

LECTURE 25

BALANCE SHEET EFFECTS
APRIL 24, 2018

I. INTRODUCTION

II. KOO'S DIAGNOSIS OF JAPAN'S POOR MACROECONOMIC
PERFORMANCE

- A. Aggregate demand or potential output?
- B. Credit supply or credit demand?
- C. A "balance sheet" recession

III. KOO'S ANALYSIS OF A BALANCE SHEET RECESSION

- A. Koo's analysis of a balance sheet recession in an IS-MP framework
- B. Is monetary policy effective in Koo's model of a balance sheet recession?
- C. Is fiscal policy effective in Koo's model of a balance sheet recession?
- D. Is the zero lower bound important in Koo's model of a balance sheet recession?
- E. Koo's evidence
- F. A balance sheet recession and "debt-deflation"

IV. HOUSEHOLD BALANCE SHEETS AND THE GREAT RECESSION

A. The housing boom

- 1. Mian and Sufi's hypotheses
- 2. The role of economic fundamentals in house price growth
- 3. The direction of causation between house prices and credit growth
- 4. Why did rising house prices raise consumption so much?

B. The Great Recession and slow recovery

- 1. Mian and Sufi's hypothesis
- 2. Evidence
- 3. Discussion

V. POSSIBLE IMPLICATIONS FOR POLICY

LECTURE 25

Balance Sheet Effects



April 25, 2018

Economics Online Course Evaluations

1. Please take out your electronic device: laptop, tablet, phone, etc.
2. Open up a web browser; Chrome and Firefox work best.
3. You can access the evaluations at:

<https://course-evaluations.berkeley.edu>

Or click on the invitation link provided in the email sent by:

course-evaluations@berkeley.edu

(Problems? Check “spam” and “all mail” folders for the email.)

4. Click the “submit” button once you have completed each evaluation. (You will be taken to a confirmation page verifying the evaluation has been submitted.)
5. Click the “save” button if you are not finished. You can return to the evaluations to complete them by the deadline.

Final Exam – Basics

- Mechanics:
 - Monday, May 7, 3–6 P.M., **2050 VLSB**.
 - Students with DSP accommodations: You should have received an email from me today. If you did not, please let me know.
- Coverage: Whole semester. But:
 - There will be more emphasis on the material after the midterm.
 - There won't be any multiple choice questions that are specifically about the readings before the midterm.

Final Exam – Types of Questions

- Broadly similar to the midterm:
 - Multiple choice
 - Short answers
 - Problems
 - Essay (or essays)

Final Exam – Places to Get Help

- Q&A/Review session: Wednesday, May 2, 4–6 P.M., 10 Evans.
- My office hours in RRR week: Thursday, May 3, 1–3 P.M.
- GSI office hours.
- And remember that there is a set of sample exam questions on the course website.

Announcement (relevant only if you might be interested in graduate school in economics)

- I will be here at the usual time next Monday (4/30, 5 PM) to talk about graduate school and answer questions.
- I will not discuss any material related to 134.

I. INTRODUCTION

Where We Are Headed

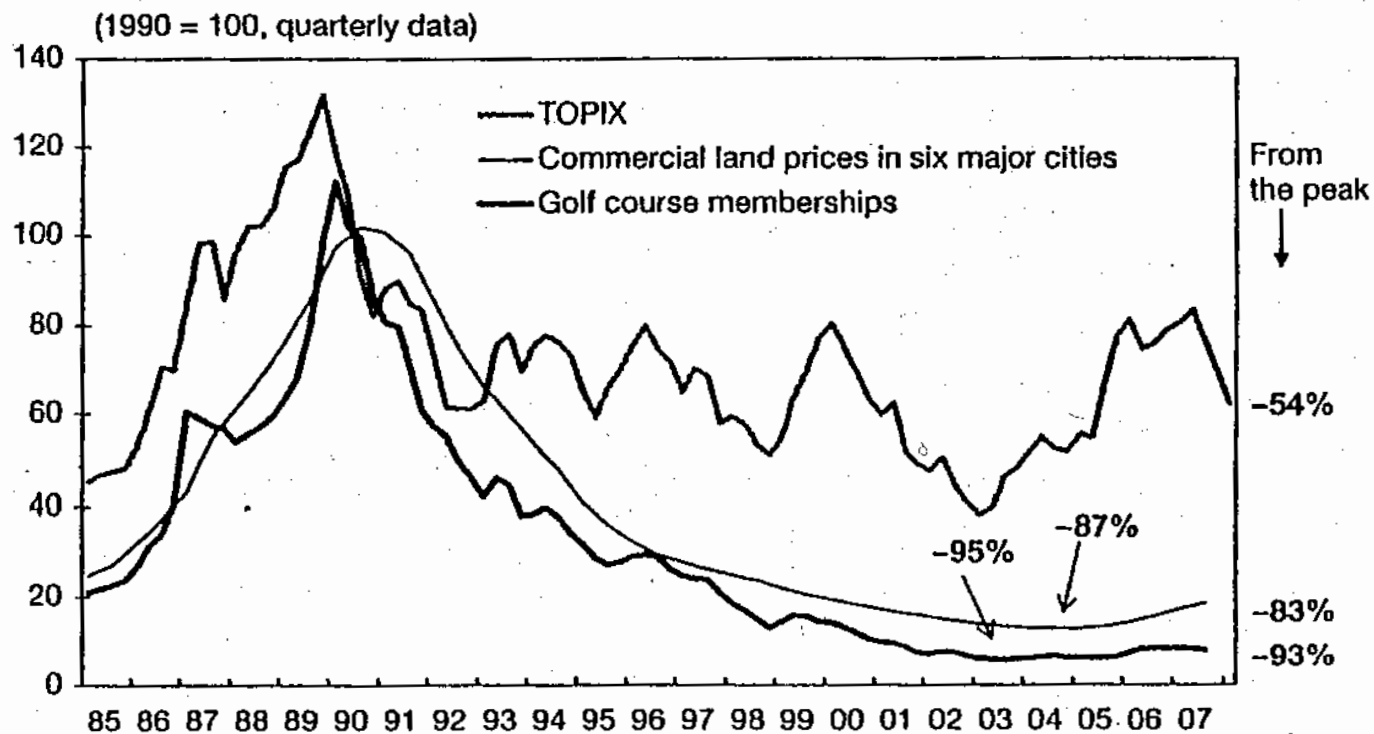
- So far: We have focused on $r^b - r^s$: I changes because the r that's relevant to I changes.
- Today: How ***financial*** developments can lead to changes in I for a given value of the r that's relevant to investment, and to changes in C for a given $Y - T$.
- Often referred to as “balance sheet effects” or “debt overhang.”

Koo's Forecast for the U.S. as of c. 2007

“The next likely candidate for a balance sheet recession is the U.S. now that its housing bubble has burst.” (p. 36)

II. KOO'S DIAGNOSIS OF JAPAN'S POOR MACROECONOMIC PERFORMANCE

Exhibit 1-4. A collapse in asset prices triggered the balance sheet recession



Source: Tokyo Stock Exchange, Japan Real Estate Institute, *Nikkei Sangyo Shimbun*. As of Feb. 22, 2008.

What Evidence Does Koo Look at to Distinguish the Potential Output and AD Views?

- Direct evidence about \bar{Y} (e.g., quality of products, frequency of strikes).
- Inflation.
- The exchange rate and net exports.
- Interest rates.

Exhibit 1-1. Structural problems cannot explain Japan's economic malaise

	Japan's Great Recession	U.S. during Reagan era
Short-term interest rates	0%	~22%
Long-term interest rates	~1.5%	~14%
Home mortgage rates	~3-4%	~17%
Labor issues	None	Frequent strikes
Prices	Deflation	Double-digit inflation
Balance of trade	World's largest surplus	Deficit
Exchange rate	Massive intervention to stem yen's rise	Falling sharply
Basic economic conditions	Adequate supply but not enough demand	Adequate demand but not enough supply

Note: Home mortgage rates are for 30-year fixed mortgages.

Source: NRI.

What Evidence Does Koo Look at to Distinguish the Credit Supply and Credit Demand Views?

- Did firms that were able to issue debt do so?
- Did foreign banks enter?
- Were interest rates (real and nominal) high?

Exhibit 1-2. Financial indicators are not consistent with the credit crunch argument



Source: Bank of Japan, *Average Contracted Interest Rates on Loans and Discounts and Principal Assets and Liabilities of Foreign Banks in Japan*; Japan Securities Dealers Association, *Issuing, Redemption and Outstanding Amounts of Bonds*.

A “Balance Sheet” Recession

- “The first priority is no longer profit maximization, but debt minimization.” (Koo, p. 15.)
- A couple of comments:
 - Don’t take Koo’s extreme statements literally.
 - The key is high debt, not low wealth.

What Do We Mean By “Balance Sheet Effects”?

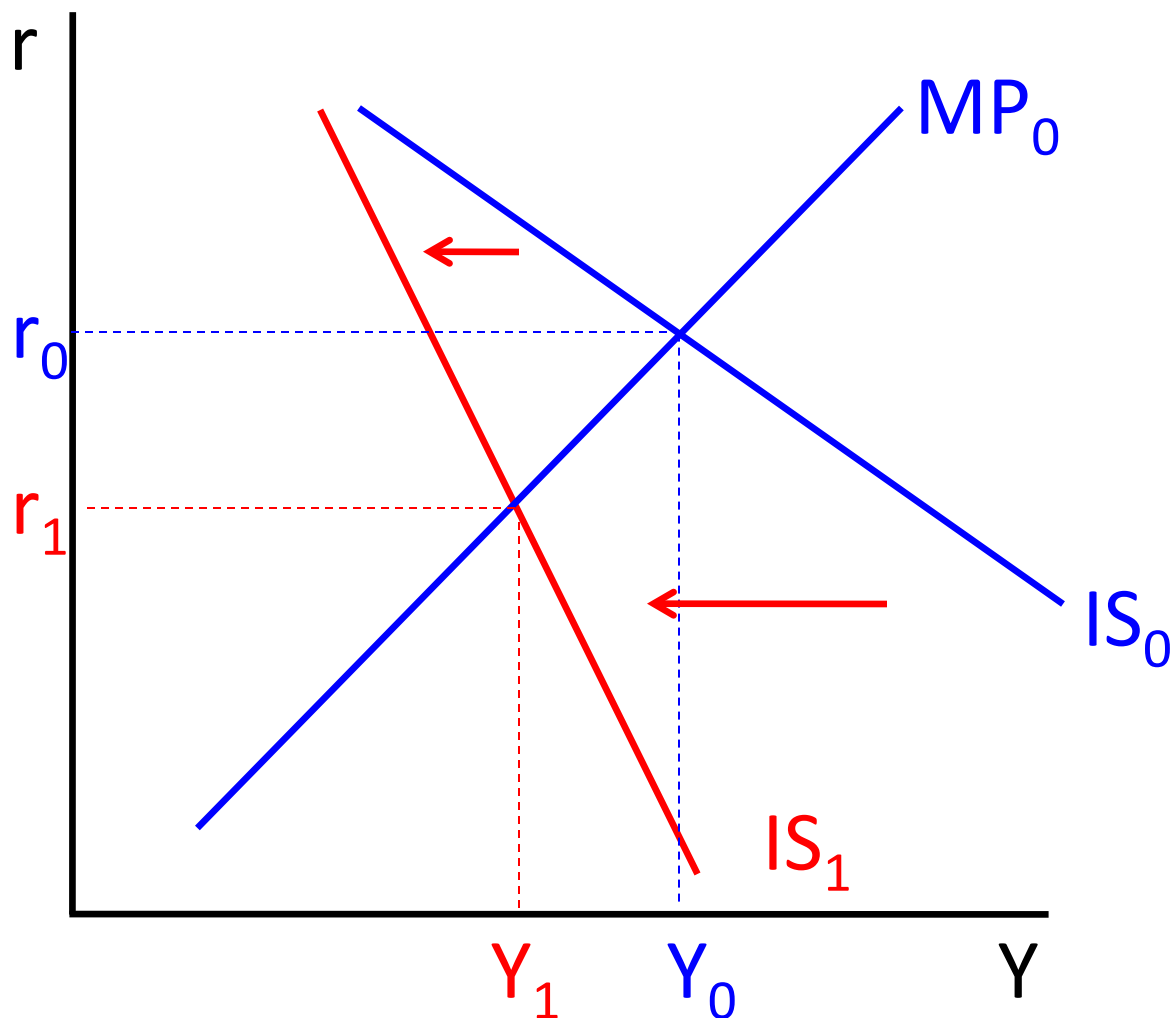
- Not just impacts of *wealth*.
- Why might assets and liabilities, rather than just their difference, matter?
 - Heterogeneity in wealth.
 - Bankruptcies (an extreme form of heterogeneous wealth?).
 - Channels through which assets and liabilities on the balance sheets of a single agent might not net out in determining behavior.

III. KOO'S ANALYSIS OF A BALANCE SHEET RECESSION

Interpreting Koo's Analysis of a "Balance Sheet Recession" in an IS-MP Framework

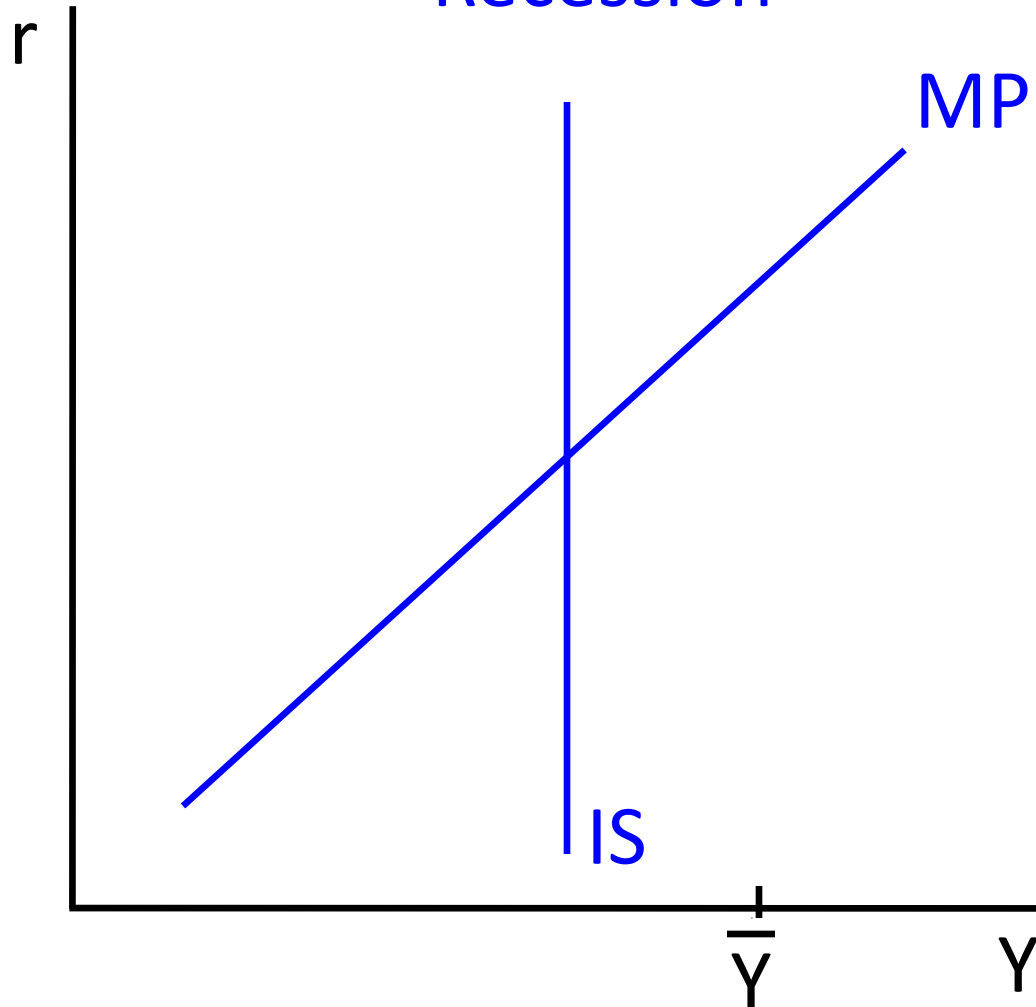
- He does not think credit availability is important, so we do not need to introduce an interest rate differential to interpret his ideas.
- That is, we can use the plain IS-MP model.

Interpreting Koo's Analysis of a “Balance Sheet Recession” in an IS-MP Framework

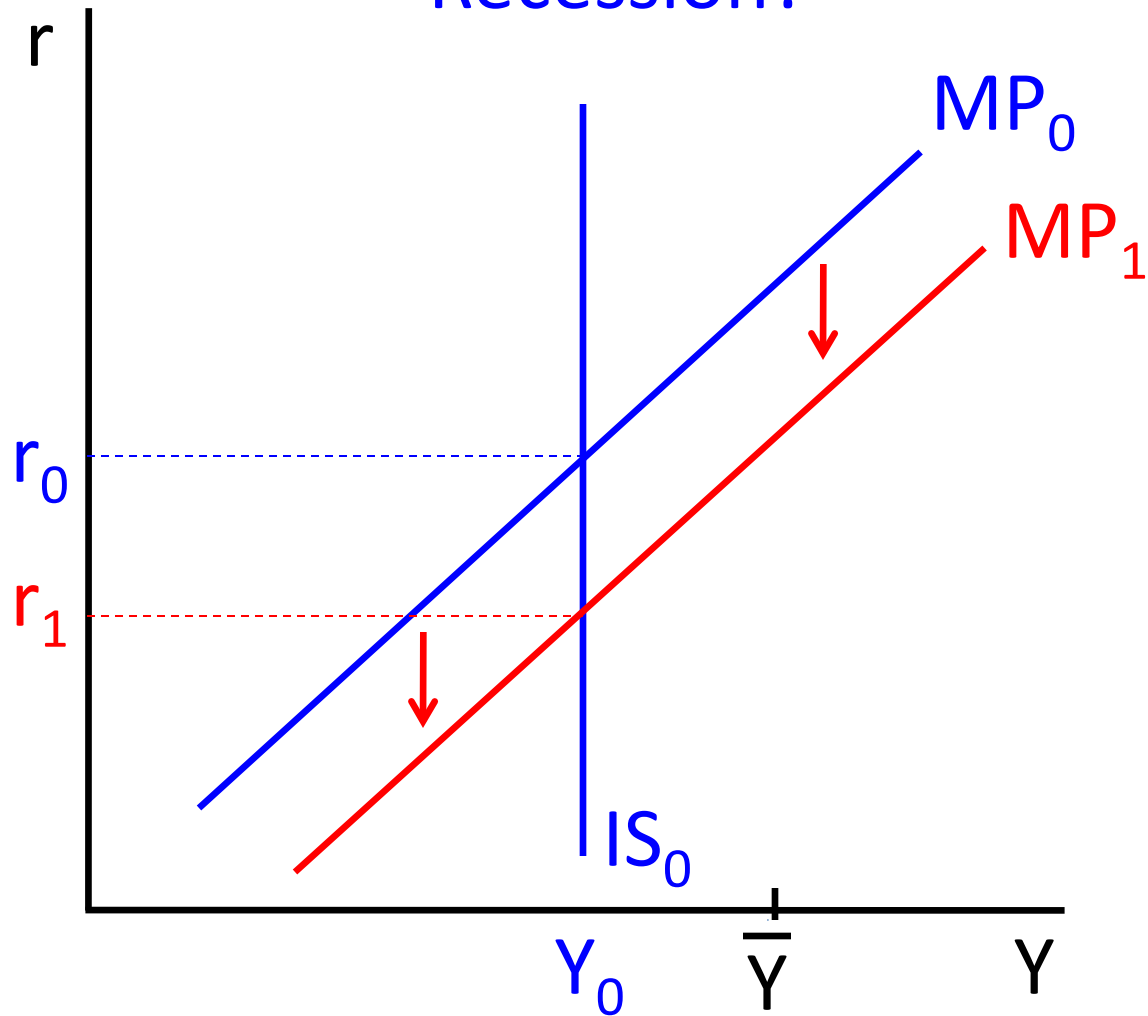


The IS curve shifts to the left and becomes steeper.

An Extreme Version of a Balance Sheet Recession



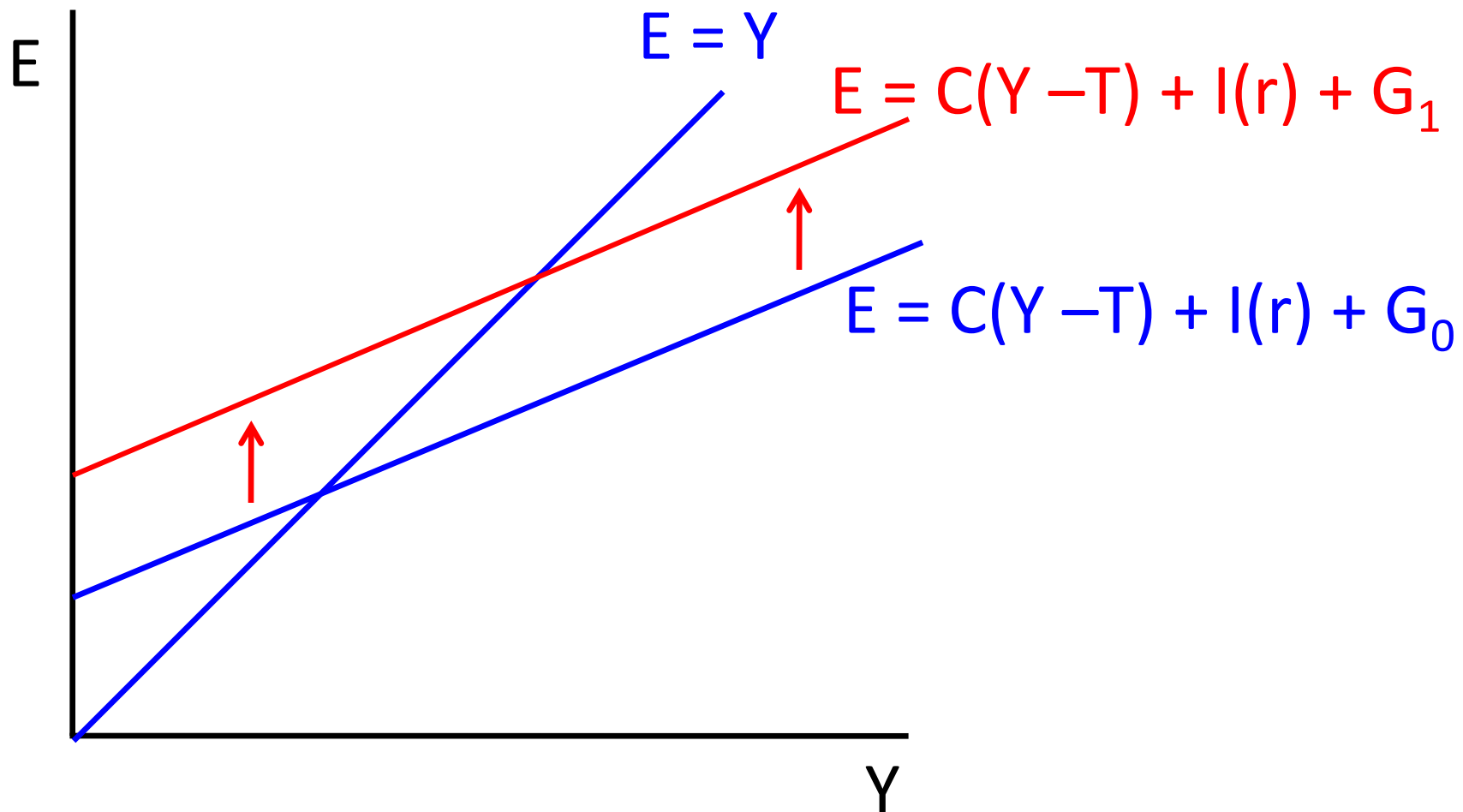
Is Monetary Policy Effective in a Balance Sheet Recession?



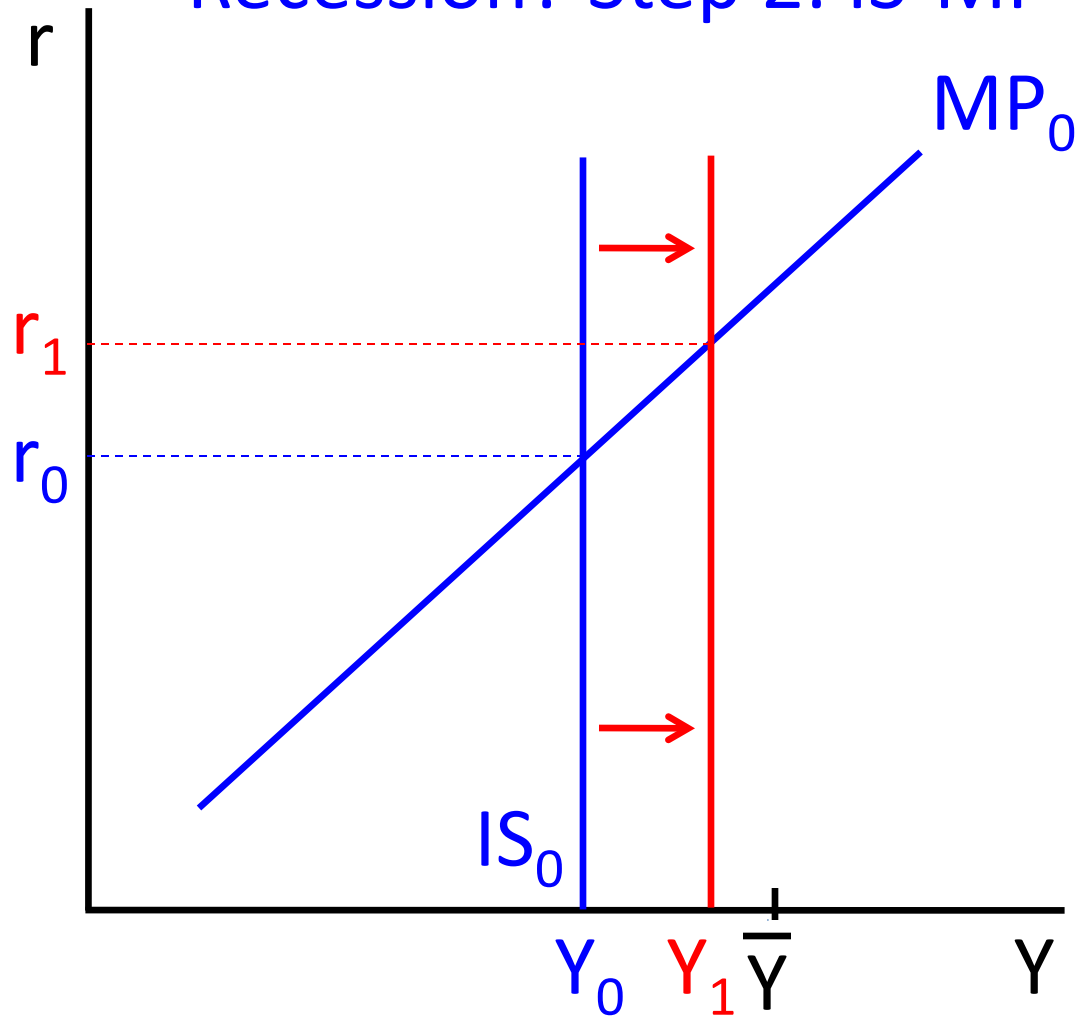
Koo's View of Monetary Policy in a “Balance Sheet Recession”

- “Technically insolvent companies, struggling to pay down debt and repair balance sheets ..., were not interested in borrowing money, regardless [of] how far the central bank lowered rates. In effect, the entire economy had stopped responding to interest rates.”

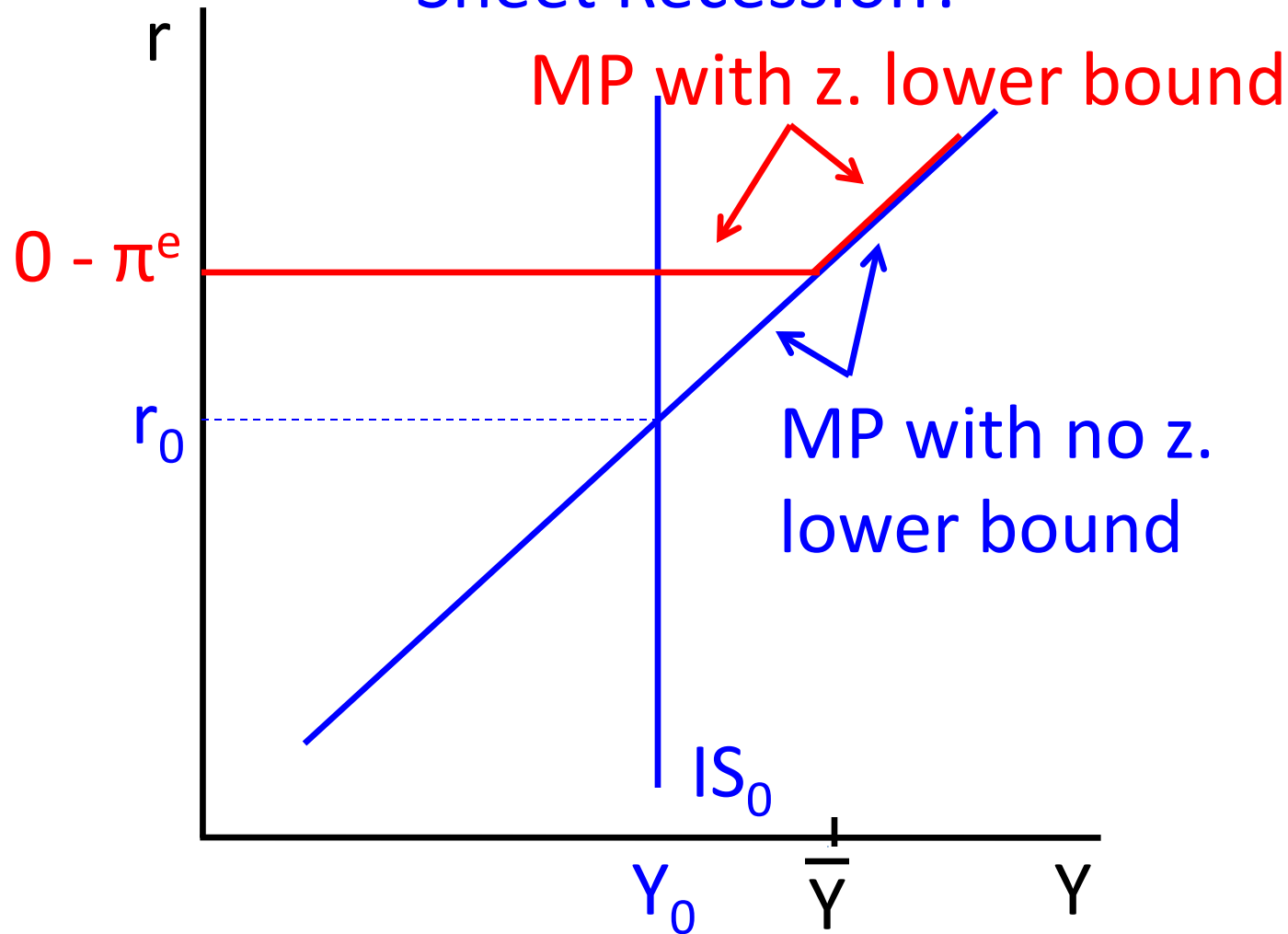
Is Fiscal Policy Effective in a Balance Sheet Recession? Step 1: The Keynesian Cross



Is Fiscal Policy Effective in a Balance Sheet Recession? Step 2: IS-MP



Is the Zero Lower Bound Important in a Balance Sheet Recession?



What Evidence Does Koo Present about Whether a Balance Sheet Recession Changes the Slope of the IS Curve?

- Very little!

A Balance Sheet Recession and “Debt-Deflation”

- The “balance sheet recession” hypothesis implies that higher levels of real debt lower aggregate demand.
- The lower is the price level, the higher is real debt.
- Thus, a fall in inflation or outright deflation will tend to reduce output. Higher inflation will tend to raise it. (All relative to the case of no change in inflation.)

IV. HOUSEHOLD BALANCE SHEETS AND THE GREAT RECESSION

What Are Mian and Sufi's Hypotheses about the Housing Boom?

- Was the growth of house prices and mortgage credit due to “economic fundamentals”? **NO.**
- What was the direction of causation between house price growth and increases in credit? **From increases in credit supply to house price growth.**
- Did rising house prices lead to greater consumption via a “housing wealth effect,” via rational households responding to a relaxation of borrowing constraints, or irrational myopia? **Definitely not a wealth effect, and probably irrational myopia.**

What Is Mian and Sufi's Evidence that the Growth of House Prices and Mortgage Credit Was Not Due to Economic Fundamentals?

- House prices and mortgage credit grew much faster in areas with low income growth (and poor average credit scores).

What Is Mian and Sufi's Evidence that Causation Went from Shifts in Credit Supply to Rising House Prices Rather Than Vice-Versa?

- Mortgage credit went up (and went up more in low credit score zip codes) even in cities whose geography kept house prices from rising greatly.

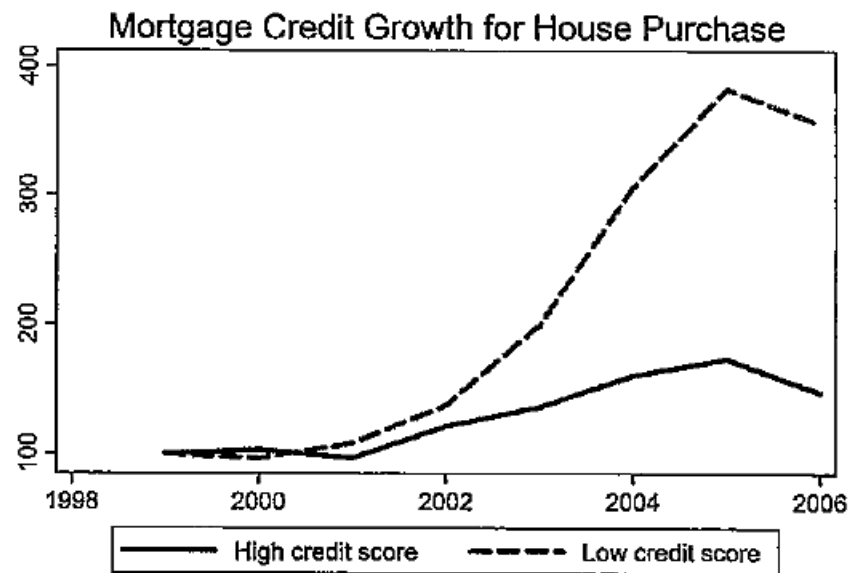
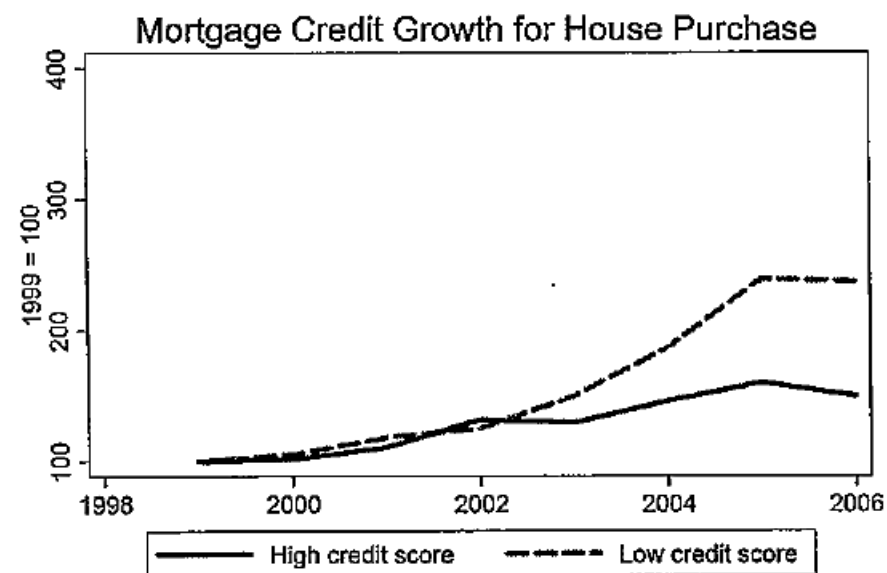
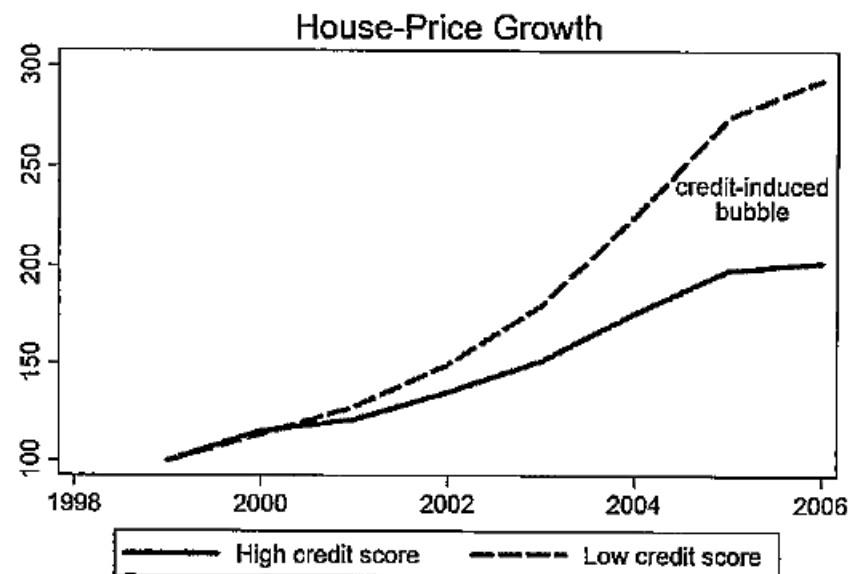
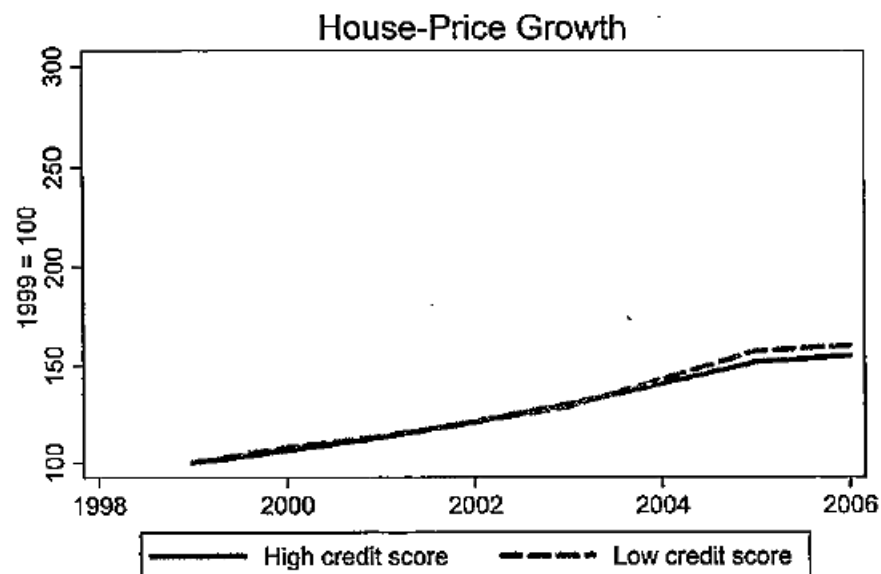


Figure 6.2: Debt and House Prices in Elastic Cities

Figure 6.3: Debt and House Prices in Inelastic Cities

What Are Mian and Sufi's Arguments that the Impact of Rising House Prices on Consumption Was Mainly the Result of Irrational Myopia?

- Logic tells us that the housing wealth effect should be small.
- The magnitudes appear too large to be explained by a rational response to a relaxation of borrowing constraints.

What Is Mian and Sufi's Hypothesis about the Main Source of the Great Recession and the Slow Recovery?

- It had little to do with the collapse of Lehman, or with disruptions of credit supply more generally.
- Rather, it was the result of “the decline in net worth of indebted households” (Mian and Sufi, p. 36).
 - That is, falling house prices caused the net worth of highly indebted households to be almost or entirely wiped out, leading to sharp falls in their consumption spending.

What Is Mian and Sufi's Evidence for Their Hypothesis?

- Composition: The recession was driven by falls in consumption and housing, not business investment.
- Timing, I: The recession was well underway before the collapse of Lehman.
- Timing, II: The banks were bailed out, but the recovery was painfully slow.
- ★ Geographic evidence: The fall in consumption was far larger in counties with large declines in household net worth. ★

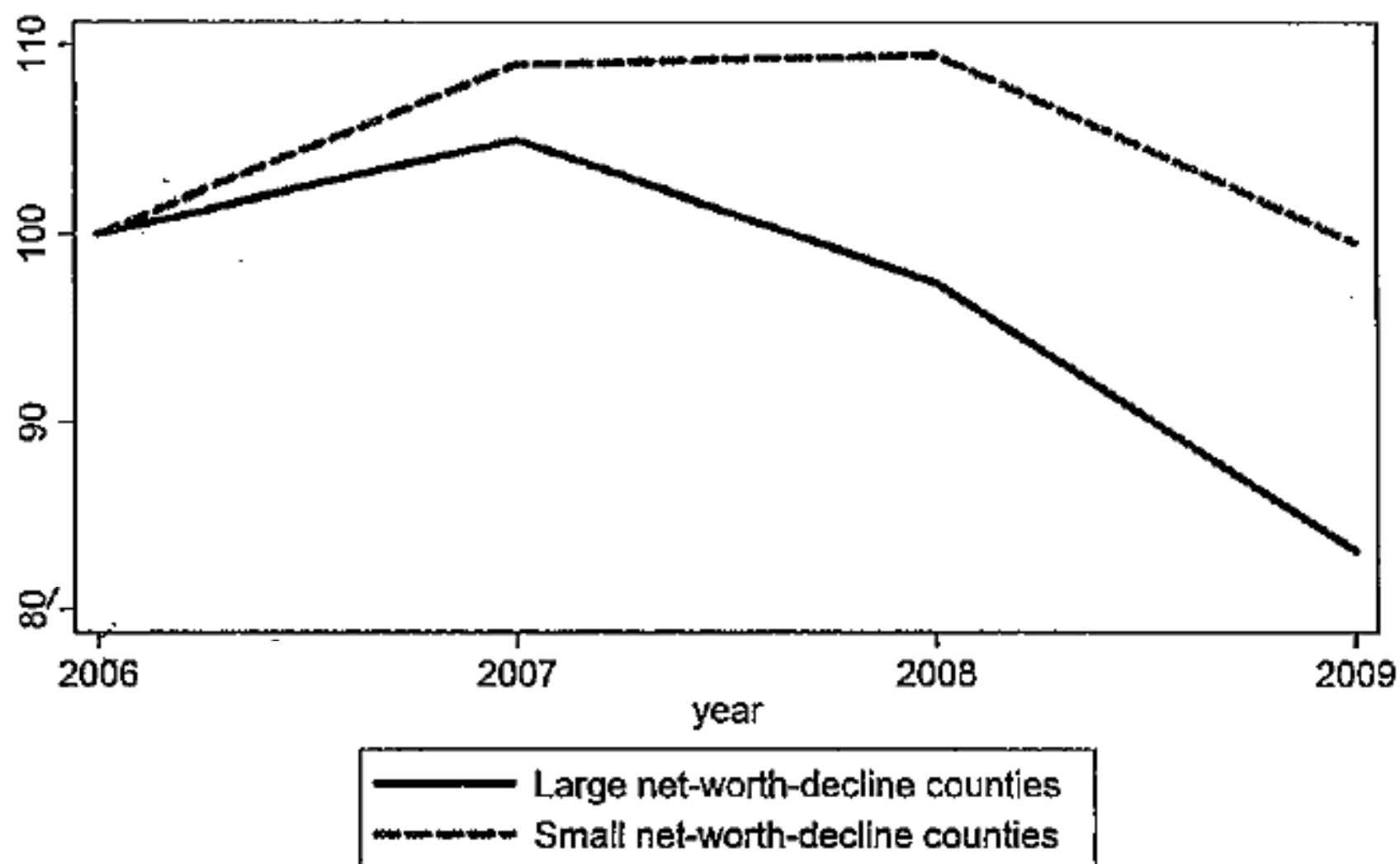


Figure 3.2: Spending in Large and Small Net-Worth Decline Counties

Discussion of Mian and Sufi's Evidence (Composition, Timing, Geography)

Are “Reduced Credit Supply” and “Lower Net Worth” Necessarily Competing Views?

- If credit supply had remained unchanged, would falling net worth have had big effects?
- Likewise, if net worth hadn't fallen, would the disruptions of credit supply have had such large effects?
- That is, perhaps there were important interactions between the two.

V. POSSIBLE IMPLICATIONS FOR POLICY

Possible Policies to Deal with Debt Overhang

- Healing balance sheets by forced government write-downs of private debts.
- Government bail-outs of debtors?
- Expansionary fiscal policy.
- Expansionary monetary policy?