible with aggregate credit/gdp x3)

- Substituability between short and 'investment credit' for investment ! Not true with OLS.

- Monetary policy had a strong impact (one more month of credit restriction will lead to a decrease of 0.4 % and a whole year of credit restriction will result in a loss of 4% of investment growth). Then important mechanism of selectivity.

Conclusion

- A 'planned' economy. Complex network between the Treasury, the central bank, banks and semi public credit institutions. Interventions focus on medium-long term credit.

- Results: medium-long term credit was well allocated and promoted growth.

- Important facts about the link between institutions and growth in France over this period:

  - credit to "non government"/GDP multiplied by 3 over the period despite financial repression

  - decrease of stock market capitalization after 1958

  - medium-long term credit replaced short term credit overtime

  - credit allocated according in function of the marginal rate of return

  - convergence of sectoral rate of returns overtime

- Gerschenkron(1962) big push story . Eichengreen (2006) : European postwar coordinated capitalism. Rodrik (1994) on East-Asia.