



UNIVERSITY OF CALGARY
HASKAYNE SCHOOL OF BUSINESS

Corporate Finance

Economic and Managerial Overview

René Wells

May 7, 2020

Allocation of resources within the economy

Theory of the firm

The financial economy

What is modern finance?

Economic perspective: allocation of resources

3/16

The average [standard of living](#) is driven to a large extent by how well resources are allocated to their best use over time (i.e. optimal allocation leads to improved goods and services).

- [Pareto optimal](#): "...impossible to reallocate so as to make any one individual or preference criterion better off without making at least one individual or preference criterion worse off."
- Resources are re-allocated as consumers' preferences evolve, new goods and services become available, new technologies emerge, etc.
- In practice: if industry A loses relevance to industry B, industry A will use less resources while industry B will use more (i.e. industry A will decline while industry B will grow).

Other key factors affecting the average standard of living also interacts with allocation of resources

- Quantity and quality of resources: human, institutional, natural, ... (e.g. Canada)
- New technologies, public policies, trade, ... (e.g. the [North American Free Trade Agreement](#))

Distributional issues (how the 'cake' is divided influence its size, see [income distribution](#)).

Value creation if re-allocation is correctly anticipated, and vice-versa (e.g. [Steve Jobs](#) and the [iPhone](#)).

Economic perspective: mis-allocation of resources

4/16

A number of factors might divert resources from their best use.

- 'Acts of god' (hurricanes, fires, earthquakes, floods, pandemics, etc.)
- Armed conflicts (wars between countries, civil wars, anarchy, etc.)
- 'Power grabs' (dictatorship, authoritarianism, ideology, etc.)
- Market failures (mitigation by state required: central banks, securities commissions, warranties, 'polluter pays', labor laws, etc.)
- Market inefficiencies (ill-advised public policies and investment projects, lack of institutional capital, corruption, vested interests, outdated social norms, discrimination, cognitive biases, etc.)
- Market frictions (asymmetric information, incomplete contracts, search costs, transaction costs, bankruptcy costs, taxation, etc.)
- Inertia, plain stupidity, and misplaced good intentions (e.g. President Trump during a pandemic).

All of the above can result in value destruction and/or prevent value creation from happening (and therefore achieve a lower standard of living than would have otherwise been the case).

'Sticky' re-allocation of resources

Some resources move fast

- Financial capital like cash on hand, debt capital, and equity capital moves at the speed of light!

Some resources move quickly, or slowly

- Human resources (executives, managers, and employees)
- Relationships with stakeholders like suppliers
- Brand, reputation, and market share

Some resources move very slowly, or not at all

- Plant and equipment, land

The 'canary in the coal mine' is almost always financial capital (i.e. the early indicator of resources moving to or away from the firm). Other resources take their cue from financial capital ('follow the money'), seemingly making financial capital driving other resources to the firm or away from it.

- Without cash on hand to 'make the payroll', human resources have to find employment elsewhere;
- But a rapid decline in stock price is likely to precede a cash shortfall;
- Would you buy a car from a car manufacturer which bankruptcy is likely or imminent?

Theory of the firm: Why firms exist? Any problems left?

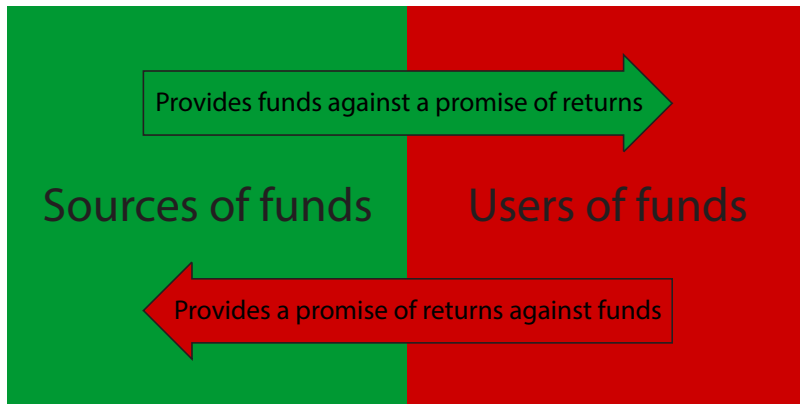
6/16

The 'theory of the firm' explains the existence of firms, notably because for many transactions, the cost to coordinate within a firm is lower than within the market given market imperfections (Coase, 1937).

Private firms that are 'publicly-owned' (i.e. shareholder-owned via the stock market) allow economies of scale and mass participation in capitalism, providing capitalism with a democratic underpinning. A countervailing force under the form of dis-economies of scale (e.g. lack of focus induced by limits to managerial scope) restricts the size of firms (investors often prefer 'pure-plays' to conglomerates).

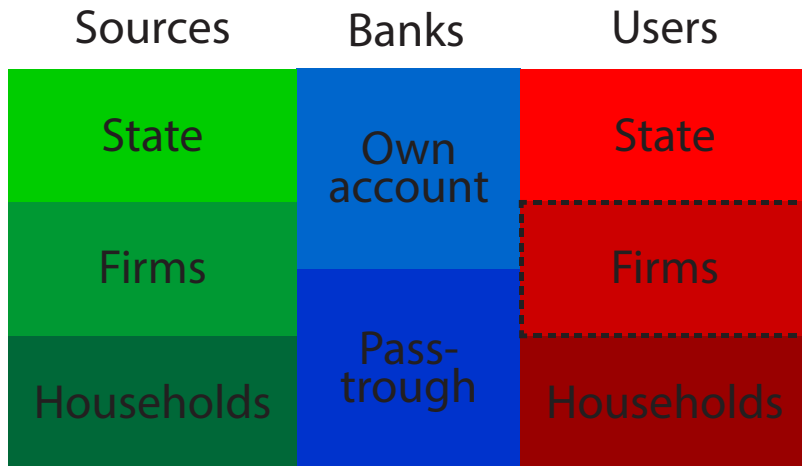
However, shareholders have to delegate management of the firm to 'executives', creating, notably, principal-agent problems, in addition to creating/increasing asymmetric information (i.e. the insiders like the executives have more accurate information than the outsiders like the investors). We will see throughout this course that this agency problem has significant corporate finance ramifications, notably because investors do not trust much management, and management is aware of that.

- For example, to a large extent investors cannot observe the executives' carefulness in selecting projects, the riskiness of investments as selected by the executives, or even the effort of the executives or the expertise they use to make the firm profitable and increase its market value.



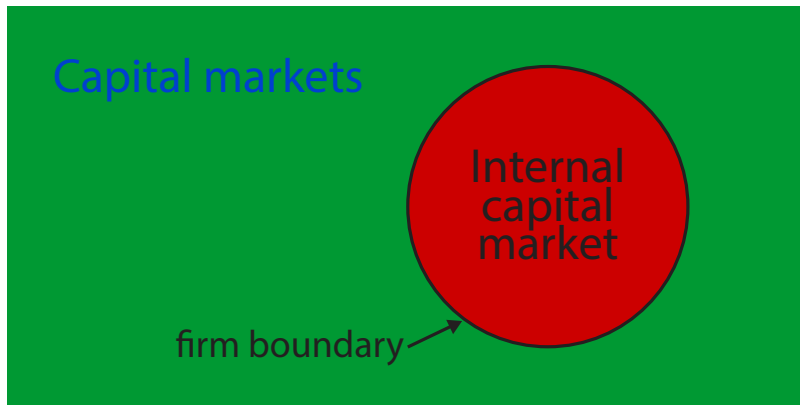
The financial economy

7/16



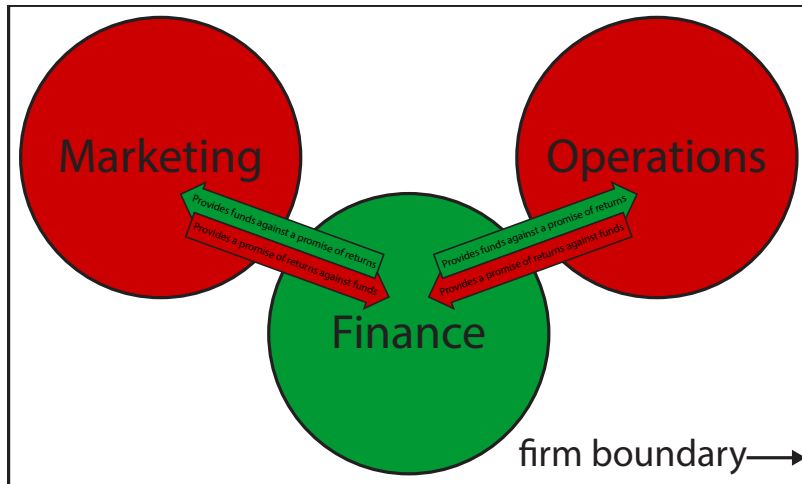
The financial economy of the firm

8/16



The financial economy of the firm

8/16



Money and finance: the State plays the preeminent role

9/16

Central Banks (manage the money supply and interest rates, as well as regulate banks)

- **Bank of England** (est. 1694, nationalised 1946, ind. 1998)
- **Banque de France** (BdF est. 1800, nationalised 1936, ind. 1993)
- **Bank of Canada** (BoC est. 1935 by act of parliament) + OSFI
- **Federal Reserve System** (FED est. 1913, US third central bank)
- **European Central Bank** (ECB est. 1998, heads the ESCB)

Securities Regulators (regulate capital markets, issuers, and intermediaries)

- **Securities and Exchange Commission** (SEC USA, est. 1934)
- **Autorité des marchés financiers** (AMF France, est. 2003)
- **Financial Conduct Authority** (FCA UK, est. 2013)
- **Canadian securities regulation**: many (one by province, federal somewhat trying to merge them)

Most criticism of finance simply reflects poorly designed and/or poorly implemented regulation.

A short history of finance know-how and knowledge

10/16

Prior to the rise of academic finance (aka financial economics)

- Know-how was developed by trial and error, leading to the accumulation of descriptive knowledge.

The rise of **financial economics** (a branch of microeconomics), basically using a scientific approach.

- Based on **expected-utility** (von Neumann-Morgensen 1944), **state prices** (Arrow-Debreu 1954), and **equilibrium by arbitrage-free pricing** ('law of one price').
- **Present value** (Fisher 1907) and separation theorem (Fisher 1930)
- **Modern portfolio theory** (MPT Markowitz 1952), **Capital structure** (Miller-Modigliani 1958 1963)
- **CAPM** (Sharpe 1964), **efficient markets** (Fama 1970), **Arbitrage pricing theory** (APT Ross 1976)
- **Derivatives** (OPT, Black-Sholes-Merton 1973)

Limits and criticisms of financial economics

- Often relies on strong assumptions (complete markets, no frictions, etc.)
- **Actual behavior** (Allais 1953) and **limited cognition** (Simon 1955)
- Rise of **behavioral finance** as a modern version of rationality
- 'The Limits of Arbitrage' (Shleifer and Vishny 1997)
- Quite a large number of 'anomalies' (e.g. the **equity premium puzzle**)

How well does traditional academic finance delivers?

11/16

One can have academic academic finance work very well most of the time.

- By using 'latest generation' models and methods
 - ▶ Rather than CAPM, use multi-factor models (three, four, and five-factor models);
 - ▶ Use OPT models with stochastic volatility (i.e. do not assume constant volatility).
- By 'calibration' (bridge empirical delta if small and shows regularity)
 - ▶ If beta mean revert to 1, adjust estimated beta according to mean-reversion within given forward-looking time frame;
 - ▶ Calibrate interest rate model to information contained in current market conditions.

Beware that sometimes or in some circumstances it does not work well...

- During a sustained 'bubble' (e.g. the internet bubble);
- During short but extreme herding episodes (e.g. flash crashes);
- Unexpected consequences of financial innovation (e.g. financial crisis of 2007-2008);
- When street-wise people take advantage of naive people (e.g. Madoff).

How important is finance today?

12/16

Finance is the main driver of the optimal allocation of resources and one of the main determinants of the standard of living.

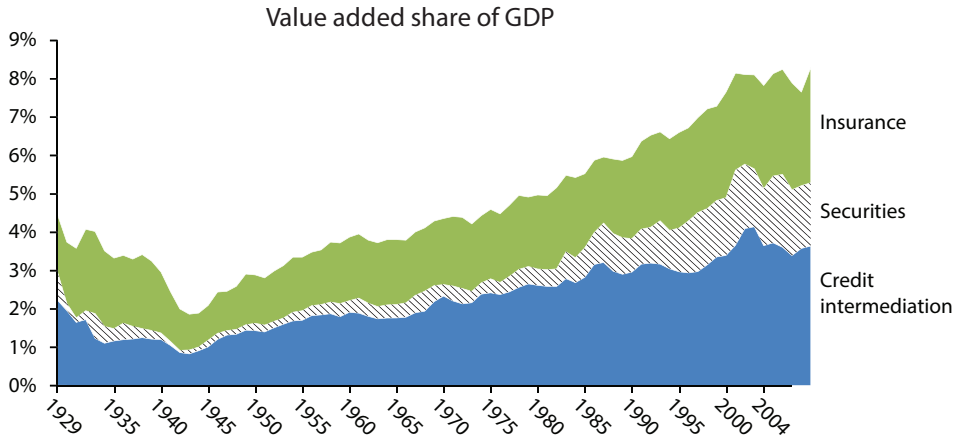
- Equity markets: new information is incorporated quickly into stock prices and analysts provide on-going commentary;
- Debt markets: large amounts of capital available quickly;
- Derivative markets: allow for risk management and hedging.

The rise of 'active finance' (i.e. finance driving management)

- Mergers and acquisitions from the 1980s onward
- Venture capital (the rise of Silicon Valley)
- Private equity
- Activist shareholders
- Fiduciary duties of institutional investors
- Environment, Social and Governance (ESG) criteria

Relative importance of financial services in the U.S. economy

13/16



Source: Greenwood and Scharfstein (2013)

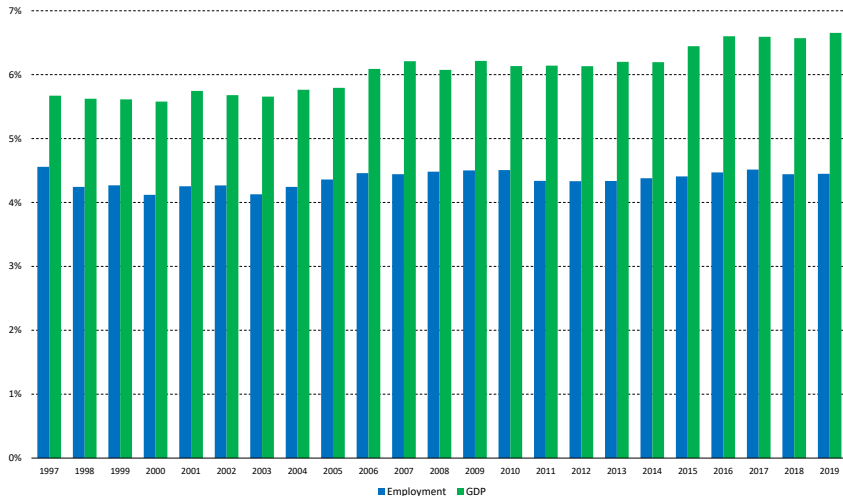
Relative importance of financial services in the U.S. economy

14/16

	% of GDP (output)		
	1997	2002	2007
Banking			
Intermediation	2.15%	2.39%	2.34%
Transactional services	2.25%	3.08%	3.47%
Others	0.81%	1.02%	0.93%
	5.21%	6.49%	6.74%
Securities Firms			
Asset management	0.99%	1.87%	2.43%
Others (e.g. trading)	1.67%	1.47%	2.38%
	2.66%	3.34%	4.81%
TOTAL	7.87%	9.83%	11.55%

Source: Greenwood and Scharfstein (2013)

Relative importance of financial services in the Canadian economy 15/16



The proportion of employment has been stable.

The contribution to GDP has been increasing.

The contribution to GDP is much higher than the proportion of employment.

The contribution to GDP per employee has been increasing

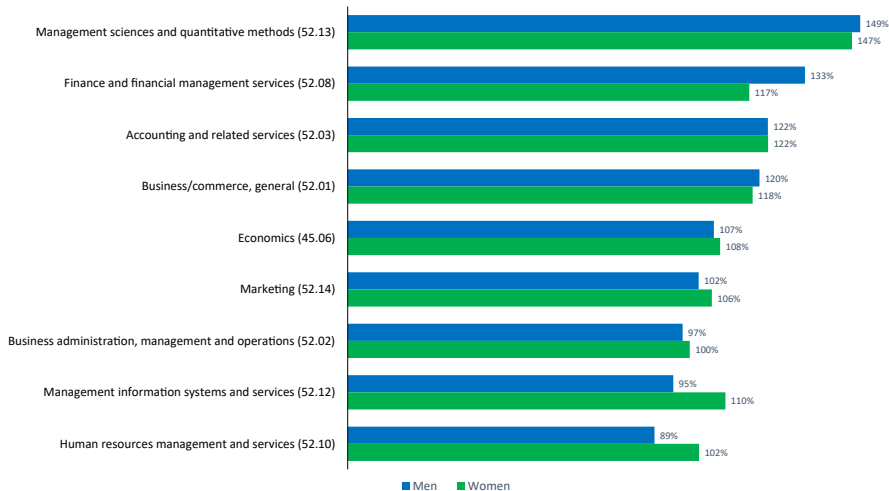
Given the above, the average compensation of employees is expected to be higher than for the rest of the economy.

Source: Statistics Canada [36-10-0434-03](#) and [14-10-0023-01](#)

Earnings of Postsecondary Graduates by Detailed Field of Study

16/16

Bachelors' mean age-adjusted earnings as percentage of respective All fields of study (2010)



Source: Statistics Canada - [Frenette and Frank \(2016\)](#) - 52.13 includes actuarial science