

# Chapter 4 : Finance-growth nexus

Financial Markets, Money and Banking

2017-2018

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# Outline

- Role of the financial sector in economic growth (different point of views)
- Empirical literature
- Skeptical empirical literature
- The new literature
- The new-new literature
- Financial history

# We provide answer to:

- Do financial markets contribute to economic growth?
- Are all forms of finance (credit) the same?
- How did this relationship evolve in the history?

# Role of the financial sector in economic growth

## *Different streams in the literature:*

- Bagehot (1873) Schumpeter (1912): well-functioning financial markets play an essential role in prompting economic growth.
- Lucas (1988): Dismisses finance as an over-stressed determinant of economic growth.
- Robinson (1952): “where enterprise leads finance follows”  
→ finance does not cause growth, it is only a response to changing demand from the real sector
- King & Levine (1993): Financial development promotes growth (cross-country evidence)
- Causality and the direction of causality:
  - Causal link going from finance to growth → Levine and Loayza (2000)
  - Bi-directional relationship → Demetriades and Hussein (1996)

# Empirical literature (finance pro growth)

- Empirical literature started in late 1960s with Goldsmith (1969): 35 countries, over the 1860-1963, a **positive correlation** between the value of financial intermediaries and economic growth.
- King and Levine (1993): 77 countries, 30 years  
Size of the financial sector in 1960 predicts economic growth. Introduced several measures of the size of the financial sector → credit to the private sector as a share of GDP (best indicator of financial depth).  
Their results did not prove that financial development **cause** growth.

# Empirical literature (cont.)

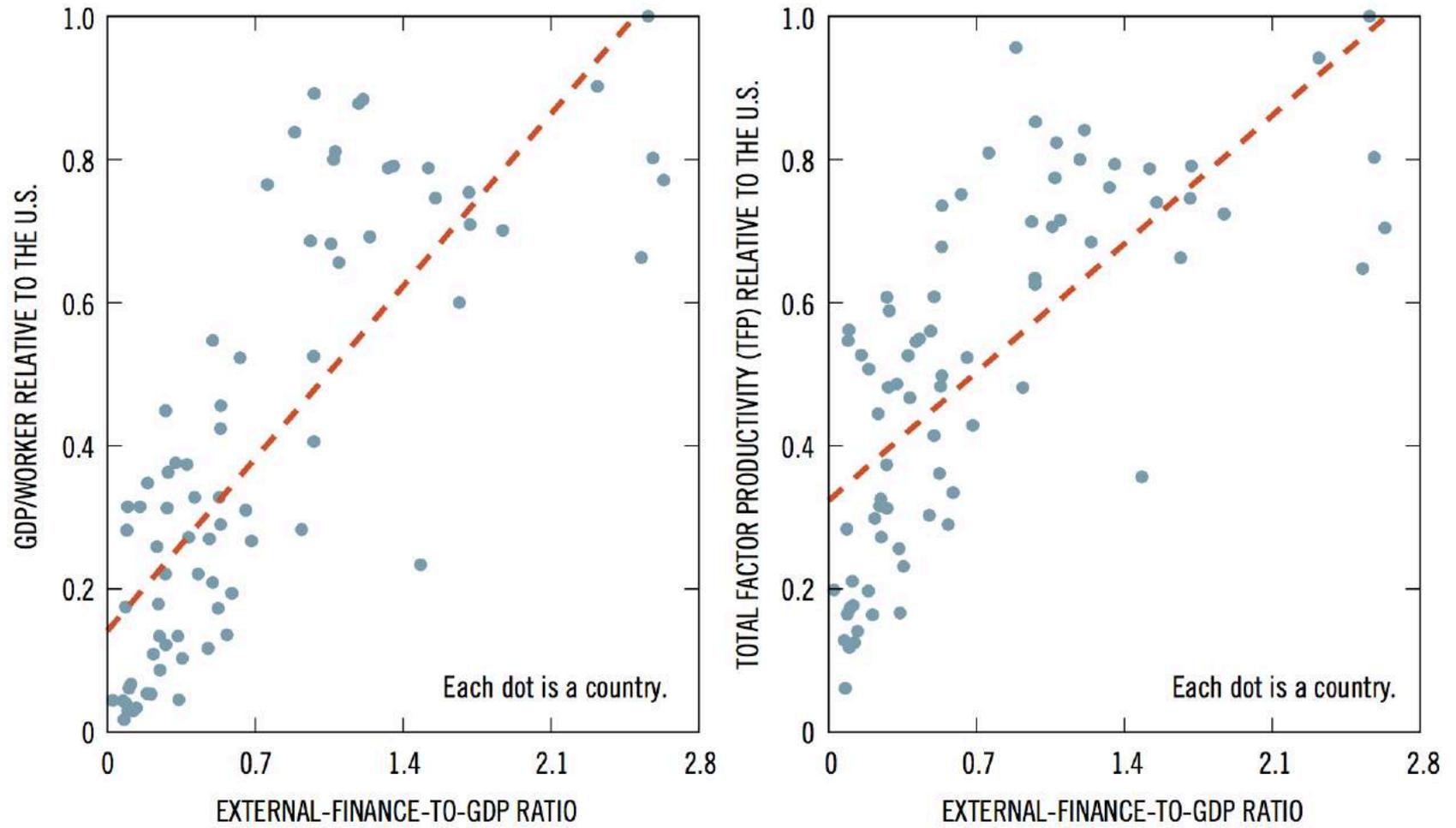
- Beck, Levine and Loayza (2000)  
71 countries over the period 1961-95 → They find a strong effect of the exogenous component of financial development on long-run growth and conclude that their results are consistent with the idea that financial development has a **causal** effect on economic growth.
- Addressing the causality issue: Rajan and Zingales (1998)  
→ rule out reverse causality  
Industries that for technological reasons need more financial resources should do relatively better in countries with more developed financial sectors

# Empirical literature (cont.)

- Levine (2005) completed his survey on finance and growth.
- The profession was close to a consensus on the fact that finance does matter for economic growth

**FIGURE 1**

**Relationship between Financial Development and Economic Development**



SOURCE: Buera, Kaboski and Shin.

# Skeptical empirical literature :

- Demetriades and Hussein (1996): use time series techniques and find no evidence of a causal relationship from finance to growth in about half of the 16 countries included in their sample
- Rousseau and Wachtel (2002): show that the finance has no effect on growth in countries with double digit inflation
- Demetriades and Law (2006): who look at 72 countries for the period 1978-2000 and find that financial development does not affect growth in countries with poor institutions.

# Skeptical empirical literature (cont.):

- De Gregorio and Guidotti (1995) find that in high income countries financial depth is positively correlated with output growth over the 1960-1985 period. When they focus on a panel of 12 Latin American countries, instead, they find a negative correlation between financial depth and growth.
- Rioja and Valev (2004) use a panel of 72 countries and find that the relationship between finance and growth is particularly strong for countries at intermediate levels of financial development.

# The new literature

- Rousseau and Wachtel (2011) show that the positive correlation between finance and growth found in previous studies is not robust to using more recent data.

*Lucas critique : financial deepening is associated with growth only if policymakers do not try to exploit this relationship*

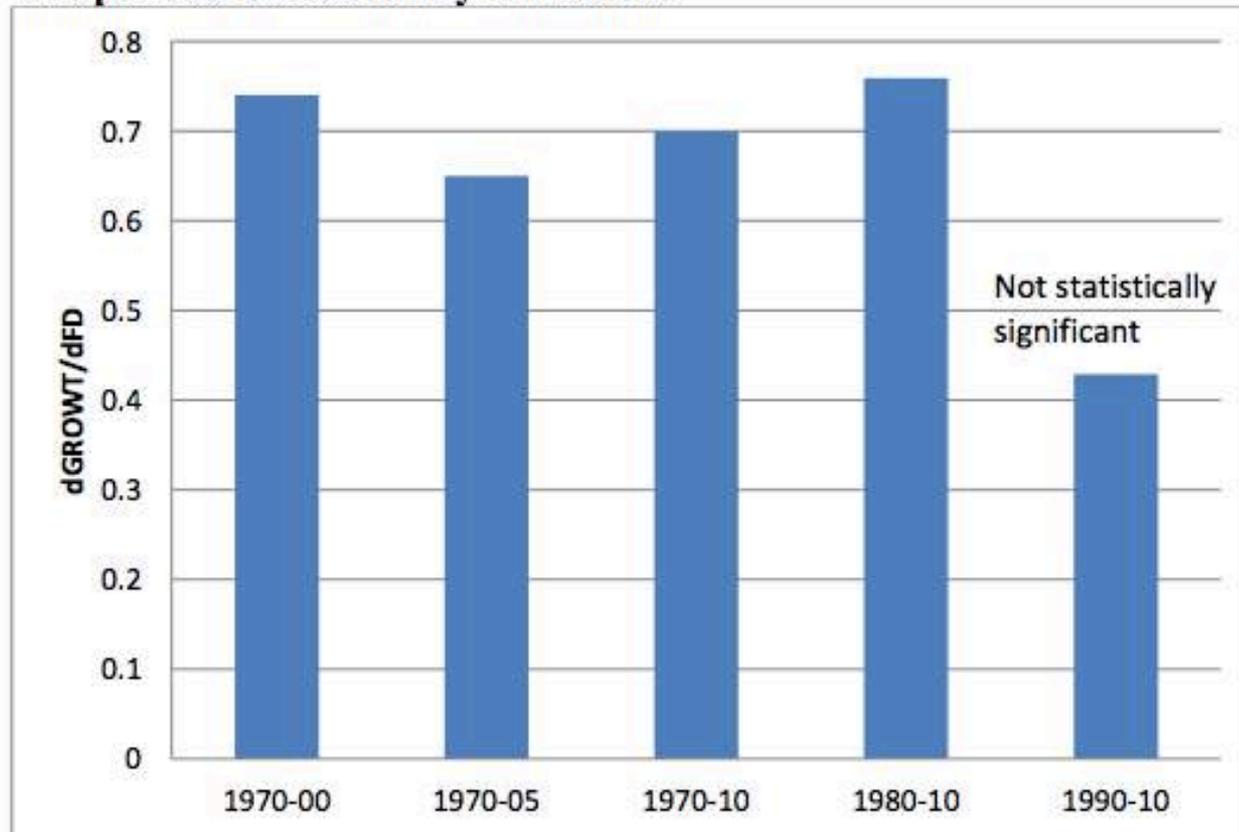


*One cannot draw accurate conclusions about present macroeconomic phenomena based purely on past data. Every policy change affects the circumstances under which different situations occur*

Their estimations suggest that the vanishing effect may be due to financial crises which are often associated with rapid financial deepening

# Rousseau and Wachtel (2011)

**Figure 1a: The effect of financial development on economic growth in different time periods: Cross-country estimations**



Source: Tables 1 and 2, Arcand et al. (2012)

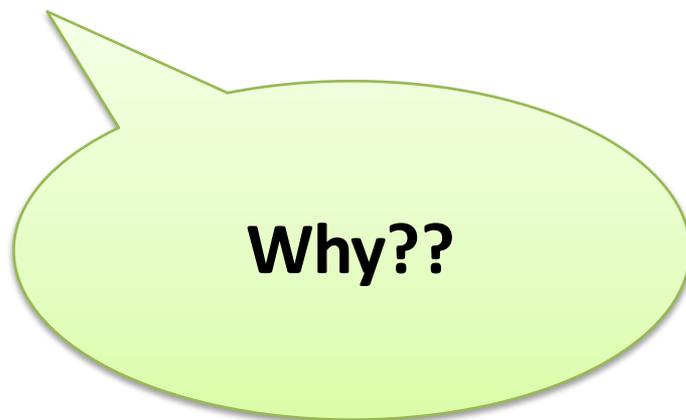
# The new literature (cont.)

- Masten et al. (2008) concentrate on European advanced and transition economies and find a strong growth effect of financial depth in transition economies but no effect in the more advanced EU countries.
- Arcand et al. (2012) study whether these decreasing returns can become negative. In other words, they study if there can be "**too much finance.**"  
They find that the marginal effect of financial development on GDP growth becomes negative when credit to the private sector is close to 100 per cent of GDP

possible explanation: for the vanishing effect has to do with the fact that not all credit is the same : distinction between enterprise and household

# The new literature (cont.)

- Beck et al. (2012) include their measure of credit composition in a standard growth regression and show that there is a tight correlation between credit to enterprise and economic growth, and no significant correlation between credit to households and economic growth



# The new-new literature

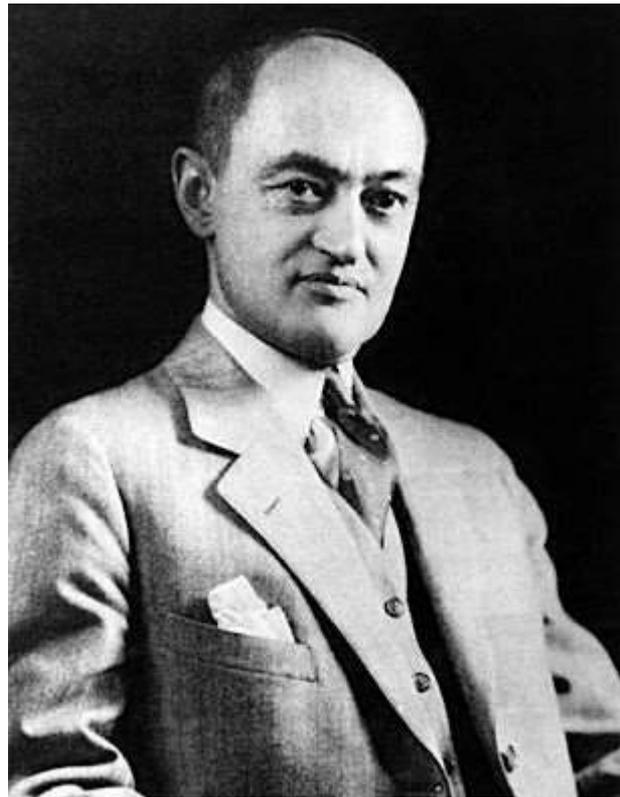
- The empirical literature described in the previous slides is focused on financial depth (credit to the private sector).
- This is a measure of the size of financial intermediation that does not necessarily match the theoretical channels through which finance should affect economic growth
- ✓ The new-new literature on finance and growth explores **alternative measures** of financial development
- Laeven et al. (2013) introduce financial innovation in a traditional **Schumpeterian growth model** → **financial innovation** is a key driver of economic growth

# Schumpeterian growth theory

The Schumpeterian growth model is based on three main ideas:

- (i) It is about growth generated by innovations
- (ii) Innovations result from entrepreneurial investments that are themselves motivated by the prospects of monopoly rents
- (iii) New innovations replace old technologies: in other words, growth involves **creative destruction**.

# Schumpeterian growth



Joseph Schumpeter (1942) → “process of industrial mutation that incessantly revolutionizes the economic structure from within, incessantly destroying the old one, incessantly creating a new one” → **Creative Destruction**

- ✓ An important aspect of the Schumpeterian model is that, when a product or technique is improved, the new good or method tends to displace the old one.
- ✓ In his point of view free financial markets are the elixir that fuels the process of creative destruction.

# Creative destruction: some facts

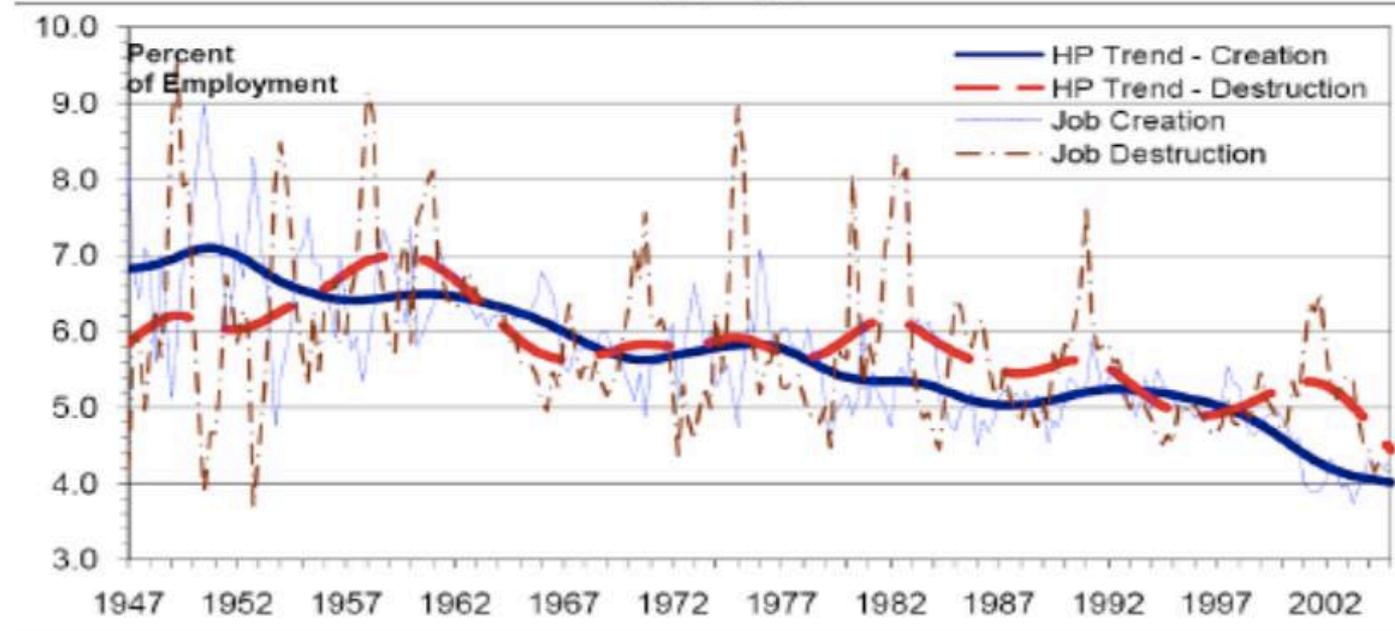
Successful researchers along the quality dimension tend to eliminate or “destroy” the monopoly rentals of their predecessors, a process labeled as “**creative destruction**”

Ex: electricity came about due to the destruction of steam powered energy.

Country	Job creation	Job destruction	Net employment growth
France (84-91)	12.7	11.8	0.9
Germany (83-90)	9.0	7.5	1.5
Netherlands(84-91)	8.2	7.2	1.0
United Kingdom (85-91)	8.7	6.6	2.1
United States (84-91)	13.0	10.4	2.6

Source: OECD

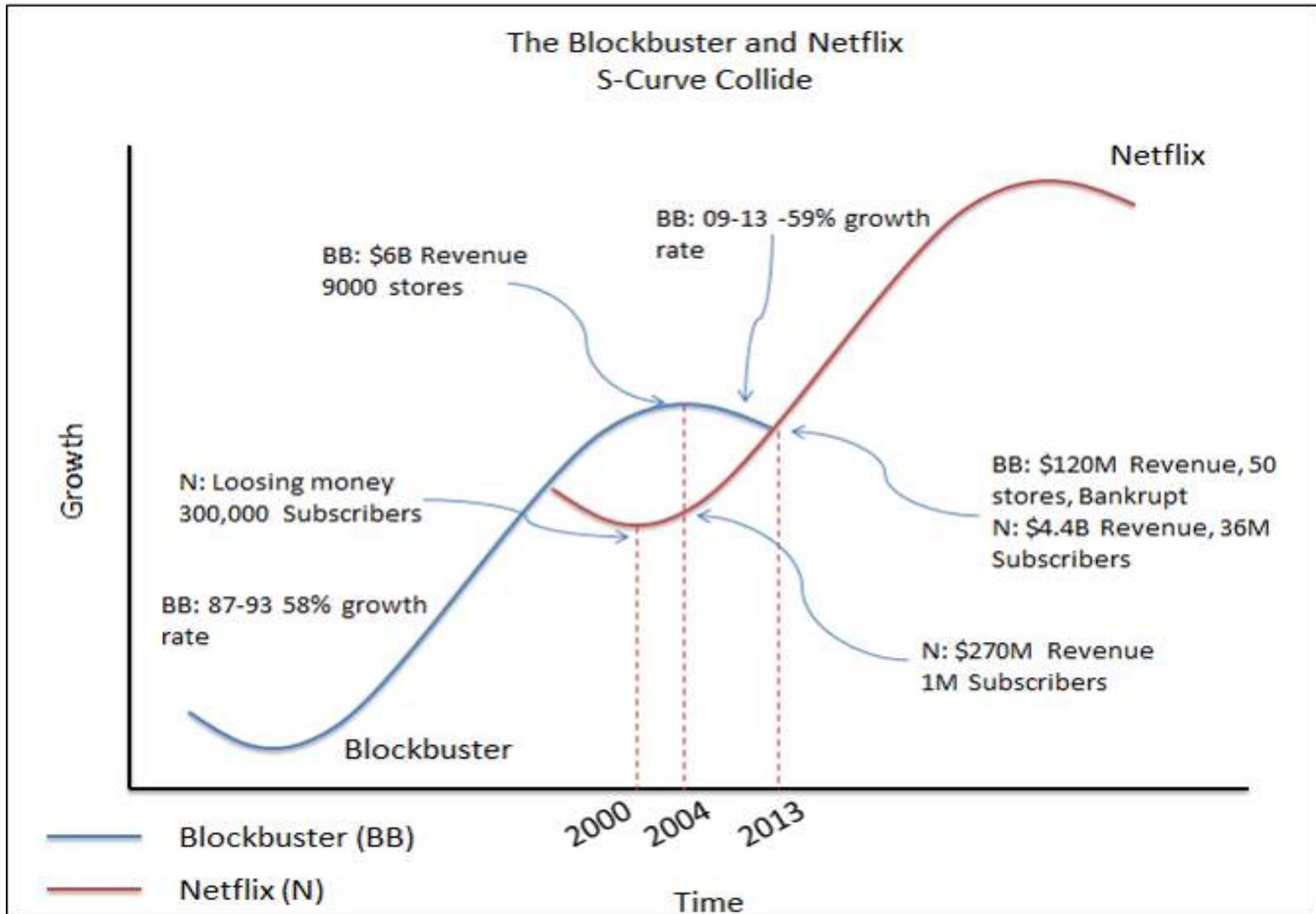
## US Quarterly job flows trends Manufacturing and Nonfarm Business



Source: Davis, Faberman and Haltiwanger<sup>4</sup>

<sup>4</sup>Steven J. Davis, R. Jason Faberman and John Haltiwanger, The Flow Approach to Labor Markets, Micro-Macro Links, and the Recent Downturn, *Journal of Economic Perspectives*, vol 20(3), pp. 3–26.

# Example of creative destruction



# The new-new literature ( cont.)

- Beck et al. (2013) use the traditional measure of financial intermediation (the log of credit to the private sector) together with a new indicator of the size of the financial system computed as the value added share of the financial system in GDP → they find that size is no longer statistically significant

**Conclusion:** An expansion of the financial sectors along other dimensions has no long-run effect on real sector outcomes. Over shorter time horizons a large financial sector stimulates growth at the cost of higher volatility in high-income countries. Intermediation activities stabilize the economy in the medium run especially in low-income countries

# The new-new literature ( cont.)

The dark side of finance through the growth: impact of the allocation of talents → The possibility that the financial sector may distort the allocation of talents

- Tobin (1984), Bolton et al. (2011) and Kneer (2013) : high wages in the financial sector may indeed have negative spillovers on non-financial firms
- ✓ financial liberalization tends to attract more skilled workers to the financial sector and that this greater absorption of talents in the financial sector has a negative effect on productivity in industries that for technological reasons rely relatively more on skilled labor

# Financial history

Financial history gives considerable support to the idea that financial development leads to economic growth.

- Medieval & renaissance **Italy**: Italian city states pioneered modern financial techniques
- **Netherland**: experienced its financial revolution during the 16<sup>th</sup> and early 17<sup>th</sup> centuries
- **UK**: English financial revolution from 1688 to the mid 18<sup>th</sup> century (before the industrial revolution)

# Financial history (cont.)

- **US**: the financial revolution occurred in years 1789-95
- Continental Europe: financial revolutions in the middle of 19<sup>th</sup> century → only after that, **France & Germany** closed their income gap with UK
- Japan: financial revolution in 1870s and 1880s (during the period 1870-1913, Japan grew faster than a fast growing world economy and gained on the world average while older leaders, such as Netherlands and UK regressed)

TABLE 1  
 REAL GDP PER CAPITA RELATIVE TO WORLD AVERAGE, SELECTED  
 COUNTRIES, 1500-1998  
 (WORLD AVERAGE = 100 AT EACH DATE)

Date	Country						
	Italy	Netherlands	UK	USA	Japan	France	Germany
1500	195	133	126	71	88	129	120
1600	185	231	164	67	88	142	131
1700	179	343	203	86	93	160	145
1820	167	273	256	188	100	184	159
1870	173	318	368	282	85	216	210
1913	170	268	326	351	92	231	242
1950	166	284	327	452	91	249	184
1973	259	319	293	407	279	320	292
1998	311	354	328	479	358	343	312

Source: Derived from Maddison (2001), table B-21, p. 264.

- Joan Robinson (1952): “Where enterprise leads finance follows”
- But according to historical evidence: where finance leads, enterprise follows
- In historical financial revolutions, the stimulant for financial development usually arose out of the needs of states to pay for wars: states commitments to pay their debts → banks and capital markets emerged
- Richard Ehrenberg: “England would not have been the Great Britain of today, it would not have conquered half the world, if it had not incurred a national debt of 900,000,000 pounds between 1815 and 1963.”

# Conclusion

- ?

# References

- Ugo Panizza (2013), “Financial development and economic growth known knowns, known unknowns, and unknown unknowns”
- “Finance and Growth: theory and evidence”, Ross Levine, Handbook of economic growth, Volume 1A, Chapter 12 → 3. Evidence on finance and growth
- Richard Sylla (2006), “Schumpeter Redux: A Review of Raghuram G. Rajan and Luigi Zingales's "Saving Capitalism from the Capitalists”, Journal of Economic Literature
- “Saving Capitalism from the Capitalists: Unleashing the Power of Financial Markets to Create Wealth and Spread Opportunity”, by Raghuram Rajan, Luigi Zingales (2004)