Birkbeck 2.13 FIR. 2008-9. Lecture 2. Financial institutions.

1 Asymmetric Information

Definition

One party to a transaction does not know enough about the other party to make optimal decisions.

Asymmetric Information and 'pooling equilibrium'

- Buyers / clients / customers cannot distinguish good from bad providers / goods / services.
- They are only aware of *average* quality.
- e.g. in a company car pool, individuals know the average quality of the cars, but do not know *ex ante* the quality of the particular car they borrow.

'Pool price':

- Since they can only perceive average, not individual, quality, the price they are prepared to pay is at a level appropriate to average quality only.
- e.g. in the car pool case, they pay the 'pool price'.

'Pooling equilibrium' / fixed supply : situation facing buyers / clients / customers

- We assume that individuals are content to take their luck with a car borrowed at random from the pool.
- They know that good and bad quality averages out and that they thus pay a 'fair' price in the aggregate.

'Pooling equilibrium / fixed supply : situation facing providers

- Above-average quality providers / goods / services are under-priced.
- Below-average quality providers / goods / services are over-priced.

In other words, on the assumption that quality is perfectly correlated with cost of production:

- *High quality providers are effectively subsidising low quality providers.*

Flexible supply and Adverse Selection

- In the 'pooling equilibrium' situation, we have assumed fixed supply – all providers remain in the market.
- If this assumption is lifted and there is entry and exit from the market, then good providers may withdraw.
- This may initiate a downward spiral of quality.
- At the limit, the market for the good / service may be extinguished

This idea was put forward in a seminal 1970 article by Akerlof entitled "The market for lemons":

- A 'lemon' is slang for a dud second-hand car.
- Buyers in the second-hand car market cannot distinguish between the quality of individual cars *ex ante*, so only pay a price reflecting the *average* quality.
- Sellers of higher quality cars ('peaches') consequently withdraw from the market.
- A downward spiral of quality ensues, and at the limit the market for second-hand cars disappears.

Model M 1 addresses this idea in formal terms, and applies it to the case of Adverse Selection in the market for fund management.

Flexible behaviour: Moral Hazard

- Adverse Selection is caused by information imperfections / asymmetries *before* a transaction takes place, e.g. withdrawal of high-quality providers from the market.
- Information imperfections / asymmetries can also cause problems *after* a transaction takes place (or *during* the period in which a contract is in effect) by changing the incentives and behaviour of one of the parties.
- The classic case is increased risk-taking by an individual who has taken out insurance – 'Moral Hazard'.
- Moral Hazard may in turn intensify Adverse Selection, e.g. it may lead insurers to raise their risk premium to a level that drives away low-risk clients.

State Verification

- Asymmetric Information deprives one party to a transaction of the ability to assess the outcome *ex ante*.
- The complex effects of Adverse Selection and Moral Hazard may also make it difficult or costly to assess the outcome *ex post* (the 'state' resulting from the transaction). i.e. There may be high **audit costs**.

We thus have three categories of problem resulting from Asymmetric Information:

Adverse Selection
Moral Hazard
State Verification

2. Financial products as contracts.

Delegation: Financial products may be seen as a variety of different forms of contract in which asset-holders delegate the management of their assets to others:

Ownership:

Financial products / contracts may entail renunciation of legal ownership of the assets:

e.g. in the case of a bank deposit.

If the bank fails, its residual assets are the property of its shareholders, not its depositors.

Control:

Financial products / contracts may entail a complicated situation regarding control over the management of the assets.

e.g. in the case of company shareholders:

On the one hand, managers may seek to use their position of control to further their own interests, even when these contradict those of shareholders (an '**agency**' problem).

On the other hand, shareholders have voting rights which they can use to influence management policy, so that delegation is not complete.

3. Why begin with fund management?

Fund management is selected to begin the analysis because it allows us to abstract from a number of complexities that arise in the case of other financial markets, in respect of

(a) Delegation

(b) Information

(a) Mutual fund management as a clear-cut, or 'pure', case of delegation

In the case of collective investment schemes (i.e. schemes such as unit trusts ('mutuals' in US), mutual pension or insurance funds, etc.) there is a simple **ownership** situation:

The asset holders retain full legal title to their assets.

There is consequently no default risk of the kind experienced in the case of bank deposits, etc.

There is a simple **control** situation:

Asset holders renounce *all* means of exercising control over management policy.

(This also applies in the case of investment companies, i.e. situations where investors relinquish legal title to the managing company's shareholders.)

Fund management – or at any rate management of collective investment schemes – can thus be used to construct a simple model of 'pure' delegation:

The owner does *all* the 'owning'.

The manager does *all* the managing.

(b) Extreme asymmetry of information is a plausible assumption

The case of fund management not only provides a clear-cut case of delegation, but also allows simplifying assumptions regarding the industry's **information structure**:

The client's information:

It is extremely difficult for the client to assess the quality of individual fund managers, even *ex post*:

Econometric studies have needed very long time-series.

They have detected some persistence of low quality but not of high quality!

Distinguishing quality *ex ante* is of course very much *more* uncertain.

It is consequently plausible to assume that for all practical purposes:

Clients lack all means of distinguishing good from bad fund managers.

Research is uninformative.

Clients have a given (zero) endowment of information which cannot be increased.

In such a situation, acting (along 'pooling' lines) on the basis of the *average* performance of the industry rather than individual performance is particularly plausible.

The fund manager's information:

In contrast to the client, the manager can develop considerable expertise.

In particular, it may plausibly be assumed that managers know their own and each other's quality.

Asymmetry:

It is thus plausible to assume that the market for fund management is particularly starkly asymmetric:

All informational advantages lie with the fund manager.

None at all lie with the client.

Note on exogenous and endogenous information:

Information that is modelled in this way as subject to the assumption that it is a given endowment of the agents in a given financial market is categorised as **exogenous**.

Exogenous information is characteristic of markets where small investors predominate.

In contrast, **endogenous** information is characteristic of markets such as the stock market where large investors prevail:

Such large investors can deploy great skill and resources in research that enable them to increase the total amount of information in play.