Hayek v. Keynes in the 21st Century
(or Why I think Finance Education Matters More Now than Ever)

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ABFER & NBER

Based on past research with many co-authors, esp. B. Yeung
Outline

1. Introducing Keynes & Hayek
2. Agreement on the social purpose of finance
3. Disagreement on how capex works
4. What modern finance has to say about it
5. What it all might mean for modern Asia
John Maynard Keynes

- Inventor of “macroeconomics”
- Various generations of disciples
  - Keynesian economics
  - Post-Keynesian economics
  - Neo-Keynesian macroeconomics
  - New Keynesian macroeconomics
  - Behavioral finance
- Famous for
  - Economic Consequences of the Peace
  - General Theory
- Guru status
  - Government-managed capitalism
- Criticisms
  - Naïve faith in perfect governments
  - Limousine liberals

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Friedrich August von Hayek

- Apostle of “Austrian Economics” to Anglosphere
- Various generations of disciples
  - Monetarists/Rational Expectations
  - Libertarians/Federalist Society
  - Chicago School
  - Public Choice economics
  - Behavioral finance
- Famous for
  - The Road to Serfdom
  - The Fatal Conceit
- Guru status
  - Government-distorted capitalism
- Criticisms
  - Naïve faith in perfect markets
  - Mean-spirited ideologues
Click here to see “The Fight of the Century"
Outline

1. Introducing Keynes & Hayek
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The (Forgotten?) Social Purpose of Finance

“I confess to an uneasy Physiocratic suspicion, perhaps unbecoming in an academic, that we are throwing more and more of our resources, including the cream of our youth, into financial activities remote from the production of goods and services, into activities that generate high private rewards disproportionate to their social productivity.”

Tobin (1984)

Both Keynes and Hayek had important things to say about the social purpose of finance

James Tobin
Nobel Prize, 1981
How Right is Tobin?

Median Lifetime Income by Major

Chemical Engineering
Aerospace Engineering
Energy and Extraction Engineering
Computer Engineering
Electrical Engineering
Mechanical Engineering
Civil Engineering
Industrial and Manufacturing Engineering
General Engineering
Computer Science
Finance
Accounting and Actuarial Science
Nursing
Marketing and Marketing Research
Business Management and Administration

ALL MAJORS

Criminology and Criminal Justice
Biology
Communications
English Language and Literature
Psychology
Art and Music Education
Language and Drama Education
Music
Associate's Degree
Drama and Theater Arts
Elementary Education
Social Work
Fine and Studio Arts
Theology and Religious Vocations
Family and Consumer Sciences
Early Childhood Education
Some College, No Degree
High School Graduate or GED
How Socially Useful Are Finance Guys?

Efficient Markets Hypothesis (EMH still taught)
- Weak form EMH: past returns & volumes don’t predict future stock returns
- Strong form EMH: nothing predicts future stock returns
- Semi-strong form EMH: public information doesn’t predict future stock returns

Emerging consensus: Something weaker than the semi-strong form is likely right
- Limited arbitrage, costly arbitrage, costly information, behavioral biases, ...

Tobin on market efficiency
- Fundamental form EMH: Stock returns equal changes in true fundamental values
- Functional form EMH: Financial markets direct capital to highest value-added uses better than could alternative capital allocation systems (central plans, industrial policies, banks, ...)
The (Forgotten?) Social Purpose of Finance

The financial system exists to allocate capital to NPV > 0 (high TFP) projects, which are usually innovations of some sort:

- A functionally efficient (Tobin 1984) financial system directs capital to (creative) firms with NPV > 0 projects & away from (sleepy) firms with no NPV > 0 projects.
- More functionally efficient financial system → more prosperous economy.

Entrepreneurs (Ideas, no money)

The financial system should set asset prices & returns so investors receive a “fair” risk-adjusted return on average.

Capitalists (Money, no ideas)
Observation: Investment is the most volatile component of GDP
\[ dC + dI + dG \approx dY \]

Observation: Investment is the most volatile component of GDP
Components of Investment

Observation: Investment is the most volatile component of GDP
Where Economic Growth Comes From

- Austria
- Belgium
- Canada
- Denmark
- Finland
- France
- Germany
- Italy
- Korea
- Netherlands
- New Zealand
- Sweden
- Switzerland
- United Kingdom
- United States

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Technological Progress

Solow Residuals

\[ pQ = f(L, K, P, I) \Rightarrow \frac{1}{Q} \frac{dQ}{dt} = \frac{\partial f}{\partial L} \frac{dL}{dt} + \frac{\partial f}{\partial K} \frac{dK}{dt} + \frac{\partial f}{\partial P} \frac{dP}{dt} + \frac{\partial f}{\partial I} \frac{dI}{dt} \]

\[ growth = \frac{dL}{dt} + r \frac{dK}{dt} + \text{technological progress} \]

Positive NPVs

\[ NPV = E \left[ -C_0 + \sum_{t=1}^{\infty} \frac{cf_t}{(1 + r_t)^t} \right] \Psi_0 \]

\[ = E \left[ \sum_{t=1}^{\infty} \frac{p_t dQ_t - w_t dL_t - r_t dK_t - c_{P,t} dP_t - c_{I,t} dI_t}{(1 + r_t)^t} \right] \Psi_0 \text{ with } C_o = PV(r_t dK_t) \]

\[ = E \left[ \sum_{t=1}^{\infty} \frac{R_t - \text{factor costs}_t - \text{innovation costs}_t}{(1 + r_t)^t} \right] \Psi_0 \]

\[ = E \left[ \frac{\text{profit}_t}{(1 + r_t)^t} \right] \Psi_0 > 0 \iff MR \left( \text{tech. progress} \right) \geq MC \left( \text{tech. progress} \right) \]

"Over 2/3 of economic growth comes from technological progress" -- Robert Solow

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Managers specialize in foresight (a rare talent)

"[The future] is likely to become known to different people at different times ... with the result that the persons who have shown the greatest foresight will command the greatest amount of resources.

“But in a world of imperfect foresight, not only the size of the capital stock, but also the income derived from it, will inevitably be subject to unintended and unpredictable changes which depend on the extent and distribution of foresight.”

Pure Theory of Capital (1941, c. 25, p. 334-5)

Managers gain important information from share prices (error correction feedback)

- The Use of Knowledge in Society (1945, AER)
- Plausible (e.g. cancelled M&A bids after negative bidder CARs)
  - Kau, James, James S. Lincka & Paul H. Rubin. 2008. Do Managers Listen to the Market? JCF
  - Dasgupta, Sudipto & Ning Gao. 2016. Cancelled Acquisitions, Market Information & Corporate Governance. HKUST wp
- More generally
  - Chen, Goldstein & Jiang (2007), Bond, Edmans & Goldstein (2012), many others
Trust the CEOs?

- Workers’ jobs & incomes, governments’ tax revenues, ... all depend on boards choosing CEOs for extraordinary prescience

What could possibly go wrong?
How Smart Are Top Executives?

Finance 101 sees CAPEX rising & falling as firms max

$$NPV = E \left[ \sum_{t=1}^{\infty} \frac{p_{j,t} dQ_{j,t} - w_{k,t} dL_t - r_t dK_t - c_{P,t} dP_t - c_{I,t} dI_t}{(1 + r_t)^t} \right] \Psi_0$$

Response varies ...
Finance 101 has CAPEX rising & falling as firms solve

\[
NPV = E \left[ \sum_{t=1}^{\infty} \frac{p_{j,t}dQ_{j,t} - w_{k,t}dL_t - r_t dK_t - c_{P,t} dP_t - c_{I,t} dI_t}{(1 + r_t)^t} \right | \Psi_0
\]

Keynes on Capital Allocation

Finance 101 has CAPEX rising & falling as firms solve

\[ NPV = E \left[ \sum_{t=1}^{\infty} \frac{\sum_{i=1}^{I_t} p_{i,t} dQ_{i,t} - \sum_{j=1}^{J_t} p_{j,t} dX_{i,t} - r_t dK_t - T_t}{(1 + r_t)^t} \right] \psi_0 \]

- Arguable plausibility

Keynes, John Maynard. 1936. General Theory (c 12)

“Human decisions affecting the future ... cannot depend on strict mathematical expectation, since the basis for making such calculations does not exist.

Even apart from the instability due to speculation, there is the instability due to the characteristic of human nature that a large proportion of our positive activities depend on spontaneous optimism rather than mathematical expectations ...”
What Keynes Says They Do

Finance 101 has CEOs solving

\[
NPV = E \left[ \sum_{t=1}^{\infty} \frac{p_{i,t} dQ_{i,t} - \sum_{j=1}^{t} p_{j,t} dX_{i,t} - r_t dK_t - T_t}{(1 + r_t)^t} \right] \Psi_0
\]

○ Arguable plausibility

Keynes, John Maynard. 1936. General Theory (c 12)

"Most, probably, of our decisions ... can only be taken as the result of animal spirits - a spontaneous urge to action rather than inaction, and not as the outcome of a weighted average of quantitative benefits multiplied by quantitative probabilities.

Enterprise only pretends to itself to be mainly actuated by the statements in its own prospectus, however candid and sincere. Only a little more than an expedition to the South Pole, is it based on an exact calculation of benefits to come."
Keynes on Capital Budgeting

Finance 101 has CEOs solving

\[
NPV = E \left[ \sum_{t=1}^{\infty} \frac{\sum_{i=1}^{I_t} p_{i,t} dQ_{i,t} - \sum_{j=1}^{J_t} p_{j,t} dX_{i,t} - r_t dK_t - T_t}{(1 + r_t)^t} \right] \psi_0
\]

- Behavioral Corporate Finance drives investment

Keynes, John Maynard. 1936. General Theory (c 12)

“Thus if the animal spirits are dimmed and the spontaneous optimism falters, leaving us to depend on nothing but a mathematical expectation, enterprise will fade and die; — though fears of loss may have a basis no more reasonable than hopes of profit had before.”

“This means, unfortunately, not only that slumps and depressions are exaggerated in degree, but that economic prosperity is excessively dependent on a political and social atmosphere which is congenial to the average business man.”
What Keynes Says They Do

Finance 101 has CEOs solving

\[
NPV = E \left[ \sum_{t=1}^{\infty} \frac{\sum_{i=1}^{I_t} p_{i,t} dQ_{i,t} - \sum_{j=1}^{I_t} p_{j,t} dX_{i,t} - r_t dK_t - T_t}{(1 + r_t)^t} \right] \]

- Behavioral Corporate Finance drives investment
  
  Miller, Neal Elgar & John Dollard. 1941. Social learning & imitation.
  
  - Learning by watching and imitating
    
  
  - Information and thinking are both costly
  
  - Transcomputation problems
  
  - Satisficing strategies
    
    
    
    
    Crossland, Philip. 2002. Value creation in fine arts: A system dynamics model of inverse demand & information cascades. SMJ
    
  
  - Save on information and thinking costs by imitating people you think are informed and smart
  
  - Information cascades: Can set off “bubbles” of all sorts (art, wine, politics, ...)
Keynes on Governments & Capex

Finance 101 has CEOs solving

\[ NPV = E \left[ \sum_{t=1}^{\infty} \frac{\sum_{i=1}^{l_t} p_{i,t}dQ_{i,t} - \sum_{j=1}^{l_t} p_{j,t}dX_{i,t} - r_t dK_t - T_t}{(1 + r_t)^t} \right] \psi_0 \]

- But governments & central bankers still matter!

Keynes, John Maynard. 1936. General Theory (c 12)

“If the fear of a Labour Government or a New Deal depresses enterprise, this need not be the result either of a reasonable calculation or of a plot with political intent; — it is the mere consequence of upsetting the delicate balance of spontaneous optimism. In estimating the prospects of investment, we must have regard, therefore, to the nerves and hysteria and even the digestions and reactions to the weather of those upon whose spontaneous activity it largely depends”
Optimism = ON or OFF

- **ON** ← animal spirits are high
  - Belief that future cash flows will be high
  - Perception that risks are ignorable
  - Bias = action: invest in anything & everything

- **OFF** ← animal spirits are low
  - Belief that future cash flows will be low
  - Perception that risks are prohibitive
  - Bias = inaction: invest little or nothing
Keynes on Governments & Capex

New Orleans Flooded

Calgary flooded
Keynes’ Multiple Equilibria & Capex

Optimism = OFF
- I expect
  - Everyone else will leave
  - The city will not recover
- I leave (abandon property)

Optimistic = ON
- I expect
  - Everyone else will rebuild
  - The city will prosper again
- I rebuild

What could happen?
- Two possibly equilibria
- Neither is inevitable

<table>
<thead>
<tr>
<th>What could happen?</th>
<th>A = All others in the city</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Rebuild</td>
</tr>
<tr>
<td>B = Individual</td>
<td>A = $300K</td>
</tr>
<tr>
<td>property owner</td>
<td>B = $300K</td>
</tr>
<tr>
<td></td>
<td>A = $300K</td>
</tr>
<tr>
<td></td>
<td>B = $100K</td>
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“In estimating the prospects of investment, we must have regard, therefore, to the nerves and hysteria and even the digestions and reactions to the weather of those upon whose spontaneous activity it largely depends” -- Keynes
Multiple Equilibrium Models

Multiple equilibria due to “sunpots”
- Multiple equilibrium OLG model (Azariadis 1981)

Asset price bubbles
- “Greater fool theory” of asset pricing bubbles (Kindleberger 1978)
- Heterogeneous expectations (Gilchrist, Himmelberg & Huberman 2005, JME)
- Risk-off/on switch (Barsky & DeLong 1990, JEH)

Behaviorally biased CEOs with/without asset pricing bubbles
- CEO herding (Scharfstein & Stein 1990, AER)
- “Good news” re. new technology presages expansions (Jaimovich & Rebelo 2009, AER)
- “Expectation shocks” (survey-based) explain about 50% of business cycle & effect more persistent than structural demand shocks (Milani 2011)
- Random waves of optimism & pessimism (Howitt & McAfee 1992, AER)
- “Mood swings” explain > 50% of business fluctuations in hours & output, much of TFP growth (Beaudry, Nam & Wang 2011)
- Market sentiment as sunspot variable (Farmer 2012, EJ)

Behavioral (economic experiments) evidence re. multiple equilibria (John Duffy 2012, survey)
Malinvestment = NPV < 0 investment

- Recessions occur when past capex systematically fails to live up to expectations
- Corrective contraction (cathartic recession)

Mills, J.S. 1867, on Credit Cycles and the Origin of Commercial Panics
Hayek, Friedrich A. 1931. Prices & Production. Routledge

- Hayek blames malinvestment on
  - Government-promoted excessive bank lending
    - State subsidies to banks, pro-credit bank regulations, ...
  - Government-suppressed interest rates
    - Politically or ideologically-driven driven monetary policy?
- Keynes doesn’t use the term, but blames malinvestment on
  - Animal spirits (behaviorally-driven) capital spending
  - Excessive capex in booms (overly optimistic expectations)
  - Depressed capex in busts (overly pessimistic expectations)
Hayek wrote of ranking investment projects by “time to completion/sequence of production”, but recast in NPVs.
Central Bank Depresses Interest Rate

\[ \text{Central Bank}\]

\[ \text{Depresses Interest Rate}\]

\[ M_s (r, Y) \]

\[ L(r, Y + \Delta Y) \]

\[ r + dr \quad r \]

\[ M_s \quad M_s + dM_s \]

\[ \frac{M_s + dM_s}{p} \]

\[ L(r, Y + dY) = \frac{M_s + dM_s}{p} \]

\[ L(r, Y) = \frac{M_s}{p} \]

\[ r + dr \quad r \]

\[ r + dr \quad r \]

\[ Y = C(Y - T(Y)) \]

\[ + I(r) + G + NX(Y) \]

\[ Y \quad Y + dY \]
Central Bank Depresses Interest Rates

Central bank interest rates

- Australia: 2.5%
- Canada: 1%
- UK: 0.5%
- U.S.: 0 to 0.25%
- Japan: 0 to 0.1%
- Euro zone: 0.05%
- Sweden: 0%
- Switzerland: -1.25 to -0.25%

Source: Thomson Reuters Datastream, data to 1/14/2015
Hayek wrote of ranking investment projects by “time to completion/sequence of production”, but recast in NPVs.
Hayek wrote of ranking investment projects by “time to completion/sequence of production”, but recast in NPVs

- Corporate capex contracts to very small triangle
- Financially feasible
- Feasible if k “depressed”

Increased production shifts aggregate supply out

Overexpanded aggregate demand contracts

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Cathartic Recession

- Economy must digest (or expel) huge bolus of NPV < 0 fixed capital
  - Hayek recommends the economy avoid powerful drugs
  - Let it come out naturally in the end
  - But stop trying to “stimulate” the economy with ever lower interest rates (i.e. stop stuffing it with NPV < 0 capex)

- But what if Keynes is right about self-fulfilling pessimistic expectations?
  - “[Just talking about a cathartic recession] betrays an adherence to one of most cruel, fatalistic and mistaken beliefs of the economics profession.”
    - Larry Summers to BBC News
- Keynes & Hayek both partly right?
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How Good is Capital Budgeting?


- Capital budgeting is “better” (NPVs more consistently positively positive) in countries with larger financial sectors.
How Good is Capital Budgeting?

Fraction of Stocks Moving Together vs. Propensity of Capital to Flow to High Value-added Sectors

- Countries represented: Australia, Austria, Belgium, Canada, Chile, Colombia, Denmark, Finland, France, Germany, Greece, Hong Kong, India, Indonesia, Ireland, Italy, Japan, Korea, Malaysia, Mexico, Netherlands, New Zealand, Norway, Peru, Philippines, Portugal, Singapore, Spain, Sweden, Switzerland, Turkey, United Kingdom, United States.
How Good is Capital Budgeting?

Market Model R Squared vs Propensity of Capital to Flow to High Value-added Sectors

Countries: Australia, Austria, Belgium, Canada, Chile, Colombia, Denmark, Finland, France, Germany, Greece, Hong Kong, India, Indonesia, Ireland, Italy, Japan, Korea, Malaysia, Mexico, Netherlands, New Zealand, Norway, Peru, Philippines, Portugal, Singapore, Spain, Sweden, Turkey, United Kingdom, United States, Pakistan, Peru, Philippines, Portugal, Singapore, Spain, Sweden, Turkey, United Kingdom, United States.
How Good is Capital Budgeting?

Fraction of Industries with Marginal q Significantly Different from One

- Red: fraction significantly below 1
- Blue: fraction significantly above 1

Market Model R-squared Statistic
How Good is Capital Budgeting?
Q model of investment works better where financial markets impound more firm-specific information, exhibit less adverse selection, ...
How Good is Capital Budgeting?

Current “corporate governance” measures are “checklists”

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<table>
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<tbody>
<tr>
<td>1</td>
<td>Mix of directors</td>
</tr>
<tr>
<td>2</td>
<td>Management skills</td>
</tr>
<tr>
<td>3</td>
<td>Non-executive directors</td>
</tr>
<tr>
<td>4</td>
<td>Non-executive pay</td>
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<tr>
<td>5</td>
<td>Executive pay</td>
</tr>
<tr>
<td>6</td>
<td>Committees and controls</td>
</tr>
<tr>
<td>7</td>
<td>Advisors</td>
</tr>
<tr>
<td>8</td>
<td>Listing</td>
</tr>
<tr>
<td>9</td>
<td>Shareholders</td>
</tr>
<tr>
<td>10</td>
<td>AGMs and EGMs</td>
</tr>
</tbody>
</table>

Lawyers like this, but it it really what we want?

- Good governance ought to have something to do with capital allocation being functionally efficient
- Do corpoate governance checklists have anything to do with NPV>0 capex?
How Good is Capital Budgeting?

Taking our models seriously

$max V(X)$

- Shareholders are principals, managers should be their faithful agents
- Firms are supposed to maximize shareholder value, if they don’t their governance is bad (Jensen & Meckling 1976)

Fama & Jensen (1983) justify shareholder primacy in corporate governance because

- Shareholders (residual claimants) get hit first by mistakes
- Stakeholders (contractual claimants) hit later
  - Labor
  - Creditors
  - Customers
  - Suppliers
  - Community
  - Environment
  - Government

Shareholder fury = early warning alarm system?
How Good is Capital Budgeting?

Taking our models seriously

$max \ V(X)$

- Shareholders are principals, managers should be their faithful agents
- Firms are **supposed to** maximize shareholder value, if they don’t their governance is bad (Jensen & Meckling 1976)

Upside: We can measure market-to-book ratios, PE ratios
The philosopher Abraham Kaplan has related the story of the drunkard's search:

There is a story of a drunkard searching under a street lamp for his house key, which he had dropped some distance away. Asked why he didn't look where he had dropped it, he replied, "It's lighter here!"\(^1\)

The moral of the drunkard's search applies, I believe, to our efforts in applying behavioral science to management. No matter where we behavioral scientists have dropped our keys, we continue to search where it appears lighter.\(^2\)

Today I would like to dwell on some recent aspects of our drunkard's searching into applications of the behavioral sciences to management. I would like to mention a few areas in which things have appeared lighter and which I feel represent important future directions.

First, I shall turn to the breakdown of some old myths and cherished beliefs, and the new truths which appear to be replacing them. Then I shall refer to new emphases in topics being studied, ways of studying them, and the theoretical approaches being developed.

---

\(^{1}\) A. Kaplan, The Conduct of Inquiry, 1964, p. 11.

\(^{2}\) I should hasten to add that I believe that the drunkard's search is quite widely applicable to most kinds of inquiry, whether in physics, civil disorders, or making laws. In fact, Kaplan described the drunkard's search in a book called *The Conduct of Inquiry*. 
How Good is Capital Budgeting?

Taking our models seriously

\[ \max V(X) \]

- Shareholders are principals, managers should be their faithful agents
- Firms are **supposed to** maximize shareholder value, if they don’t their governance is bad (Jensen & Meckling 1976)

Downside: It might be the wrong thing to measure

'I would rather be vaguely right than precisely wrong.'

John Maynard Keynes
How Good is Capital Budgeting?

Taking our models seriously

$max V(X)$

- Shareholders are principals, managers should be their faithful agents
- Firms are supposed to maximize shareholder value, if they don’t their governance is bad (Jensen & Meckling 1976)

Downside: It might be the wrong thing to measure

I prefer true but imperfect knowledge, even if it leaves much undetermined and unpredictable, to a pretense of exact knowledge that is likely to be false.”

— Friedrich Hayek
How Good is Capital Budgeting?

Taking our models seriously

$max V(X)$

- Shareholders are principals, managers should be their faithful agents
- Firms are supposed to maximize shareholder value, if they don’t their governance is bad (Jensen & Meckling 1976)

Downside: It might be the wrong thing to measure

- Episodes of systematic mispricing in manias and panics reflect Keynes’ shifting “animal spirits” driving over or under-investment?

Successful investment is anticipating the anticipations of others.‘

John Maynard Keynes
How Good is Capital Budgeting?

Taking our models seriously

\[ \max V(X) \]

- Shareholders are principals, managers should be their faithful agents
- Firms are supposed to maximize shareholder value, if they don’t their governance is bad (Jensen & Meckling 1976)

Downside: It might be the wrong thing to measure

- Episodes of systematic mispricing in manias and panics reflect Keynes’ shifting “animal spirits” driving over or under-investment?
- Are stakeholders really contractual claimants?
  - Employees?
ESOP (Employee Stock Ownership Plan)

US tax-favored worker share accumulation (oft. no votes)

When firms set up ESOPs, their share prices rise

- Mean two day CAR = 3.66% (65% positive)

Why?

- ESOPS “motivate” worker effort & increase productivity
- Setting up ESOP → management fears (shareholders hope for) a takeover

Small doses

- Tobin’s Q rises with profits if ESOP stake < 5 (a takeover can still happen?)
- German codetermination correlates with higher Q & higher dividend payout if labor has ≤ 1/3 of Aufsichsrat (supervisory board) seats

 Strikes out

- ESOPs do correlate with reduced strike incidence in US
- In France, employee board representation correlates with fewer strikes too

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Shareholders' and Labor's Claim on a Firm's Cash Flow

In periods when a firm's cash flow is lower than \( \omega \) (that is, the region to the left of \( \omega \) in the figure), labor receives all cash flow in the form of wages and benefits. If cash flow is greater than \( \omega \) (the region to the right of \( \omega \)), then labor receives its fixed payment \( (\omega) \) while shareholders receive the excess of cash flow over \( \omega \) in the form of dividends. For example, when the firm's cash flow is \( CF_L \) in the figure (which is lower than labor's fixed wages and benefits, \( \omega \)), employees receive all cash flow in the form of wages and benefits (i.e., \( \omega_{CFL} = CF_L \)) while shareholders receive nothing. When the firm's cash flow is \( CF_H \), which exceeds labor's contractual payments, employees receive their fixed payment (i.e., \( \omega_{CFH} = \omega \)) while shareholders receive the excess \( (D_{CFH} = CF_H - \omega) \) in dividends. The figure assumes that shareholders are the firm's sole residual claimants.
Non-ESOP Labour Voting Blocks Common in US Firms

Distribution of Labor Ownership

Table 1 presents information on the distribution of employee equity ownership among our final sample of 226 labor voice firms. Initially, we identify 277 firms where employees own at least 5% of outstanding shares, as reported in the beneficial ownership section of the 1995 proxy statement. These firms were identified from the 3,823 definitive proxy statements filed with the U.S. SEC in 1995. We drop 22 firms because the labor stake is voted by management. We drop an additional 29 firms because the labor stake was acquired after 1990. Thus, the final labor voice sample consists of 226 firms. Ownership Range is the percent of outstanding shares controlled by employees as reported in the firm’s 1995 proxy statement.

<table>
<thead>
<tr>
<th>Ownership Range</th>
<th>Frequency</th>
<th>Relative Frequency</th>
<th>Cumulative Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.00%-9.99%</td>
<td>101</td>
<td>44.69%</td>
<td>44.69%</td>
</tr>
<tr>
<td>10.00%-14.99%</td>
<td>65</td>
<td>28.76%</td>
<td>73.45%</td>
</tr>
<tr>
<td>15.00%-19.99%</td>
<td>30</td>
<td>13.27%</td>
<td>86.72%</td>
</tr>
<tr>
<td>20.00%-24.99%</td>
<td>15</td>
<td>6.64%</td>
<td>93.36%</td>
</tr>
<tr>
<td>25.00% and above</td>
<td>15</td>
<td>6.64%</td>
<td>100.00%</td>
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<tr>
<td>Full sample</td>
<td>226</td>
<td>100.00%</td>
<td>100.00%</td>
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</table>

Mean ownership          | 13.16%    |
Median ownership        | 10.60%    |
Minimum ownership       | 5.00%     |
Maximum ownership       | 68.20%    |

Note: Sample is ALL the firms whose employees have significant VOTING power (as individuals or via their labor unions) in their own employer.

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### Findings

Labour voting power correlates with low valuation (average Q)

<table>
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<tr>
<td></td>
<td>(0.01)</td>
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<td>(0.01)</td>
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<tr>
<td>5% labor dummy</td>
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<td>Managerial equity compensation</td>
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<td>Insider ownership I</td>
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<td>(0.24)</td>
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<td>(0.03)</td>
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<td>Block ownership</td>
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<td>Board size</td>
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<td>(0.06)</td>
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<td>Board composition</td>
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<td>0.1090</td>
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<td>(0.47)</td>
<td>(0.44)</td>
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<td>(0.81)</td>
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<td>Leadership structure</td>
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<td>(0.57)</td>
<td>(0.62)</td>
<td>(0.39)</td>
<td>(0.45)</td>
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<td>Investment opportunities</td>
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<td>Firm size</td>
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<td>(0.14)</td>
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<td>Current profitability</td>
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<td></td>
<td>(0.01)</td>
<td>(0.01)</td>
<td>(0.01)</td>
<td>(0.01)</td>
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<tr>
<td>Historical profitability</td>
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<td>Historical market valuation</td>
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<tr>
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<td>(0.01)</td>
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<td>Sample size</td>
<td>1,704</td>
<td>1,704</td>
<td>1,867</td>
<td>1,667</td>
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<td>(Labor voice firms)</td>
<td>(196)</td>
<td>(196)</td>
<td>(193)</td>
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<td>$R^2$</td>
<td>0.3862</td>
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<td>Model F</td>
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More Regression Results

<table>
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<tr>
<th></th>
<th>1 Capital Investment</th>
<th>2 R&amp;D I</th>
<th>3 R&amp;D II</th>
<th>4 Operating Risk</th>
<th>5 Sales Growth</th>
<th>6 Employment Growth</th>
<th>7 Total Factor Productivity</th>
<th>8 Labor Productivity</th>
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<td>Labor ownership</td>
<td>-0.0020 (0.04)</td>
<td>-0.0004 (0.61)</td>
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<td>[738/89]</td>
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<td>[1671/195]</td>
<td>[1676/195]</td>
<td>[1850/204]</td>
<td>[1886/206]</td>
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<tr>
<td>5% labor dummy</td>
<td>-0.0259 (0.07)</td>
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<td>[1637/194]</td>
<td>[1676/195]</td>
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<td>[1726/199]</td>
<td>[1671/195]</td>
<td>[1676/195]</td>
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<td>[1886/206]</td>
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<td>10% labor dummy</td>
<td>-0.0272 (0.15)</td>
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<td>15% labor dummy</td>
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<td>[1530/54]</td>
<td>[1535/54]</td>
<td>[1700/54]</td>
<td>[1735/55]</td>
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</tbody>
</table>

Greater labour voting power also correlates with

- Less long-term investment (capex, R&D)
- Less risk-taking
- Slower growth
- Less job creation
- Lower productivity

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How Good is Capital Budgeting?

Taking our models seriously

\[ \text{max } V(X) \]

- Shareholders are principals, managers should be their faithful agents
- Firms are supposed to maximize shareholder value, if they don’t their governance is bad (Jensen & Meckling 1976)

**Downside:** It might be the wrong thing to measure

- Episodes of systematic mispricing in manias and panics reflect Keynes’ shifting “animal spirits” driving over or under-investment?
- Are stakeholders really contractual claimants?
  - Employees?
  - Creditors?

“A sound banker, alas, is not one who foresees danger and avoids it, but one who, when he is ruined, is ruined in a conventional way along with his fellows, so that no one can really blame him.”

John Maynard Keynes
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Government machinery has been described as a marvelous labor saving device which enables ten men to do the work of one.

John Maynard Keynes
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  - Creditors?
  - Government?
  - Customers?
  - Suppliers?
  - The environment?
  - The community?
Stewardship Models

Taking our critics seriously

\[ \max SWF(p, Y) \]

- The overarching objective should be social welfare maximization
- Still an agency problem framework, but principals are now all stakeholders and managers expected to be agents serving many masters

Upside: True

Downside: We can’t measure it

- Stakeholders
  - Labor
  - Creditors
  - Customers
  - Suppliers
  - Community
  - Environment
  - Government
  - Shareholders

Good governance means balancing the interests of all stakeholders, sometimes favoring one, other times another, but so that it evens out in the long run

- Many masters means no master?
German Corporate Governance

- Paradigm example of “stakeholder” model
- Mitbestimmung (codetermination)
  - Large firms have 2 (actually 3 or more) board-level committees

- Aufsichtsrat (Supervisory Board)
  - 50% elected by shareholders (more in smaller firms)
  - 50% elected by workers (less in smaller firms)
  - Aufsichtsrat Chair, elected by shareholders, breaks ties

- Vorstand (Management Board)
  - Vorstand chair is President
  - Elected by Aufsichtsrat members
  - Must contain ≥ 1 Arbeitsdirektor

- Betriebsrat (Works Council)
  - Elected by workers
  - One Betriebsrat per major location

- Shareholders
- Workers

- Aufsichtsrat members (directors) have legal duty to balance interests of all stakeholders (shareholders & creditors & workers & customers & suppliers & founders & managers & taxpayers & governments & communities & nation & … )
Politically Incorrect Origins

Bismarck, Chancellor (1873 – 90)

- Nicht durch Reden und Majoritätsbeschlüsse werden die großen Fragen der Zeit entschieden — das ist der große Fehler von 1848 und 1849 gewesen — sondern durch Eisen und Blut

- Profound fear of democracy, a system perhaps suitable to Anglo-saxon temprements, but utterly unsuited to Germans

- Codetermination initiated to give Germans a legitimate voice at work and to deflect their demands for an illigitimate voice in government
Shareholders in the German Model

- Germany entrusts corporate governance to bankers and labor union executives

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<th>% stake</th>
<th>% vote</th>
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<tr>
<td>Individuals</td>
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<tr>
<td>Other firms</td>
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<td>Insurance companies</td>
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<td>bank ownership via subsidiaries</td>
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<tr>
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<td>Siemens</td>
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## Shareholders in the German Model

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<th>Commerzbank</th>
<th>Bayrisched Vereinsbank</th>
<th>Bayrische Hypo</th>
<th>all banks</th>
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<td>5.72</td>
<td>23.87</td>
<td>10.74</td>
<td>56.42</td>
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1992 figures
Politically Incorrect Origins

Problem
- The National Socialist (Nazi) party wants strong centralized control over the entire economy, but can’t seem ‘communist’

Hjalmar Schact’s solution
- “Entrust” banks with public shareholders’ votes
- “Aryanization” puts Nazi’s in charge of the banks
- “Führerprinzip” assigns directors fiduciary duty to all stakeholders – employees, banks, shareholders, and (most importantly) the Reich and the Führer

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How Good is Capital Budgeting?

Taking our models seriously

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- Shareholders are principals, managers should be their faithful agents
- Firms are supposed to maximize shareholder value, if they don’t their governance is bad (Jensen & Meckling 1976)

Downside: It might be the wrong thing to measure

- Episodes of systematic mispricing in manias and panics reflect Keynes’ shifting “animal spirits” driving over or under-investment?
- Are stakeholders really contractual claimants?
  - Employees?
  - Creditors?
  - Government?
  - Customers?
  - Suppliers?
  - The environment?
  - The community?

“From the saintly and single-minded idealist to the fanatic is often but a step.”
— Friedrich Hayek
German Corporate Governance

- More critical view of Mitbestimmung (codetermination)

- **Aufsichtsrat** (Supervisory Board)
  - 50% appointed by banks
  - 50% appointed by union leadership
  - Aufsichtsrat Chair, elected by shareholders, breaks ties

- **Vorstand** (Management Board)
  - Vorstand chair is President
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- **Betriebsrat** (Works Council)
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  - One Betriebsrat per major location

- **Banks**

- **Unions**

- Aufsichtsrat members (directors) have legal duty to balance interests of all stakeholders (shareholders & creditors & workers & customers & suppliers & founders & managers & taxpayers & governments & communities (& Reich & Führer until very recently)

- Banks remain passive unless credit risk is serious

- Unions remain passive unless current or retired workers’ security is threatened

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**Upside:** We can measure it (Tobin’s Q)

**Downside:** Stock market might not be functionally efficient

- Episodes of systematic mispricing in manias and panics reflect Keynes’ shifting “animal spirits” driving over or under-investment?
- Are stakeholders really contractual claimants?
- Finance is schizophrenic?
  - Investors (including shareholders) expect risk-adjusted return
    \[ IRR = k \equiv \text{wacc} \text{ or equivalently } NPV = 0 \]
  - But Intro Finance students learn that firms should undertake projects with
    \[ E[IRR] > k \equiv \text{wacc} \text{ or equivalently } E[NPV] > 0 \]

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  - But Intro Finance students learn that firms should undertake projects with
    \[ E[IRR] > k \cong wacc \text{ or equivalently } E[NPV] > 0 \]

Who should the firm give this money to? Why shareholders? Why not the CEO, the workers, or even “society”?
“There is one and only one social responsibility of business—to use its resources and engage in activities designed to increase its profits.”
Finding: Firms with higher CSR scores (points for racial, sexual preference & gender policies, environmental commitments, social conscience, ...) have higher Q ratios

- Preferred interpretation: Financial karma?
- Possible alternative interpretations: advertising? CEO perk?

“Nothing has done so much to destroy the juridical safeguards of individual freedom as the striving after this mirage of social justice.”

— Friedrich Hayek
Corporate Social Responsibility


Finding: Firms with higher CSR scores (points for racial, sexual preference & gender policies, environmental commitments, social conscience, ...) have higher Q ratios

- Preferred interpretation: Financial karma?
- Possible alternative interpretations: advertising? CEO perk?

“The businessman is only tolerable so long as his gains can be held to bear some relation to what, roughly and in some sense, his activities have contributed to society.”

— John Maynard Keynes
How Good is Capital Budgeting?

Taking our models seriously

\[ \max V(X) \]

- Shareholders are principals, managers should be their faithful agents
- Firms are **supposed to** maximize shareholder value, if they don’t their governance is bad (Jensen & Meckling 1976)

**Upside:** We can measure it (Tobin’s Q)

**Downside:** Stock market might not be functionally efficient

- Episodes of systematic mispricing in manias and panics reflect Keynes’ shifting “animal spirits” driving over or under-investment?
- Are stakeholders really contractual claimants?
- Finance is schizophrenic?
- Hayek might be right about CEOs?
  - Powerful CEOs associated with extremes (Adams, Almeida & Ferreira 2005, RFS)

“Persons who have shown the greatest foresight will command the greatest amount of resources”
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- Hayek might be right about CEOs?
- Some shareholders might be more equal than others?
Controlling Shareholders

- Founder-shareholders associated with higher valuations (Morck, Shleifer & Vishny 1988; Anderson & Reeb 2003)
- Depressed Q ratios associated with inherited control blocks as evidence of minority shareholder expropriation?
  - But is this right? People buy the shares freely knowing the law.
  - In an efficient market minority shareholders get fair returns
  - So what’s the problem?

“Millions voting themselves into complete dependence on a tyrant has made our generation understand that to choose one's government is not necessarily to secure freedom”

The capitalist hasn't created the proletariat by expropriating anybody.”
What doesn’t work in politics works in business?

- US firms with biological large shareholders outperform by various measures (Anderson & Reeb 2003)
- Primary driver is firms with founder-entrepreneur as major shareholder (Morck, Shleifer & Vishny 1988; Villalonga and Amit 2006; many others)

“In the long run, we are all dead.”
— John Maynard Keynes
What doesn’t work in politics works in business?

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Heir-run firms mostly don’t do that well?
- Canada (Morck, Stangeland & Yeung 2000; Smith & Amoako-Adu 2005)
- Denmark (Bennedsen, Nielsen, Pérez-González & Wolfenzon 2007)
- Sweden (Cronqvist & Nillson 2003)
- USA (Pérez-González 2003; Villalonga & Amit 2006)

Family firms do well, but for the wrong reasons?
- Family firms do very well in emerging economies (Khanna & coauthors)
- Family firms are the best firms in the worst countries & the worst firms in the best countries?
- In many middle-income countries, the highest NPV investment is “political connections” (Krueger 1994; Fisman 2001; Fogel 2006; Faccio 2006; Faccio McConnell & Masulis 2006; ... )
Political Economy Concerns

- Fraction of market capitalization controlled by the 20 most powerful families (Bank of Israel Annual Report 2013)
Family Firms & Living Standards

Per Capita GDP in 1996 US Dollars at PPP

Part of Large Corporate Sector Family Controlled
Hereditary absolute monarchies passé ...

but hereditary corporate governance is going strong
Controlling Shareholders

- Founder-shareholders associated with higher valuations (Morck, Shleifer & Vishny 1988; Anderson & Reeb 2003)
- Depressed Q ratios associated with inherited control blocks is not evidence of minority shareholder expropriation
- Real issue: If entrepreneurs can’t credibly commit to share profits with public shareholders, IPO prices are very low or the IPO market fails, so few or no serious entrants

“The argument for liberty is ... an argument against all exclusive, privileged, monopolistic organization, against the use of coercion to prevent others from doing better.”
— Friedrich Hayek
Rates of Entry?

WORLD BANK GROUP ENTREPRENEURSHIP SNAPSHOTS

ENTRY DENSITY
(number of newly registered limited liability firms as a percentage of 1,000 working age population)

- < 1
- 1 – 1.99
- 2 – 2.99
- 3 – 3.99
- 4 – 4.99
- >= 5
- DATA UNAVAILABLE

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The Danger of Economic Entrenchment

Political Economy Concerns

Slim Helu Group (Mexico)
Political Economy Concerns

Li Ka-shing Group (Hong Kong)
Political Economy Concerns

Lotte Chaebol (Korea)
Political Economy Concerns

Samsung Chaebol (Korea)

Dark circle for company of more than 3 trillion in assets. Dark arrow represent circular equity investment.

Source: Korea Investor’s Service, reproduced from Chang (2003)
A Financial Map of Chile

Source: Courtesy of Tarun Khanna

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Family wealth of $5B + \varepsilon = \text{control stake in firm worth $10B} \Rightarrow \text{which controls 2 firms @ $10B/firm = assets worth $20B} \Rightarrow \text{which control 4 firms assets worth $40B} \Rightarrow \text{which control 8 firms assets worth $80B} \Rightarrow \text{16 firms assets worth $160B} \Rightarrow \text{32 firms assets worth $320B} \Rightarrow \text{Corporate empire of 64 firms worth $640B} \Rightarrow \text{power = 2 wealth}
Outline

1. Introducing Keynes & Hayek
2. Agreement on the social purpose of finance
3. Disagreement on how capex works
4. What modern finance has to say about it
5. What it all might mean for modern Asia
Elite Capture in Middle Income Economies

- Socially responsible elites?
  - Warren Buffett’s investment strategy
  - Buffet and Gates discuss the social purpose of capital
Power Distance

High values (Arab, Latin, & SE Asian countries)
- Cultural norms legitimize extreme social inequality
- Exalt obedience, authority, conformity, supervision, and social hierarchy. In these countries, children are taught to honor and obey their parents and elders, and to continue doing so as adults.
- Conformity is considered an indispensable virtue

Low values (N Europe, Israel, etc.)
- Children are encouraged to make decisions, pursue their own welfare, and take responsibility for their own decisions.

Link to long-run family firm survival
- Squire (2008), and other gender studies scholars, link arranged marriages to authoritarian patriarchal cultures
- Studies in psychology find people living in higher power distance cultures more prone to suppress positive emotions (as well as negative emotions) because the social expression of excessive positive affect could mean lack of deference (Basabe et al., 1999). This suppression plausibly renders marriage-for-love less important.
Extent to which inequality tolerated & endorsed

[Graph showing the relationship between Family Firm Presence and Power Distance across different countries, denoted by country codes such as AUT, ISR, SWE, etc.]

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Individualism

High values (Australia, Canada, W. Europe, & US)
- People value individual over collective needs, laud independence & self-reliance, & strive to develop individual talents in a search of personal fulfillment (Markus & Kitayama, 1991; Ting-Toomey, 1991).

Low values (Latin America, S. Asia, & E. Asia)
- People subordinate welfare as individuals to collectives (families, castes, tribes, sects)
- The family, or extended family, is generally the most important of these

Link to long-run family firm survival
- Family structure & marriage correlated (117 country x-section) (Lee & Stone 1980)
- Love marriage rarer where extended families dominate nuclear families (Todd 1985)
- Students from more collectivistic cultures (e.g. India, Thailand, & Philippines) place less emphasis on love as basis for marriage than those from more individualistic countries (e.g. America, Australia, and Britain) (Sato, Hashimoto & Verman 1995)
- Children of immigrants from collectivistic cultures accept arranged marriage & don’t date (Lee, 1988; Lipson & Miller, 1994; Segal, 1991; Stopes-Roe and Cochrane, 1988; Rosenthal, 1988).
- Highly individualistic cultures validate love as a foundation of marriage, making marriage a personal decision by the couple (Triandis, 1995)
- Arranged marriage neg. cor. with individualism (Ting-Toomey, 1991).
- Accepting an arranged marriage is part of one’s unavoidable duty to one’s family; brides are selected for good nature and grooms for status (Dion and Dion, 1993)
Group Outweighs Individual
Risk Avoidance

High values (Greece, Portugal, Belgium, Japan, Peru)
- Unknown situations perceived as threatening
- Intolerance of uncertainty, differences in opinion, change
- People minimize ambiguity, favor written laws & rules

Low values (Singapore, DK, HK, Sweden, Ireland)
- Cultural norms value risk taking
- Low risk avoidance

Link to long-run family firm survival
- More conservative culture less apt to forsake traditional institutions of any kind, including arranged marriage.
- Alternates to state economic security mechanisms, e.g. extended family “welfare system”
Preference for the status quo
“a process of winnowing or sifting, directed by the different advantages gained by groups from practices adopted for some unknown and perhaps purely accidental reasons”

Friedrich Hayek
Erosion of Traditional Asian Values?

Japanese marriages

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Is Asian Culture Evolving

- Modernization is not necessarily Westernization
- Evolutionary pressures
  - Keynes: avoiding costly bubbles, animal spirit swings, market manias & crashes, ...
  - Hayek: curtailing state subsidized malinvestment, vast excess capacity problems, ...
- Challenges
  - Functionally more efficient capital allocation
  - Through better corporate governance?
  - Avoiding oligarchic capitalism?
  - A managerial revolution in Asian business?
Coming to an Asian economy near you!
“If you want to change the world, teach undergraduates.”
- John Maynard Keynes