ECON 4905
Cornell University
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Readings beginning with the week of 7 February:

- Money & Finance:
  1. Baumol, William J. "The Transactions Demand for Cash: An Inventory Theoretic Approach." The Quarterly Journal of Economics 66.4 (1952): 545.2.

  2. Yves Balasko & Karl Shell, “Lump-Sum Taxation: The Static Economy,” in General Equilibrium, Growth, and Trade: The Legacy of Lionel McKenzie, II. (R. Becker, M. Boldrin, R. Jones, and W. Thomson, eds.) New York: Academic Press (1993) 168-180.

  3. Karl Shell website section on Taxes Denominated in Money

  4. K. J. Arrow, “The Role of Securities in the Optimal Allocation of Risk-Bear- ing,” Review of Economic Studies, April 1964, 91-96.

Books

- “Everything is Obvious: Once You Know the Answer”, Duncan Watts, Crown Business(Random House), 2011.
- This Time is Different: Eight Centuries of Financial Folly, Carmen Reinhart & Kenneth Rogoff, Princeton University Press, 2009
- Microeconomics of Banking, Second Edition, Xavier Freixas & Jean-Charles Rochet, MIT Press, 2008
- Stress Test: Reflections on Financial Crises, Timothy F. Geithner, Crown Publishers, 2014

Books (Continued)

- Understanding Financial Crises (Clarendon Lectures in Finance) Franklin Allen & Douglas Gale, Oxford University Press, 2009

- Manias, Panics and Crashes: A History of Financial Crises, Sixth Edition, Charles P. Kindleberger & Robert Z. Aliber with foreword by Robert M. Solow, Palsgrave Macmillan, 2011

- On the Brink: Inside the Race to Stop the Collapse of the Global Financial System, Henry M. Paulson, Jr., Hachette, 2010

- Five Years Later: On the Brink, A Look Back… , Henry M. Paulson Jr., Business Plus, 2013. Free on Kindle

Books (Continued)

- Misunderstanding Financial Crises: Why We Don't See Them Coming, Gary B. Gorton, Oxford University Press, 2010
- Slapped by the Invisible Hand, The Panic of 2007, Gary B. Gorton, Oxford University Press, 2010
- A Demon of Our Own Design, Richard Bookstaber, Wiley, 2007
- Irrational Exuberance, Robert J. Shiller, Princeton University Press, 2005
- The Housing Boom and Bust, Thomas Sowell, Basic Books, 2009

Books (Continued)

- The World Depression, 1929-1939, Charles P. Kindleberger, University of California Press, 1973
- The Great Crash 1929, John Kenneth Galbraith, Houghton Mifflin, 1988
- Lombard Street, Walter Bagehot, Smith, Elder & Co., 1915 or later edition
- The South Sea Bubble, Viscount Erleigh, Greenwood Press (& Peter Davies Limited), 1933

Books (Continued)

- Founding Choices: American Economic Policy in the 1790's, Douglas A. Irwin and Richard Sylla (editors), University of Chicago Press (for the NBER), 2011.

- Capitalism, Socialism and Democracy, Joseph A. Schumpeter, New York: Harper, 1950.

- Phishing for Phools, George Akerlof and Robert Shiller, Princeton, 2015.

- Why Minsky Matters, L. Randall Wray, Princeton, 2016.

Books (Continued)

- The Housing Boom and Bust, Revised Edition, Thomas Sowell, Basic Books, 2010.
- Manias, Panics, and Crashes, Charles P. Kindelberger, Robert Z. Aliber, Sixth Edition, Palgrave Macmillan, 2011.
- Xavier Freixas and Jean-Charles Rochet, Microeconomics of Banking, Second Edition, MIT.
- Gary B. Gorton, Slapped by the Invisible Hand, Oxford 2017.

Books (Continued)

- Franklin Allen and Douglas Gale, Understanding Financial Crises, Oxford, 2007.
- Timothy F. Geithner, Stress Test, Crown, 2014.
- Carmen M. Reinhart and Kenneth S. Rogoff, This Time is Different, Princeton, 2011.
- Duncan J. Watts, Everything is Obvious, Crown, 2011.

Review of Monetary Equilibrium

- Rewriting constraints
  - $z_h^1 = -p^{m1} m_h^1$
  - $p^2 z_h^1 = p^{m2} m_h^1$

- $z_h^1 + p^2 z_h^2 = (p^{m2} - p^{m1}) m_h^1$

- Hence, $p^{m2} = p^{m1} = p^m \geq 0$
- Equilibrium allocation $x \in \mathbb{R}_{++}^{2n}$

is the same as for Future Market if $p^m > 0$

Review of Monetary Equilibrium

- Economic interpretation of constant p^m?
- Why does p^m wash away when $p^m > 0$?
- What are the economics $p^m = 0$

Uncertainty (isomorphic to intertemporal)

- See Arrow article
- 2 states of nature $s = \alpha\ ,\ \ \beta$
- $h = 1, \ldots, n$ consumers
- Contingent commodity $x_h(s) > 0$

delivered only in state s

- Contingent endowments $\omega_h(s) > 0$
- Preferences

$$V_h\big(x_h(\alpha), x_h(\beta)\big)$$
$$= \pi(\alpha)U_h\big(x_h(\alpha)\big) + \pi(\beta)U_h\big(x_h(\beta)\big)$$

Contingent Claims (Continued)

- Consumer Problem

$$\max \pi(\alpha)U_h\big(x_h(\alpha)\big) + \big(1 - \pi(\alpha)\big)U_h\big(x_h(\beta)\big)$$

Subject to

$$p(\alpha)x_h(\alpha) + p(\beta)x_h(\beta)$$
$$= p(\alpha)x_h(\alpha) + p(\beta)\omega_h(\beta)$$

Or $\quad p(\alpha)z_h(\alpha) + p(\beta)z_h(\beta) = 0$

Find $\big(p(\alpha), p(\beta)\big)$ such that

- CP determines $x_h(\alpha), x_h(\beta)$

and materials balance

- $\sum_h x_h(s) = \sum_h \omega_h(s)$ for $s = \alpha, \beta$

Arrow Securities

- $b_h(s)$ is the quantity bought of security s
- Security s pays 1 unit of account in state s; otherwise, nothing
- $p_b(s)$is the price of security s
- $p_b(\alpha)b_h(\alpha) + p_b(\beta)b_h(\beta) = 0$
- Purchase of security is financed by sale of other security (not necessary)

Arrow Securities (Continued)

- CP

max $\quad \pi(\alpha)U_h\big(x_h(\alpha)\big) + \big(1 - \pi(\alpha)\big)U_h\big(x_h(\beta)\big) \quad$ s.t.

1) $\quad p(\alpha)x_h(\alpha) = p(\alpha)\omega_h(\alpha) + b_h(\alpha)$

2) $\quad p(\beta)x_h(\beta) = p(\beta)\omega_h(\beta) + b_h(\beta)$

3) $\quad p_b(\alpha)b_h(\alpha) + p_b(\beta)b_h(\beta) = 0$

- Multiply *1)* by $p_b(\alpha)$ and *2)* by $p_b(\beta)$

1) $\quad p_b(\alpha)p(\alpha)z_h(\alpha) = p_b(\alpha)b_h(\alpha)$

2) $\quad p_b(\beta)\, p(\beta)z_h(\beta)=p_b(\beta)b_h(\beta)$

But by *3)* we have
$\hat{p}(\alpha)z_h(\alpha) + \hat{p}(\beta)z_h(\beta) = 0$
Where $p_b(s)p(s) = \hat{p}(s)$ for $s = \alpha, \beta$

Arrow Securities (Continued)

- CE is $(\hat{p}(\alpha), \hat{p}(\beta)) \in \mathbb{R}^{2n}_{++}$ in which

$(x_h(\alpha), x_h(\beta)) \in \mathbb{R}^2_{++}$ solves

PC for $h = 1, \dots, n$

and

$\sum_h z_h(s) = 0$ for $s = \alpha, \beta$

Conclusion

- Every contingent claims equilibrium allocation is also an Arrow securities equilibrium allocation
- Every AS equilibrium in which $p_b(s) > 0$ for $s = \alpha, \beta$ is also CC equilibrium allocation
- Every FM equilibrium allocation is also an MM equilibrium allocation
- Every MM equilibrium allocation in which $p^m > 0$ is also an FM equilibrium allocation
- But interpretations of MM differ widely from interpretations of FM