

# **The Increasing Disparity between Social and Private Returns in Finance: Causes, Consequences, and Responses**

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# Central messages

- There are large disparities between private and social returns to financial activities
  - Many of them related to information
  - Too much of the activity of the financial sector is directed at rent seeking
  - Some of the changes in our economy—in technology and in our regulatory framework—have exacerbated the disparity between private and social returns and enhanced rent seeking
- These disparities have large consequences for the *real economy*
  - Increasing inequality
  - Increasing volatility
  - Decreasing overall economic performance
- There is a need for government intervention to mitigate these adverse consequences
  - Regulation to reduce the scope for negative externalities
    - Not just regulation of behavior, but structural regulation
  - A positive role for government in providing finance

# Outline

- **Alternative (but related) taxonomies on the role of finance**
  - A. standard framework
  - B. Informational role/portfolio roles
  - C. Intermediation
    - In each of these areas, the financial sector has not done what has been expected of it
    - Understandable given disparities between social and private returns
    - We now have a greater understanding of the depth and pervasiveness of these market failures
- **Credit creation in modern economies**
- **Creating a Financial System for the 21<sup>st</sup>**

# I. Alternative taxonomies on the role of finance

## A. Standard framework

- Allocating capital
  - Providing finance to firms for productive investments, to households to smooth consumption
- Managing risk
- Running the payments mechanism
  - All at low cost

# The financial system failed at all of these

- Misallocated capital
- Increased systemic risk (and increased risk for many individual borrowers)
- Generated high fees in running payments mechanism
  - Even preventing the use of modern technology to create an electronic 21<sup>st</sup> century payments mechanism

**And even as it failed at all of these, it garnered for itself an increasing share of GDP**

- Rising from 2% in early 1940s to 8% in years before crisis in US
- Without evidence of increased overall economic performance as a result of increased allocation of resources to finance
  - Growth slowed
  - Perhaps also as a result of diversion of increasingly large fraction of talented people to finance
  - Cross section evidence that, beyond a point, larger financial sector increases volatility (Easterly *et al*, 2001)

## B. Informational role/portfolio roles

- “Price discovery”—uncovering prices to enable the efficient allocation of resources (self-serving justification of financial sector: little evidence of importance)
- Liquidity role—enabling individuals to easily move into or out of assets
  - Enhancing willingness to make real investments
- Ensuring assets are owned by those who value them the most and controlled by those who can best manage them
  - Matching role—allocating risks to those best able to bear risks
  - Enhancing the ability of the economy to manage risk
  - And thus willingness to undertake risk
  - Thus increasing overall productivity

# But in each of these areas, questions are being raised

- Whether these are the activities upon which the financial sector is actually focused
- The links between these and the *real* economy, and therefore the importance of these activities
  - Vast majority of financial activity is within itself—i.e. banks transacting with other banks (Kay (2014), Turner (2014))
- And whether the financial sector performs these activities well
- Massive market failures are to be expected—and are observed
  - Large disparities between private and social returns
- Much of activity is really directed at rent seeking

# Well understood market failures

- Markets were never informationally efficient (Grossman-Stiglitz, 76, 80)
- Much of activity was directed at grabbing information rents (Hirschleifer, 1971, Stiglitz, 1975)
  - These did not improve economic performance
  - Could even lead to Pareto inferior equilibrium
- Underlying theorem: **whenever information is imperfect (asymmetric) and risk markets are incomplete (that is, always), markets are not Pareto constrained efficient** (Greenwald-Stiglitz, 1986; Geanakoplos and Polemarchakis, 1986)
  - Implication: privately profitable contracts may be socially undesirable
  - Risk sharing contracts among banks may increase systemic risk
- But even that assumed *rationality, rational expectations, and competition*



# Recent research has explored macro-economic implications

- Market failures associated with corporate governance
  - Managers do not necessarily do what is in interests of shareholders
  - Even greater difference between social returns and *managerial* returns
  - Evidence that these issues are particularly relevant in financial sector
- Pervasive and large macro-externalities
  - Many of which are related to financial activity
  - For instance, extent of borrowing in foreign denominated currency (Korinek, Jeanne and Korinek)

# Market exploitation

Much of financial activity (profits) is associated with market exploitation

- Exploiting market power (e.g. in running payments system (credit and debit cards))
  - Financial sector has developed new ways of reducing competition and increasing its rents, new justifications for its exploitive activity that have sometimes prevailed in courts
- Exploiting asymmetries of information (including creating information asymmetries)
  - Market manipulation
  - Increasing complexity (disparity between social and private returns in increasing complexity)
- Exploiting “ignorance” and irrationalities
  - Phishing for Phools (Akerlof and Schiller)
  - Predatory lending and abusive credit card practices
- Increased complexity even gave rise to new opportunities for hard-to-detect fraud
  - Banks availed themselves of these opportunities
  - High legal costs, statutes of limitations, political capture made it difficult to prosecute
- Changes in technology, knowledge (e.g. about individual irrationalities and how to exploit them), and legal frameworks may have enhanced ability to exploit

# Exploiting political economy

- Too big to fail
- Too interconnected to fail
- Too correlated to fail

Bankruptcies give rise to externalities which are not internalized.

With too big to fail, too interconnected to fail, too correlated to fail, success may not be based on relative efficiency but on relative size and linkages

- Depends, of course, on terms of government intervention

Firms have incentives to become too big, too interlinked, too correlated to fail: there is a *systemic* problem

## Extent/pervasiveness/implications of market failures may not have been fully appreciated

- Greenwald-Stiglitz theorem was a theorem about the non-decentralizability of the economy
  - Fundamental notion in economics/implication of Arrow-Debreu theory
  - Market failures were pervasive, not easily correctible as in the case of earlier identified externalities (pollution)
  - Implication: government needed to focus on most important failures
- With moral hazard/adverse selection, lending or insurance by one firm/in one area has externalities for others (Arnott-Stiglitz, Stiglitz-Yun)
  - Advantages of Provident fund, using unemployment insurance/unemployment “loans,” especially if made income contingent

# Managing information asymmetries

- Efficient management of adverse selection/moral hazard involved intertemporal linkages
  - Limiting the scope for usual competitive mechanisms/enhancing scope for monopolistic exploitation
  - And entailing *institutional* responses (like banks) internalizing some of the information externalities
  - Major failure of move to capital markets in mortgages not a surprise—what is a surprise is the failure of both markets and government regulators to understand limitations of markets

## Extent/pervasiveness/implications of market failures may not have been fully appreciated

- Large externalities associated with financial interlinkages, which price system did not/could not fully take into account
  - Central idea of A-D was that prices convey all relevant information
- With financial interlinkages, needed to know details of exposures
  - Again implying limits on decentralization
- Different architectures affected extent of externalities, nature of information requirements
  - Efficiency of adequately capitalized clearing houses
  - No evidence that market driven architectures efficient
    - Because of disparity of private and social incentives one would not expect efficient outcomes
  - But an inefficient architecture could/would exacerbate disparity of private and social incentives
    - New financial products, greater complexity gives new opportunities for distorted architectures
    - Recent research on credit networks (Battiston *et al*) highlights inefficiencies, e.g. bankruptcy cascades, increased systemic risk with large/correlated shocks (following on earlier work by Allen and Gale (2001) and Greenwald and Stiglitz (2003)).

# Flash trading: an example

- Flash trading—irrelevant price discovery (Stiglitz, 2014)
  - And actually undermining the efficiency of the market (essentially front-running)
- Liquidity: flash trading—liquidity when you don't need it

- Risk matching: no evidence that that is what is going on
  - Defense of fraudulent slicing/dicing on mortgage markets
  - Information gathered not designed to facilitate risk matching (Stiglitz, 1982, Ayres and Nalebuff, 2010)
    - Should focus on matching with non-tradeable human capital
- Financial markets have exacerbated problems of disparity between ownership and control (Berle and Means)
- Focus on short-termism
  - Short run market value maximization makes sense *only* if there is a complete set of Arrow-Debreu securities (Grossman-Stiglitz, 1977)
  - And if one believed that current price accurately reflected expected pdv
  - With information asymmetries, especially that may not be the case
  - And there is incentive for managers to give distorted information and to choose activities in which there are large information asymmetries (Edlin and Stiglitz, 2005)
  - Changes in the legal rules of the game have exacerbated the problem (Stiglitz, *Rewriting the Rules of the American Economy*, 2015)



## C. Intermediation

- Critical to the functioning of a capitalist economy
- Intermediating between savers and investors
  - Taking excess funds from the former
  - And allocating it to the latter
  - Necessitating, in some cases, a maturity transformation
- *Intermediation* is at the center of the markets performing the roles described in the earlier taxonomies (allocating capital, managing risk, including that associated with maturity transformation, etc)

# The financial system has not been doing a good job at intermediation

- Bernanke described there as being a savings glut
- But there is a huge need for investment
  - Retrofitting the global economy for global warming
  - Infrastructure investments
- The problem is that the global financial system has been unable to intermedate (both before and after the crisis)
  - Partly a matter of risk mitigation

# Failure is even greater

- Many of investment needs are long term
- Many of savers are long term
  - Pension funds
  - Sovereign wealth funds
- But standing between the two is a global financial system, characterized by short-termism
- And the move from *national institutions* to *global markets* may have exacerbated problems
  - Lending is based on *local information* embodied within *national and local institutions*
  - Inherent problems (Grossman-Stiglitz) facing markets

## But at least in the US (and presumably in some other advanced countries) the financial system has not been intermediating at all

- There has been *no* flow of funds from the household sector to the corporate sector
  - financial system has been *disintermediating*, taking money from corporations and distributing it to shareholders/bondholders/managers, not intermediating
- Some movement *within* household sector from net savers to net dissavers (and similarly *within* corporate sector)
  - Some, perhaps much, of gross financial activity directed at tax avoidance
  - Another example of disparity between social and private returns
- Related to observation that capital/income ratio for US falling (even though wealth/income ratio rising) (Stiglitz, 2015)

# Standard “intermediation” model does not describe a modern financial system

Might describe a primitive “corn economy”

- Some farmers have more seed than they want to plant or consume
- Others want to consume/plant more seed than they have
- Banks (financial system) intermediate
  - Good system of intermediation—low transactions costs
- Markets clear demand and supply of seed

## II. Credit Creation in a Modern financial economy

- But this model provides a poor description of modern economies
- What enables individuals to spend more than the resources they have available (either for consumption or investment) is access to credit
- Credit is *different* from ordinary commodities
- Credit can be created out of “thin” air
  - Unlike seeds
- A credit economy is based on trust
  - Trust that the “money” that is borrowed will be repaid
  - Trust that the money that is received will be honored by others.
  - If a financial institution is trusted, it can create “money” (“credit”) on its own (subject to the constraints imposed by government), issuing IOU’s that will be honored by others
    - Can thereby increase effective demand

# Government underlies credit creation

- Today, underlying “trust” in financial system is belief that government will come to the rescue
  - And that government is adequately regulating the financial system
  - But this exacerbates moral hazard problem
  - Worse in the case of financial institutions that are too big, too interconnected, too correlated to fail
    - Distorted market
  - But belief is tempered by government’s ability to rescue
    - Giving advantage to banks from rich countries, or at least does when markets are “rational”
      - Ireland, Cyprus Iceland banks did well before crisis; depositors have learned bitter lesson

# In modern financial system, government “delegates” trust

- Entrusts credit creation to banks
- Backs them up with implicit or explicit bail-out commitments
- This allows banks to garner for themselves large rents associated with money (credit) creation
- And in making their decisions about credit allocation, they focus on *private* returns, not social returns
  - Because of separation of ownership and control, often more return to managers than to shareholders



# Old monetary theory

- Money (credit) went to finance purchase of produced goods and services
- So if there was a short fall in aggregate demand, money (credit) creation will lead to production of more goods and services, leading to full employment
  - Intermediated in many models through interest rates
  - Other models focused on credit availability

# New monetary theories

Realize that increasing balance sheet of Fed may not lead to more economic activity

- Banks may relend the money to Fed—incentives to do so if Fed pays interest on deposits
- Banks may lend abroad
- Banks may lend to buy existing assets—creating asset price bubbles
  - Increased “paper wealth” didn’t lead to expected increase in consumption
  - Nor to increased investment—investment actually performed poorly
- Banks may lend to increase speculation— “betting”
  - When betting is constrained by margin requirements
  - Increased betting leads to macro-economic volatility (Volatility in pseudo-wealth leading to volatility in consumption, Guzman-Stiglitz, 2014, 2015)
- Social returns from these various forms of lending may be markedly different from private returns

# Summary to this point

- There are marked disparities in social and private returns in the financial system
  - Real and informational externalities; macro-economic externalities especially important; disparity between the private and social value of information
  - Individual firms, in their actions, do not take into account their systemic effects
  - Have incentives to *increase* systemic risk
- They are pervasive, affecting *every* aspect of the financial system
- There are regulatory and tax interventions that would enhance economic performance
  - Regulations both affecting behavior and structure
    - Regulations on high frequency trading, Glass-Steagall, Volcker Rule, Ring-fencing, Lincoln Amendment on CDS's, special regulations pertaining to cross-border capital flows
  - Taxation of rents, capital gains
  - Financial transactions tax (discouraging excessive short term speculation)

# Stronger regulatory constraints on financial sector

- For instance, fiduciary standard (currently missing in the management of some retirement accounts)
- Constraints on ability to exploit market power (e.g. debit and credit card fees)
- Stronger penalties (criminal, civil) both for individuals and corporations for fraud
- Requirements that derivatives, cds's be traded over transparent exchanges, adequately capitalized (joint and several liability for losses among those trading on exchange)

# III. Towards a twenty-first century financial system

Based on modern technology and exploiting economies of scope in information/enforcement

- Electronic money (exclusively)
  - Issues of security, privacy etc.
- Government increases supply of money (“rights to spend”) on basis of judgment about macro-economic conditions
- Auctions off rights (thereby appropriating for public greater fraction of rents from credit creation) to qualified bidders
  - With constraints on how the credit will be allocated (e.g. towards investment, towards SMEs, *not* towards consumption, land speculation)—thereby decreasing disparity between social and private returns associated with credit creation
  - With constraints on bidders to ensure likelihood of repayment/contracts designed to incentivize repayment

# Mortgage market: taking advantage of economies of scope and modern technology

- Key information required to make good mortgages lies within the government (individual's income, value of homes)
- Today (in US) government underwrite most loans, thus bears risk
- Individual would have right to borrow an amount up to 80% of collateral value, with a debt service ratio of up to (certain) percent, at a rate of say one percent in excess of corresponding maturity rate of government debt
  - Collection through tax authorities—taking advantage of economies of scope in enforcement
- Work to design innovative products to help individuals manage risk
  - Private sector designed products that increased risk and its ability to generate fees
  - Fixed real interest rate, income contingent repayments, variable maturity
  - Can be designed to avoid or at least mitigate self-selection/moral hazard problems
  - Government collection
  - Taking advantage of economies of scope in tax collection (transactions costs, enforcement costs)

# Public option in retirement

- Little evidence that large fees to financial sector generate better returns or portfolios better suited for needs of individual
- Social security transactions costs markedly lower
  - And better able to manage certain risks (e.g. inflation)
- Again, exploiting modern technology and economies of scope in collection, disbursement to build on the public social security system
- Allowing individuals to expand benefits by making additional voluntary contributions
  - Can expand portfolio offerings by transacting with efficient providers (Vanguard), reducing scope for exploitation

# Concluding Comments

- A good financial system is important for the well functioning of an economy
- Large disparities between private and social returns provides a challenge for ensuring that that is the case
- Changes in the economy (technology, legal structures) may have increased disparities
- To construct a good financial system one has to understand the social functions which it is *supposed* to do, and assess how well it does it
- We have provided alternative frameworks for doing so, and in each we have found the current system greatly wanting
- Attempted (within the time available) to explain the main reasons for these failures



# Concluding Comments

- Noted that there are tax and regulatory reforms that might reduce the disparity between social and private returns, and thus enhance the likelihood that the financial sector would perform its social roles
  - Including directing innovation towards enabling it to perform its social functions better, rather than enhancing its ability to gather rents and/or circumvent regulations
- Recognized that the financial system today is markedly different from what it was in the past—and how our models characterize it
  - Especially with respect to credit creation and the relationship between credit (money) and the real economy

# Concluding Comments

- Argued that we can take advantage of 21<sup>st</sup> century technology and economies of scope in enforcement/information to create a 21<sup>st</sup> century financial system
  - In which the government might play a more active role
    - For instance in providing mortgages
    - And providing retirement security