

# **The Global Financial Crisis**

## **Module 4 Safe Assets and the Global Savings Glut**

**Andrew Metrick**

# Outline

## Module 4

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- |    |                                    |    |                              |
|----|------------------------------------|----|------------------------------|
| 01 | Shadow banking                     | 07 | Manufacturing safe assets    |
| 02 | Safe assets                        | 08 | Securitization: overview     |
| 03 | The Global Savings Glut hypothesis | 09 | Securitization: data, part 1 |
| 04 | Global savings glut: data, part 1  | 10 | Securitization: data, part 2 |
| 05 | Global savings glut: data, part 2  | 11 | Summary                      |
| 06 | Supply of safe assets              |    |                              |

# **The Global Financial Crisis**

## **Module 4 Safe Assets and the Global Savings Glut**

### **01 Shadow Banking**

## Shadow Banking

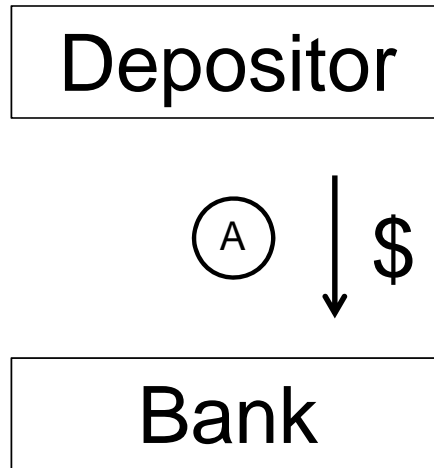
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**“Runnable debt” is effectively “money”, and it comes in many forms.**

**In its simplest form, such debt was produced by banks in the form of demand deposits.**

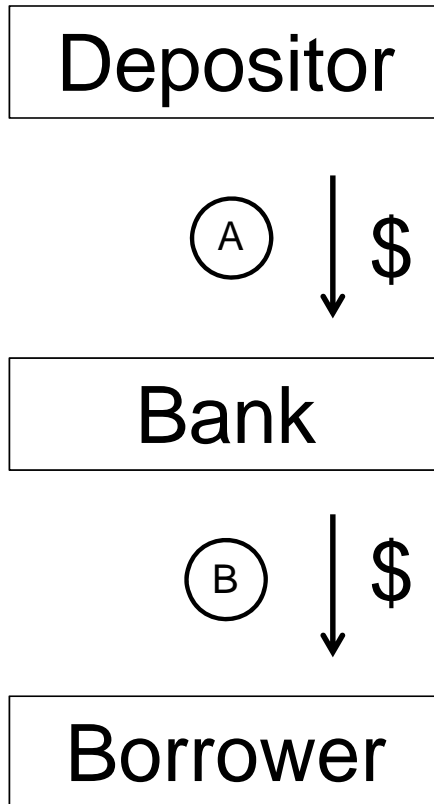
## On-Balance-Sheet Financing

### Traditional Banking



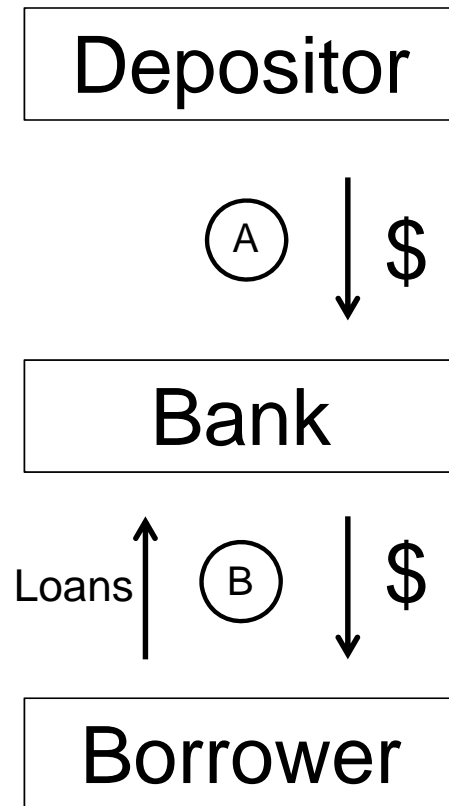
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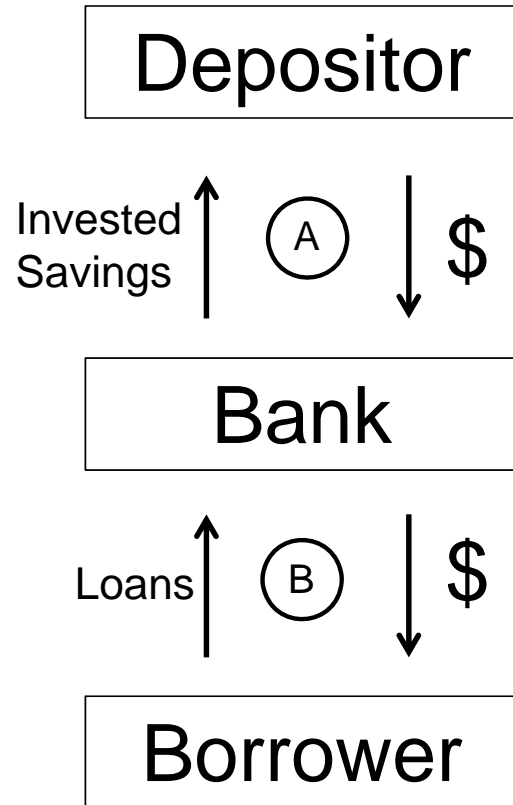
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### Traditional Banking



## On-Balance-Sheet Financing

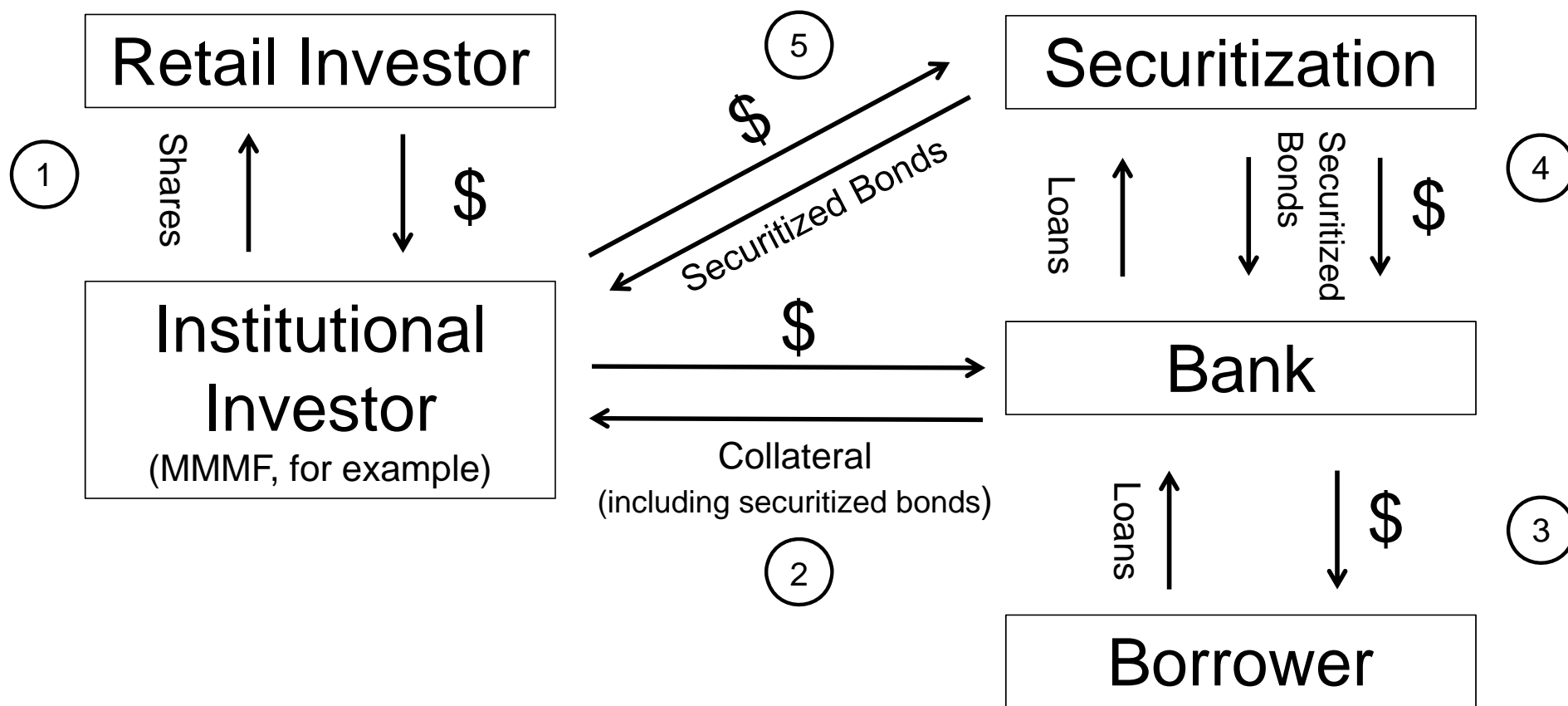
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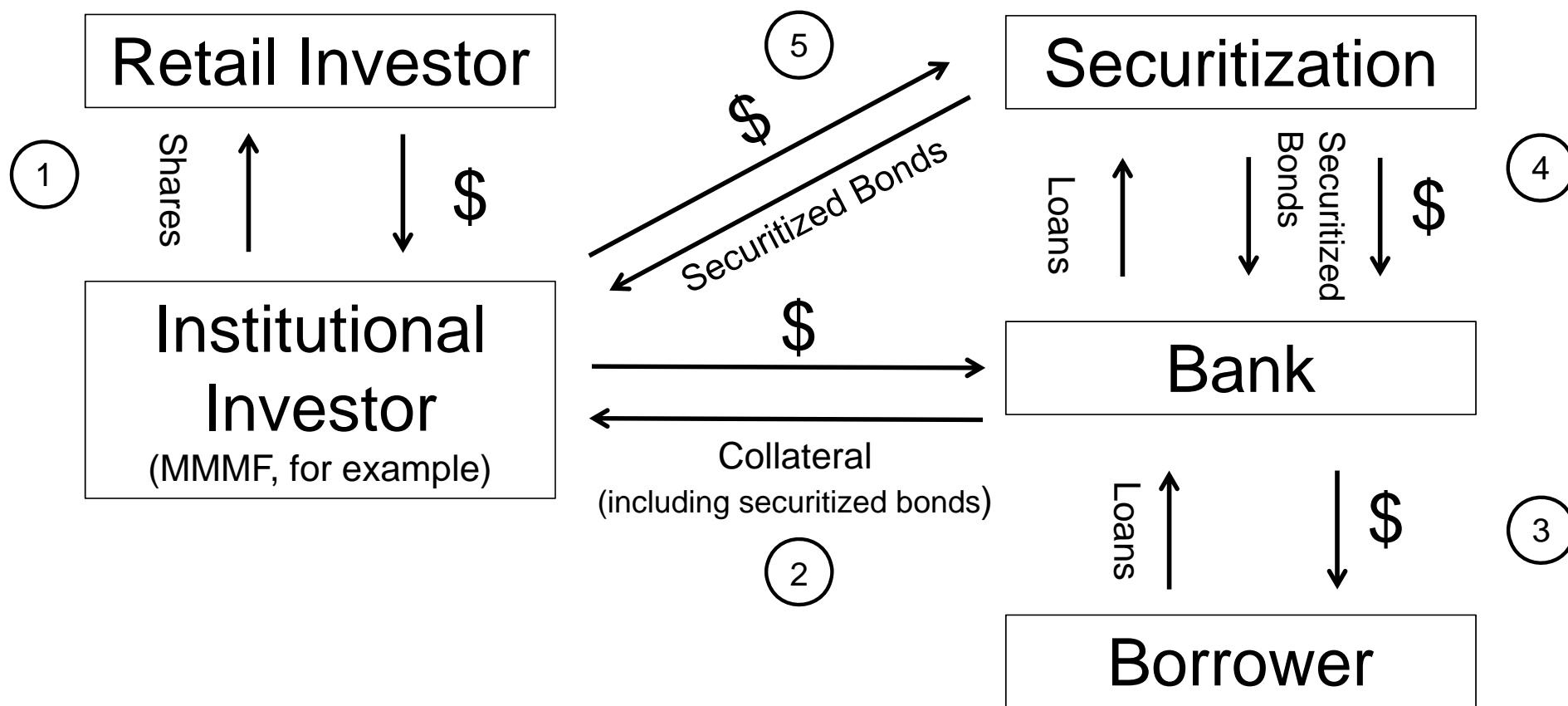
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### Shadow Banking



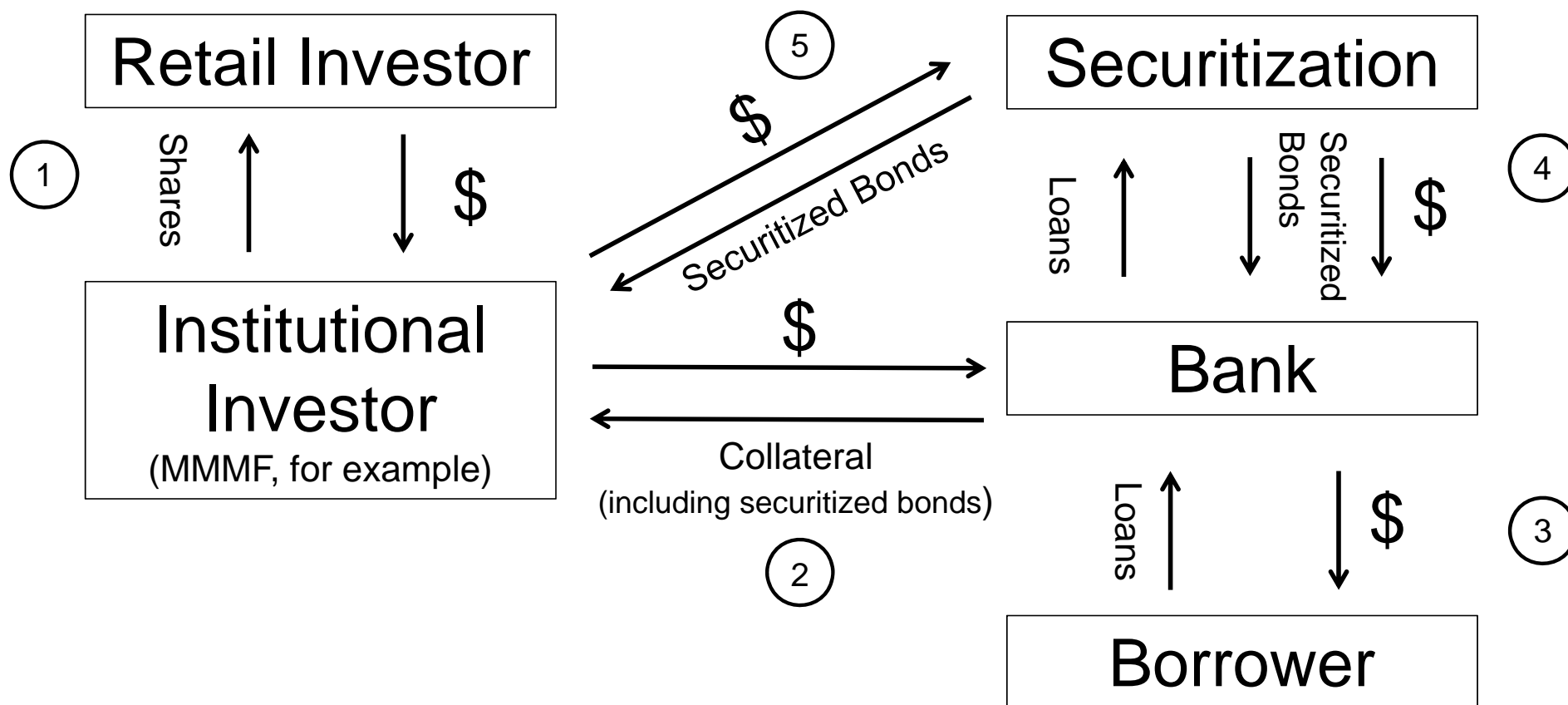
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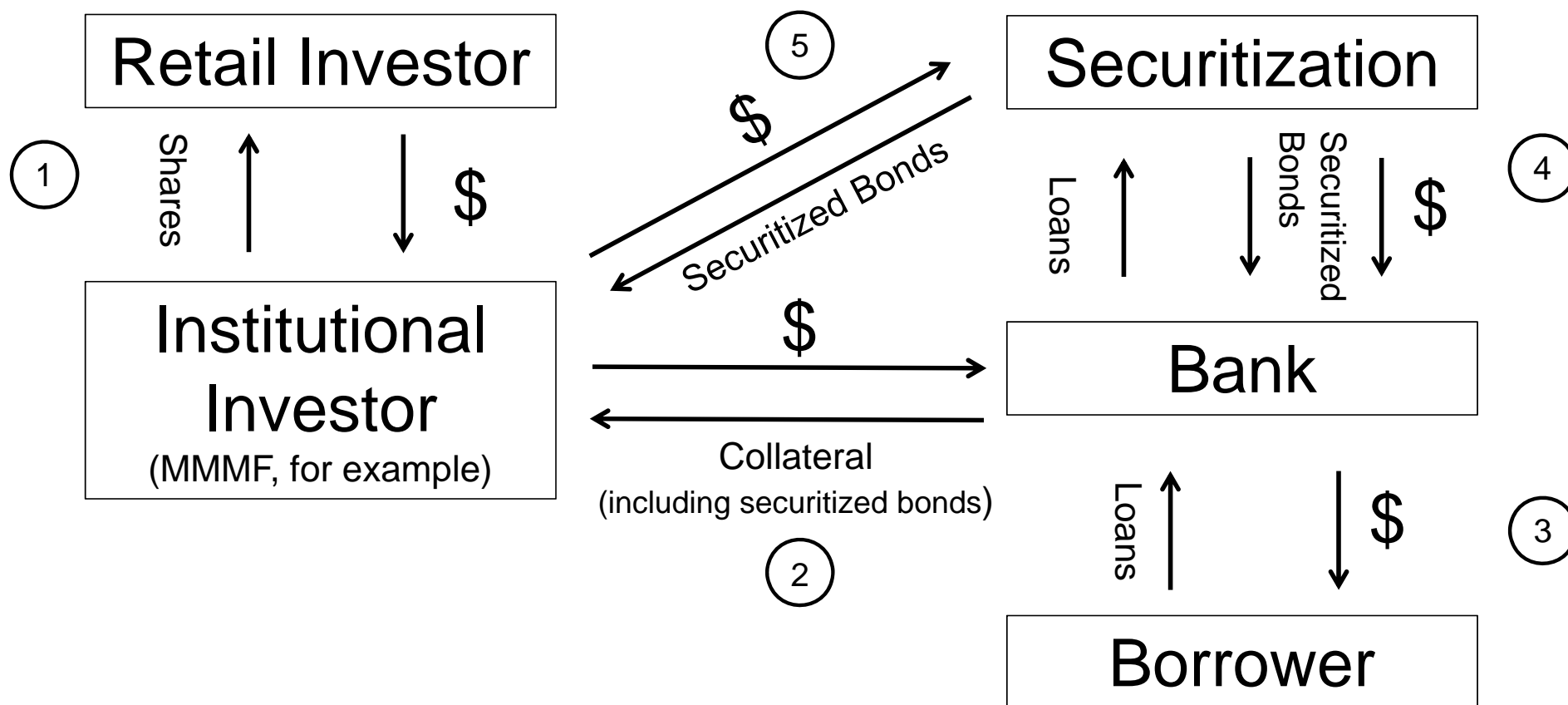
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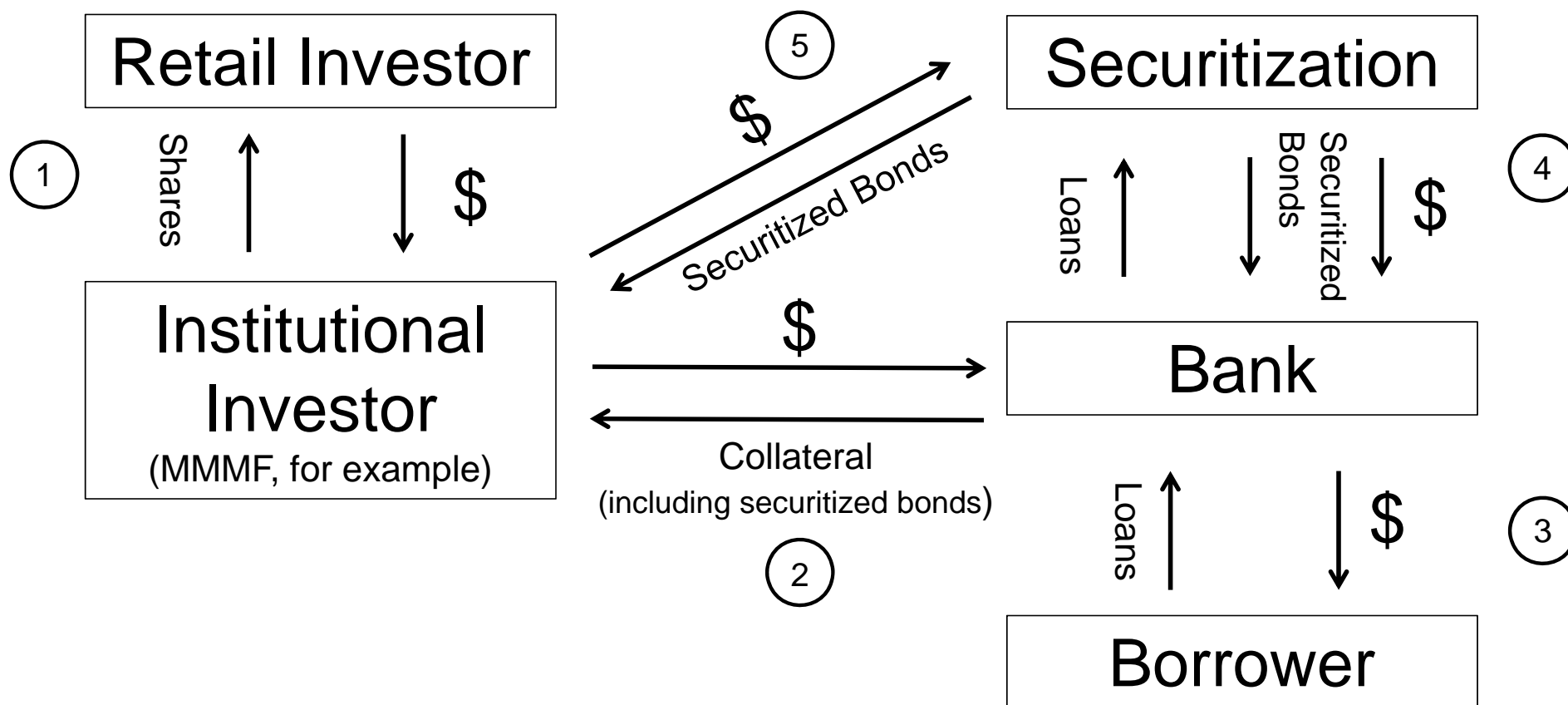
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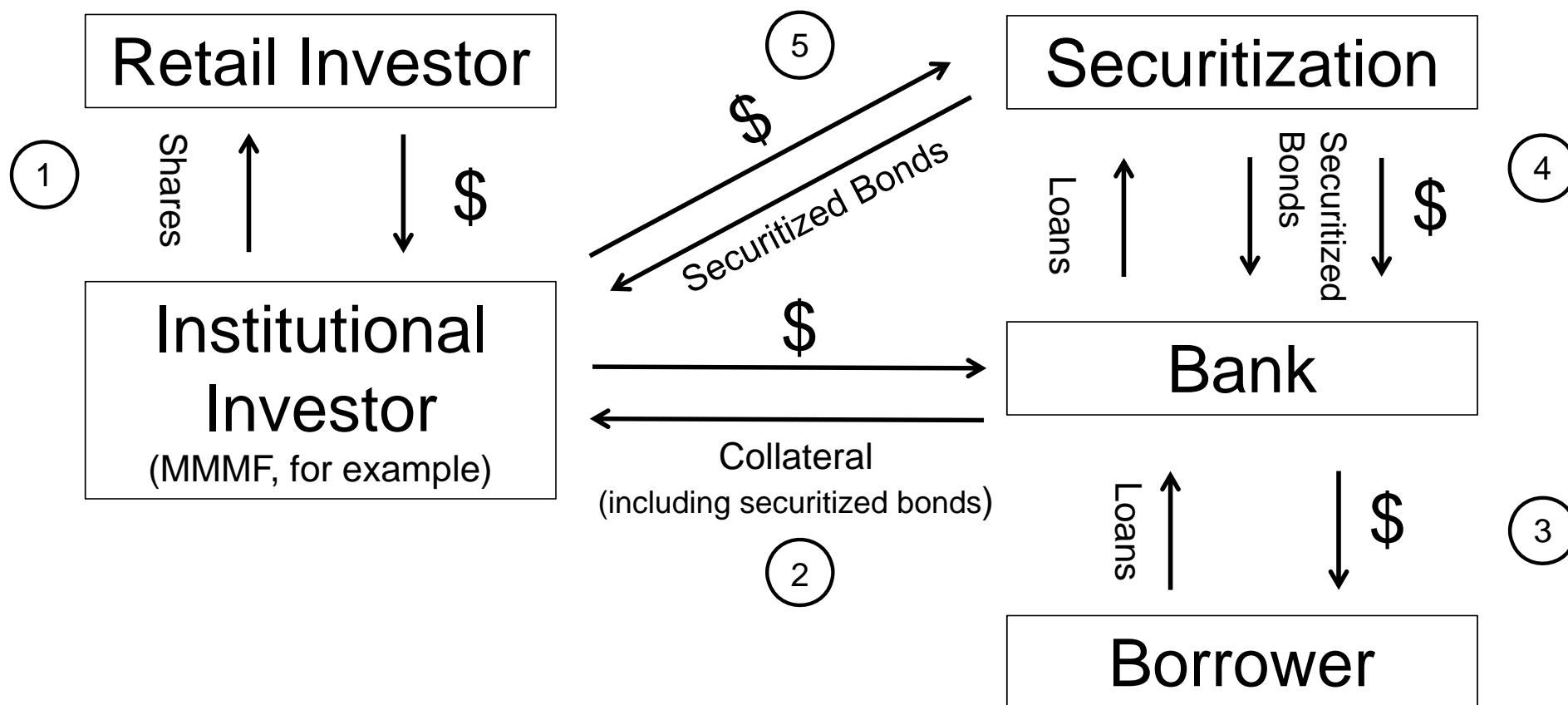
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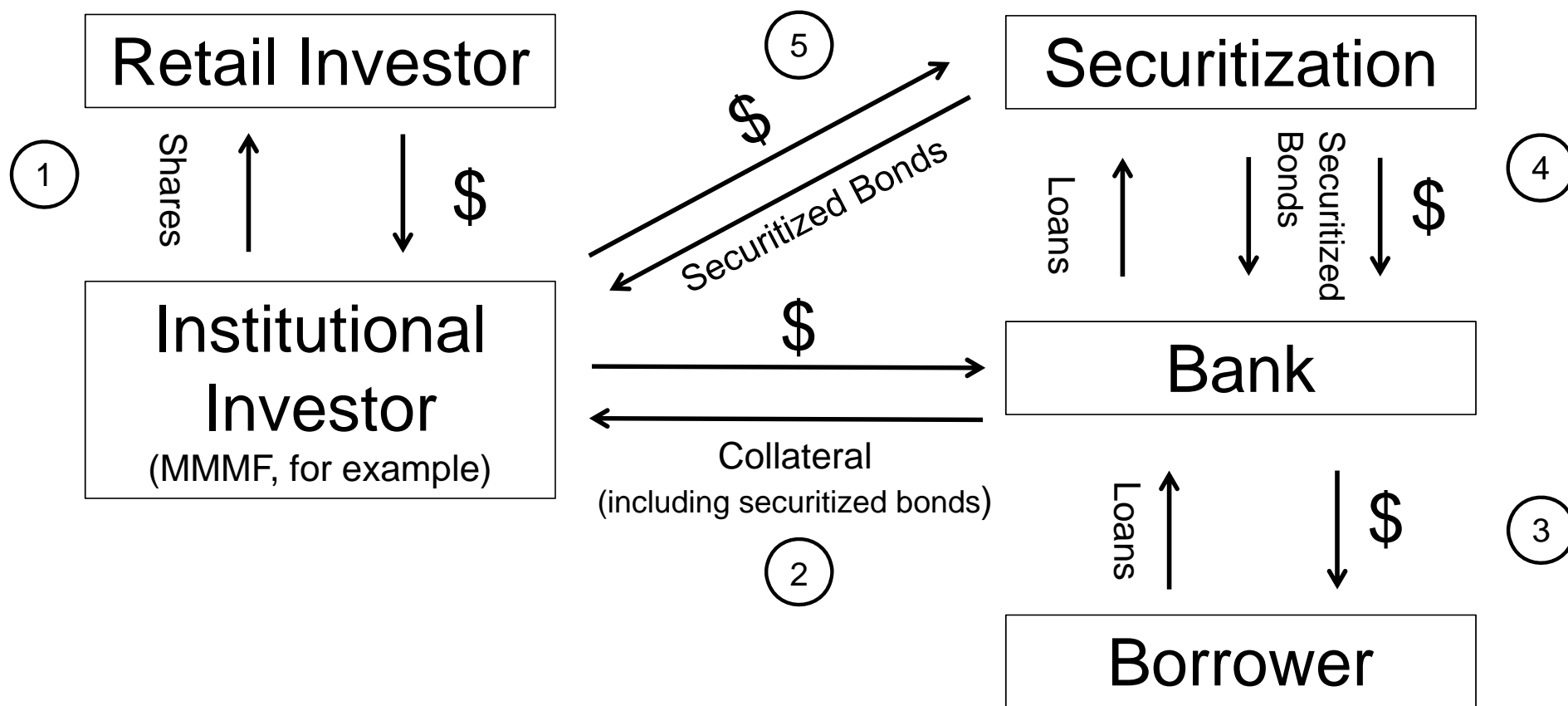
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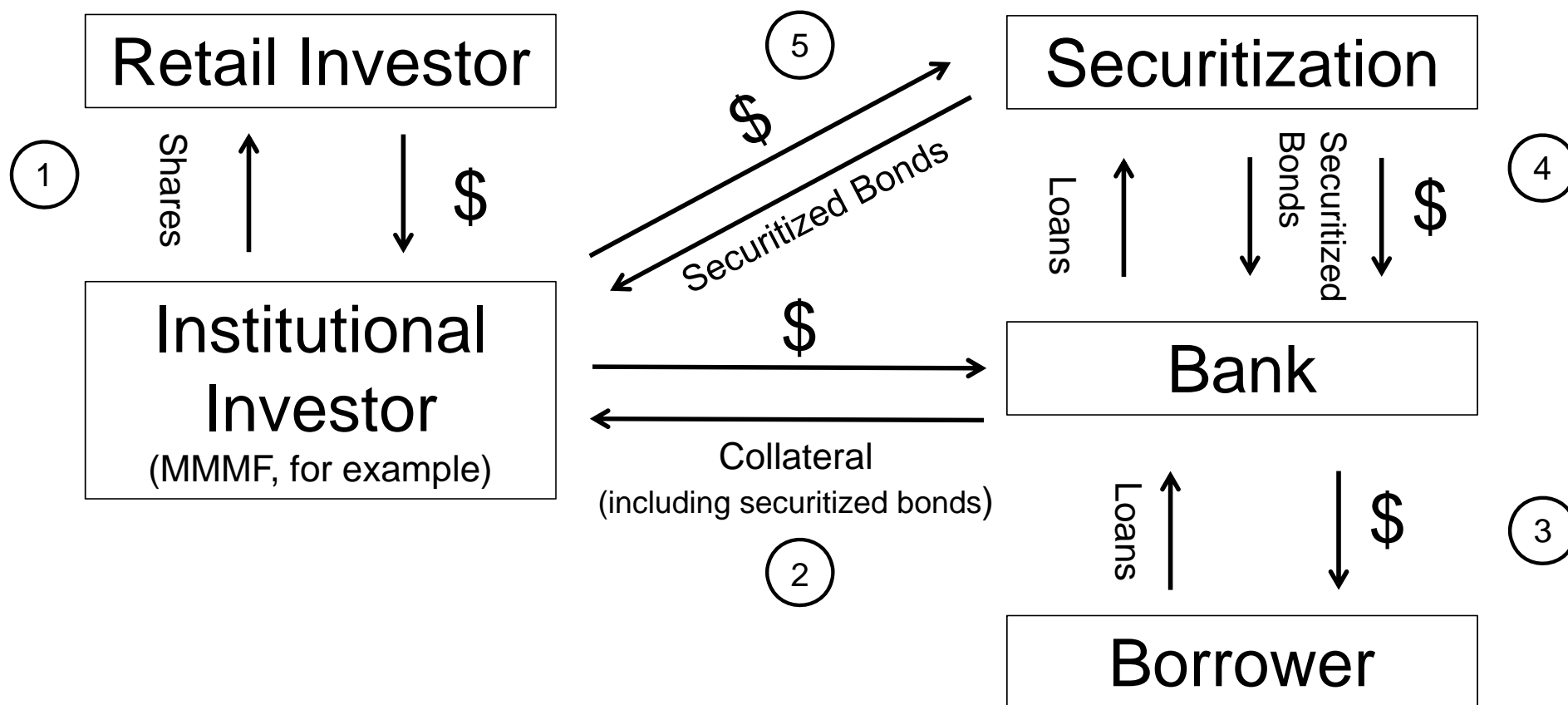
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## Off-Balance-Sheet Financing

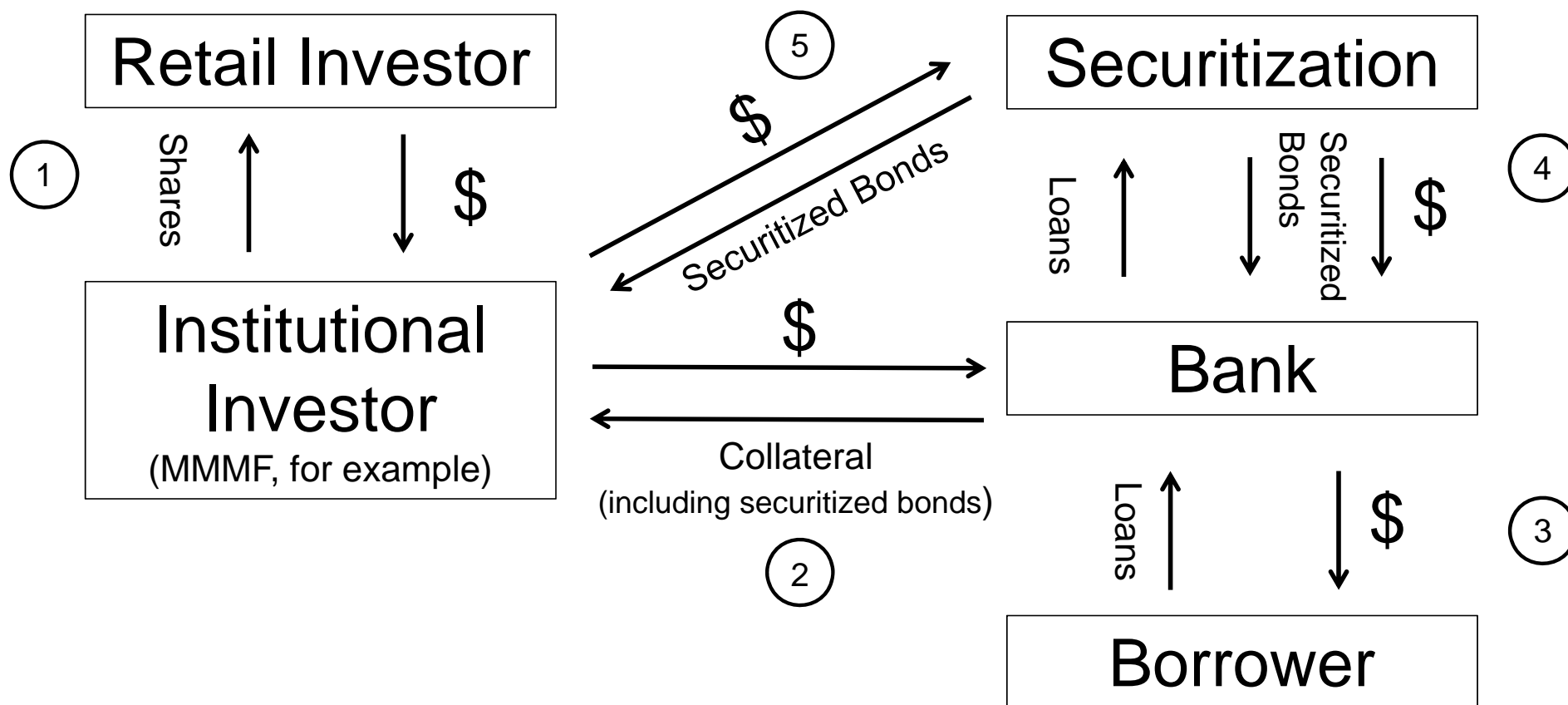
### Shadow Banking





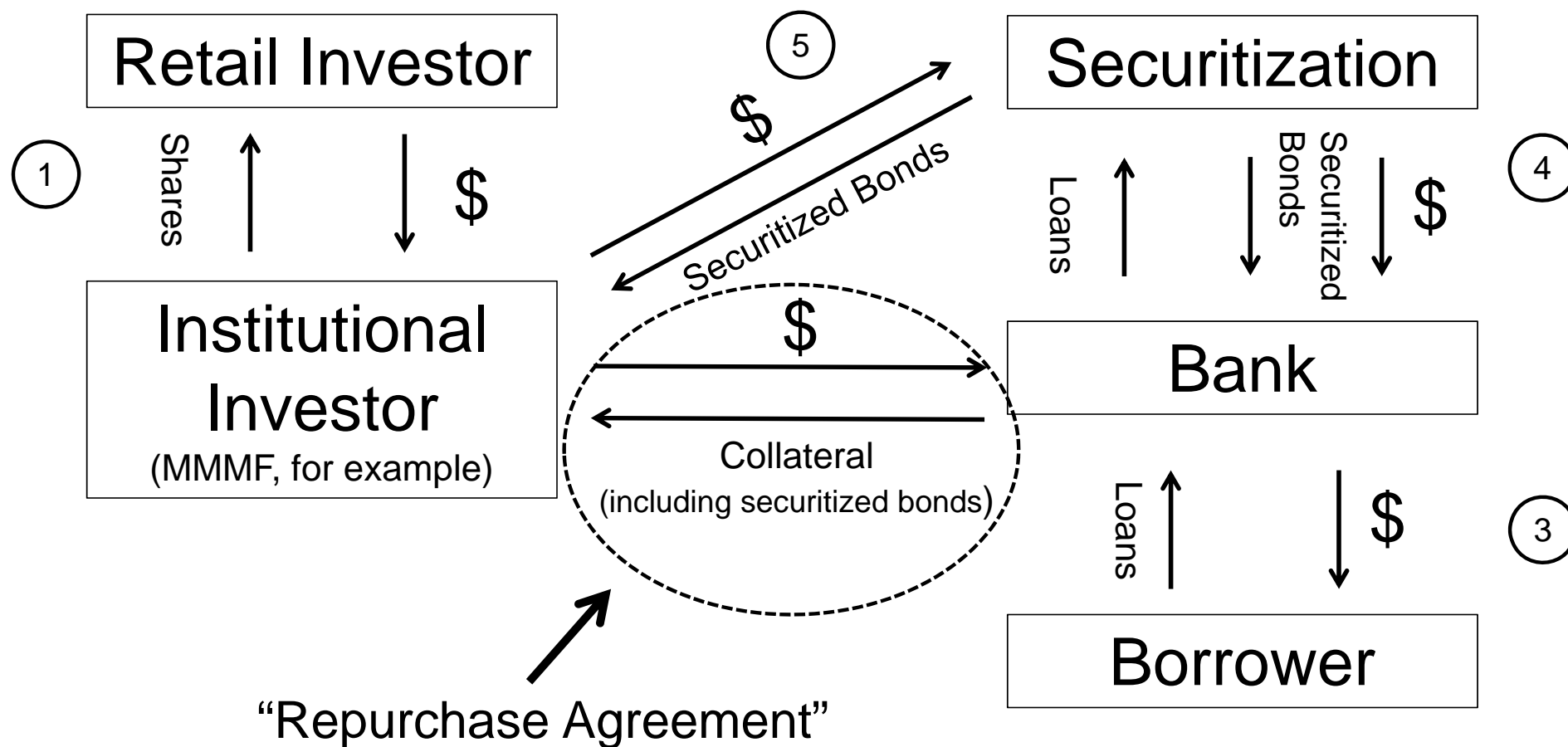
## Off-Balance-Sheet Financing

### Shadow Banking



## Off-Balance-Sheet Financing

### Shadow Banking



# **The Global Financial Crisis**

## **Module 4 Safe Assets and the Global Savings Glut**

### **02 Safe Assets**

# **What Are Safe Assets?**

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## **Information Insensitivity**

**No incentive to produce information about the asset**

**Can also think of this as “no adverse selection”**

**Not the same thing as “risk free” — this is tricky!**

## **Includes**

**Currency**

**Government bonds of stable countries**

**Insured deposits in banks**

## **Excludes**

**Stocks**

**Private debt of third parties**

**Government bonds of unstable countries**

## **The Demand for Safe Assets**

**Why do we need safe assets?**

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### **Investments**

**Investment portfolio for consumers, institutions,  
and other capital pools**

### **Transactions**

**Collateral for financial transactions**

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**These are the same functions we often ascribe to  
traditional money**

# **The Global Financial Crisis**

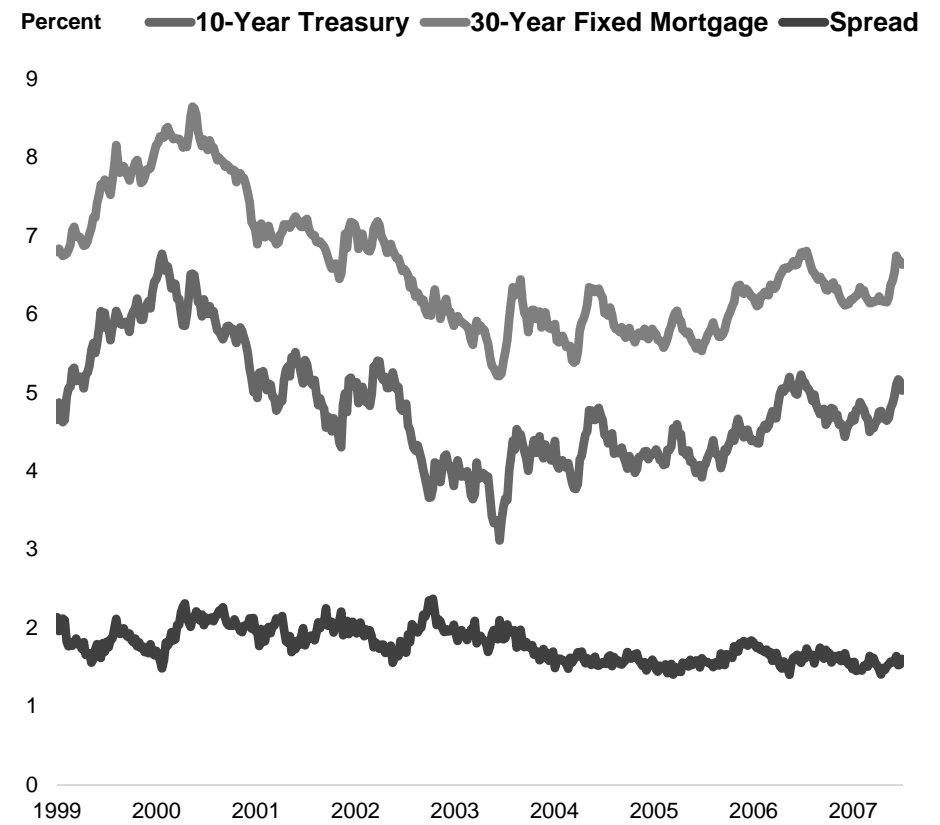
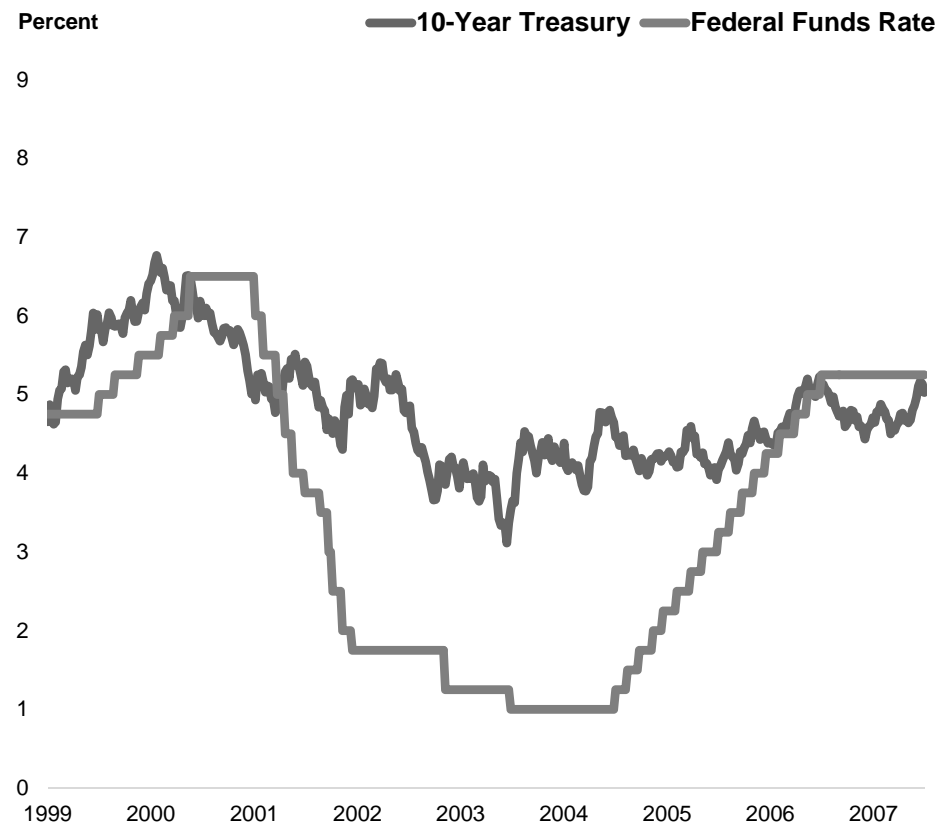
## **Module 4 Safe Assets and the Global Savings Glut**

### **03 The Global Savings Glut Hypothesis**

**Between 2003 and 2007, short-term interest rates in the United States increased, which would normally also increase long-term rates.**

**That didn't happen. Ten-year rates stayed about the same.**

# The Global Savings Glut



Source: Bernanke, B., C. Bertaut, L. DeMarco, and S. Kamin, 2011, International Capital Flows and the Return to Safe Assets in the United States, 2003-2007, FRB International Finance Discussion Paper No. 1014.



**Ben Bernanke proposed that one cause of this “conundrum” was a “global savings glut” (GSG) from emerging-market and commodity rich countries with large current-account surpluses.**

# **The Global Financial Crisis**

## **Module 4 Safe Assets and the Global Savings Glut**

### **04 Global Savings Glut: Data**

**01**

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**GSG demand for safe  
assets and agency  
debt**

**02**

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**Non-GSG European  
countries demanded  
safe government debt  
and AAA-rated  
substitutes**

**03**

---

**“Institutional cash  
pool” demand also  
grew significantly**

**01**

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**GSG demand for safe  
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**02**

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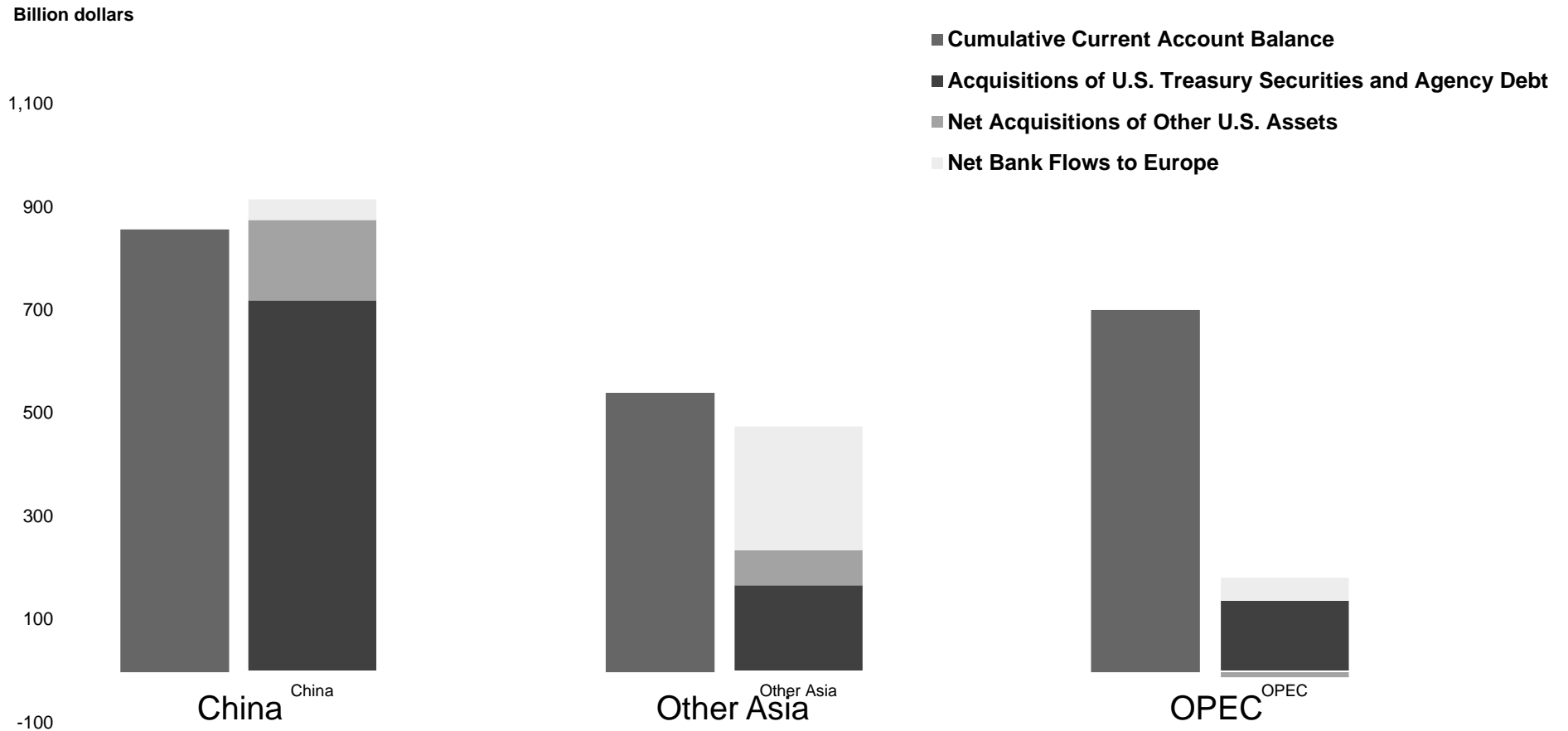
**03**

---

**“Institutional cash  
pool” demand also  
grew significantly**

# The Global Savings Glut

## Current account surplus and certain financial acquisitions of GSG regions, 2003-2007



Source: Bernanke, B., C. Bertaut, L. DeMarco, and S. Kamin, 2011, International Capital Flows and the Return to Safe Assets in the United States, 2003-2007, FRB International Finance Discussion Paper No. 1014.

**01**

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**GSG demand for safe  
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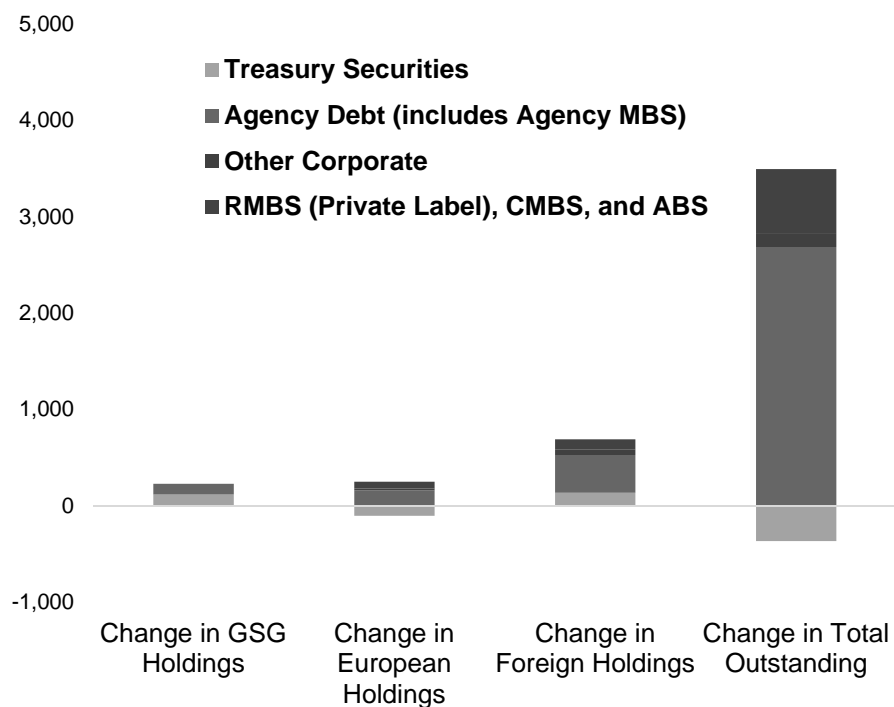
**“Institutional cash  
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# The Global Savings Glut

## Inflows to U.S. AAA-rated securities

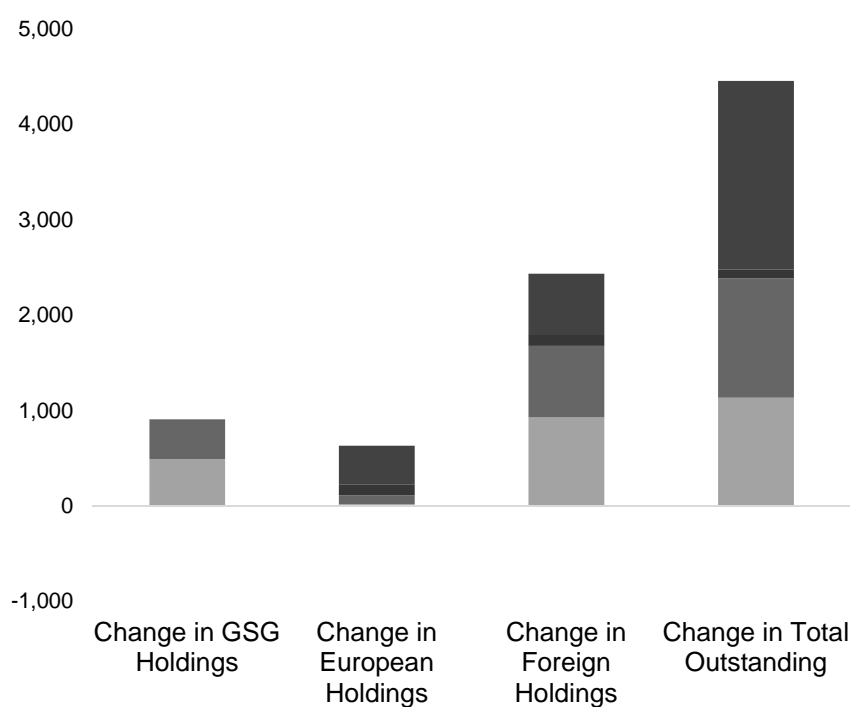
1998-2002

Billion dollars



2003-2007:H1

Billion dollars



Source: Bernanke, B., C. Bertaut, L. DeMarco, and S. Kamin, 2011, International Capital Flows and the Return to Safe Assets in the United States, 2003-2007, FRB International Finance Discussion Paper No. 1014.

# **The Global Financial Crisis**

## **Module 4 Safe Assets and the Global Savings Glut**

### **05 Global Savings Glut: Data, Part II**



**01**

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**GSG demand for safe  
assets and agency  
debt**

**02**

---

**Non-GSG European  
countries demanded  
safe government debt  
and AAA-rated  
substitutes**

**03**

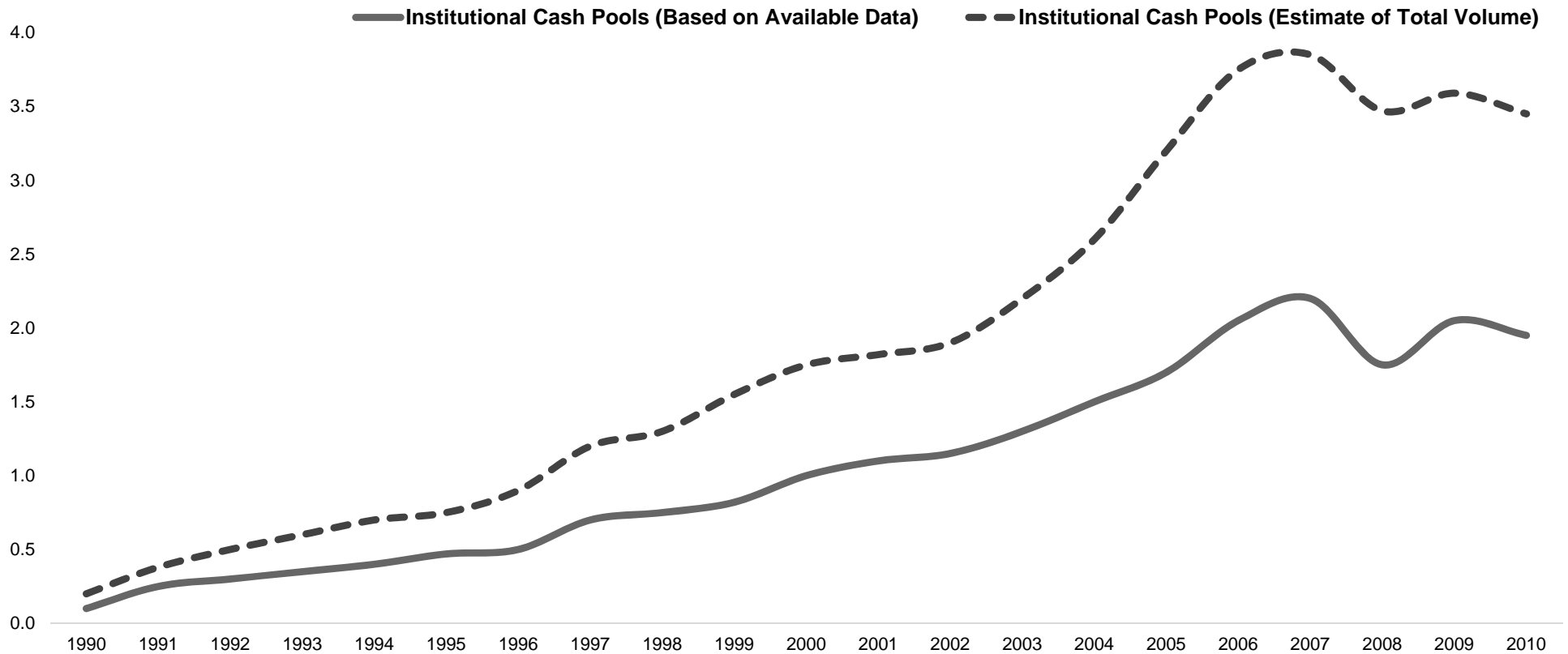
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**“Institutional cash  
pool” demand also  
grew significantly**

# The Global Savings Glut

## The Secular Rise of Institutional Cash Pools

Trillion dollars



Source: Pozsar, Zoltan. 2011, Institutional Cash Pools and the Triffin Dilemma of the U.S. Banking System, International Monetary Fund Working Paper 11/190.

# **The Global Financial Crisis**

## **Module 4 Safe Assets and the Global Savings Glut**

### **06 Safe Asset Supply**

## **Supply of Safe Assets**

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**Precious metals**

**Debt and currency of stable countries: U.S.,  
U.K., Germany**

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**By 2007, we were running out of U.S. securities  
for to serve as safe assets.**

# Supply of Safe Assets

## Sources of Institutional Demand for Treasury Bills and Agency Debt

Billion dollars

	2005	2006	2007	2008	2009	2010
<b>Outstanding Amounts</b>						
Short-term Treasury securities	1,146	1,173	1,192	1,909	2,558	2,487
Short-term agency securities	568	489	560	903	844	618
<b>Total</b>	<b>1,714</b>	<b>1,662</b>	<b>1,752</b>	<b>2,812</b>	<b>3,402</b>	<b>3,105</b>
<b>(-) Foreign Official Holdings</b>						
Short-term Treasury securities	216	193	181	273	562	na
Short-term agency securities	112	110	80	130	34	na
<b>Total</b>	<b>328</b>	<b>303</b>	<b>261</b>	<b>403</b>	<b>596</b>	<b>na</b>
<b>(-) Demand from Institutional Cash Pools</b>						
Institutional cash pools (based on available data)	1,771	2,120	2,216	1,834	2,041	1,911
Institutional cash pools (estimate of total volume)	3,120	3,735	3,852	3,467	3,596	3,432
<b>Average</b>	<b>2,446</b>	<b>2,928</b>	<b>3,034</b>	<b>2,651</b>	<b>2,819</b>	<b>2,672</b>
<b>= Deficit of safe, liquid, short-term products</b>	<b>-1,060</b>	<b>-1,569</b>	<b>-1,543</b>	<b>-242</b>	<b>-13</b>	<b>na</b>

Source: Pozsar, Zoltan. 2011, Institutional Cash Pools and the Triffin Dilemma of the U.S. Banking System, International Monetary Fund Working Paper 11/190.

# **The Global Financial Crisis**

## **Module 4 Safe Assets and the Global Savings Glut**

### **07 Manufacturing Safe Assets**

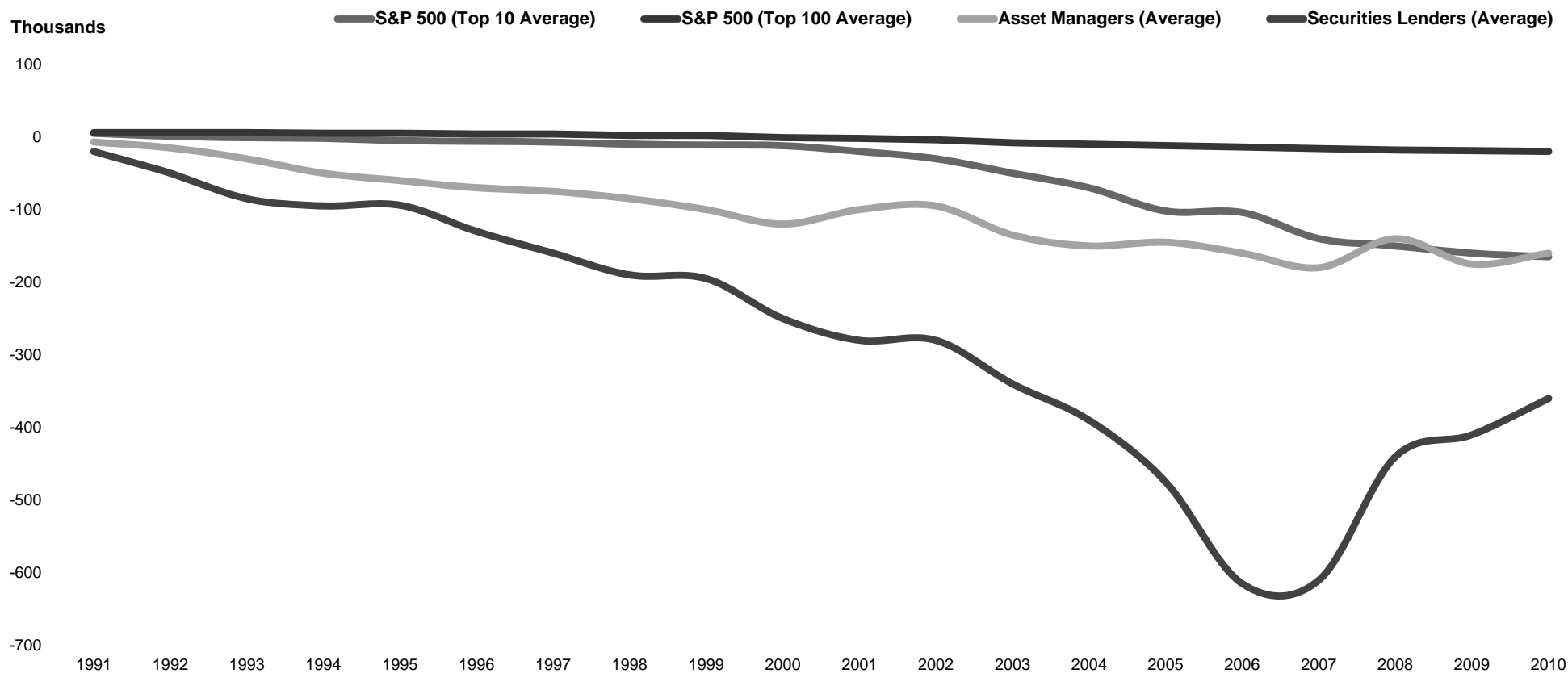
## **Supply of Safe Assets**

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**Insured deposits in commercial banks can act like safe assets... but there aren't enough insured bank deposits.**

## Not Enough Banks to Source Safety for Cash Pools

# of additional banks needed to get safety through insured, \$100,000 deposits



Source: Pozsar, Zoltan. 2011, Institutional Cash Pools and the Triffin Dilemma of the U.S. Banking System, International Monetary Fund Working Paper 11/190.



**When there is excess demand for something, we can expect somebody to try to make it.**

## **“Manufacturing” Safe Assets**

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**The key principle is to use only part of an asset as collateral.**

**A house is purchased for \$1 million in cash. How safe would a security be that is based on getting at least \$1,000 on that property? How much work would you need to do to figure that out?**

**A large tech company has a market capitalization of \$100 billion in equity, with zero debt. How safe would be the first \$1 million of debt?**

**The key here is to set the debt to value ratio low enough that nobody has an incentive to analyze default probabilities.**

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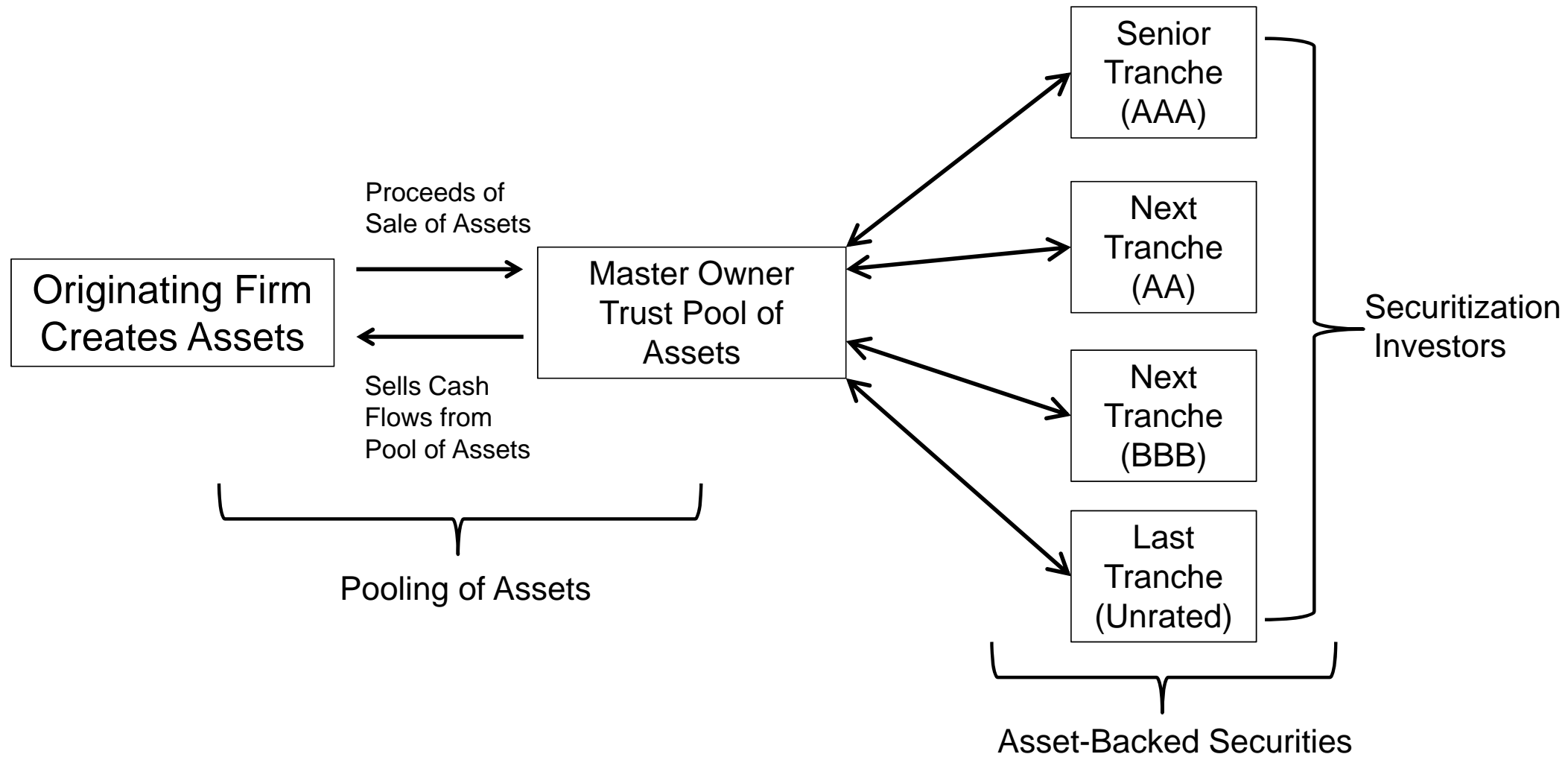
**This is not the same thing as “default is impossible”!**

# **The Global Financial Crisis**

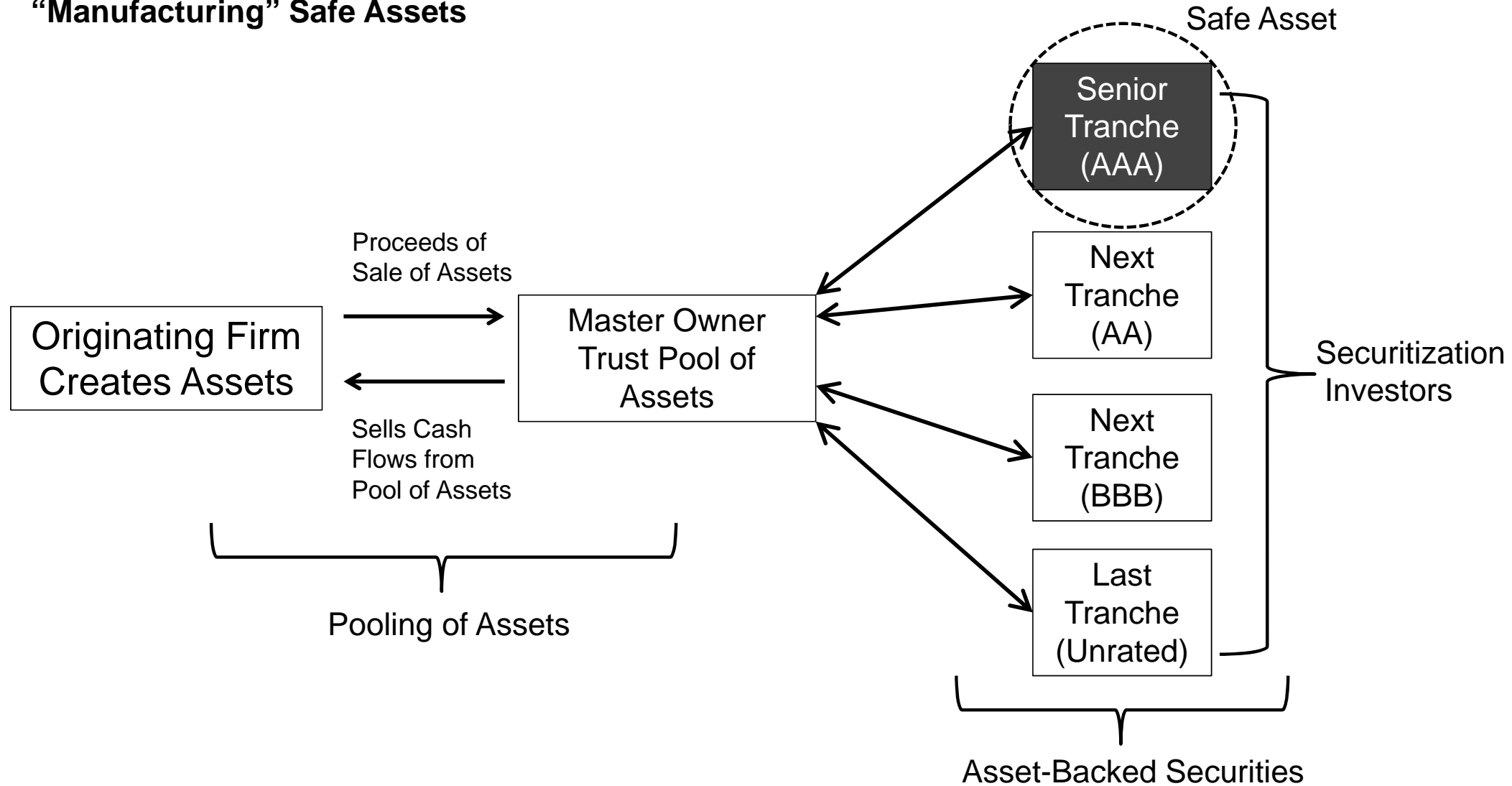
## **Module 4 Safe Assets and the Global Savings Glut**

### **08 Securitization: Overview**

## “Manufacturing” Safe Assets



## “Manufacturing” Safe Assets



## **“Manufacturing” Safe Assets**

**Why do it this way?**

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### **Agency Risk**

**Risk that bank’s management makes a mistake  
and harms the rest of their business operations**

**But since these assets don’t require maintenance  
– they just collect cash payments –you don’t need  
the bank’s management to be involved any longer**

### **Market Risk**

**If the value of the assets fall far enough, the  
special purpose vehicle has unique bankruptcy  
rules which are much cheaper than usual  
bankruptcy costs**

# **The Global Financial Crisis**

## **Module 4 Safe Assets and the Global Savings Glut**

### **09 Securitization: Data, Part 1**

## **Securitization: Data**

**01**

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**U.S. MBS issuance  
was dominated by  
agencies until 2003.**

**02**

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**U.S. non-mortgage  
ABS issuance  
increased sharply in  
the early 2000s.**



## **Securitization: Data**

**01**

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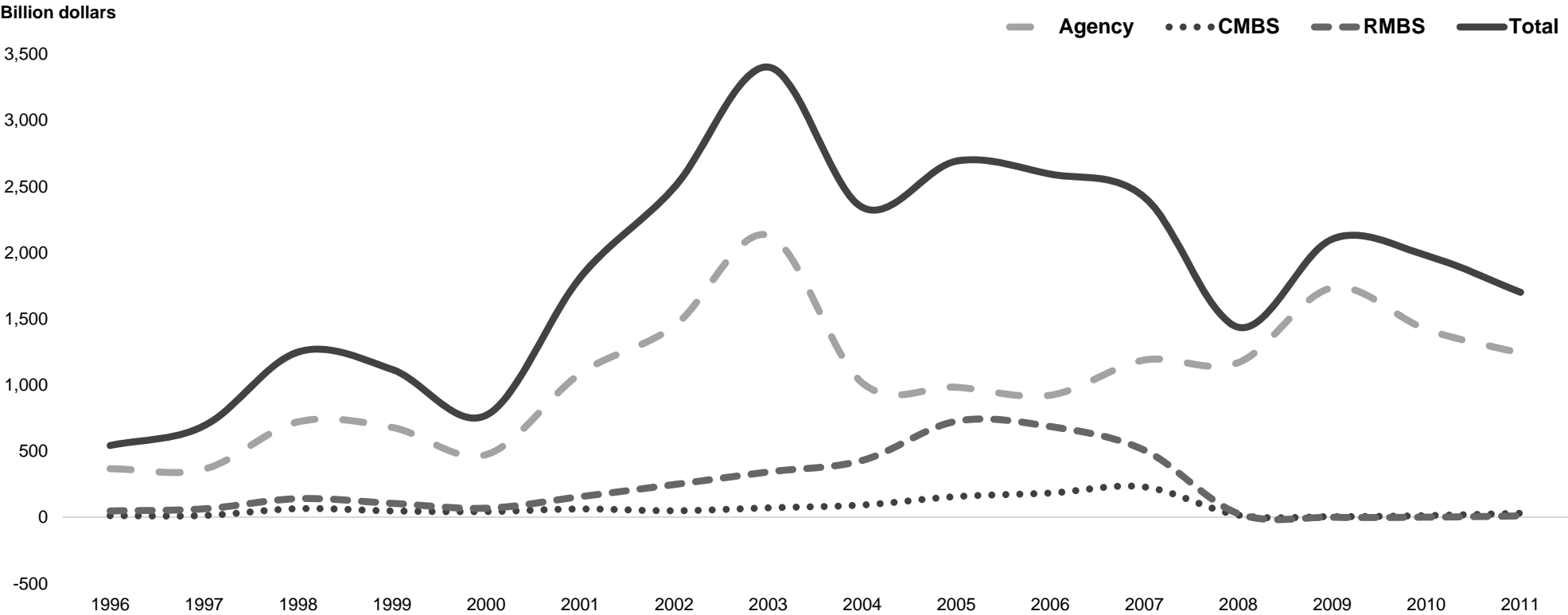
**U.S. MBS issuance  
was dominated by  
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**02**

---

**U.S. non-mortgage  
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the early 2000s.**

# U.S. Mortgage Related Securities Issuance



Source: Gorton, Gary B. and Andrew Metrick, Securitization, 2013, Handbook of the Economics of Finance, Volume 2A, George Constantinides, Milton Harris, and Rene Stulz eds., 1-70, Elsevier.

# **The Global Financial Crisis**

## **Module 4 Safe Assets and the Global Savings Glut**

### **10 Securitization: Data, Part 2**

## **Securitization: Data**

**01**

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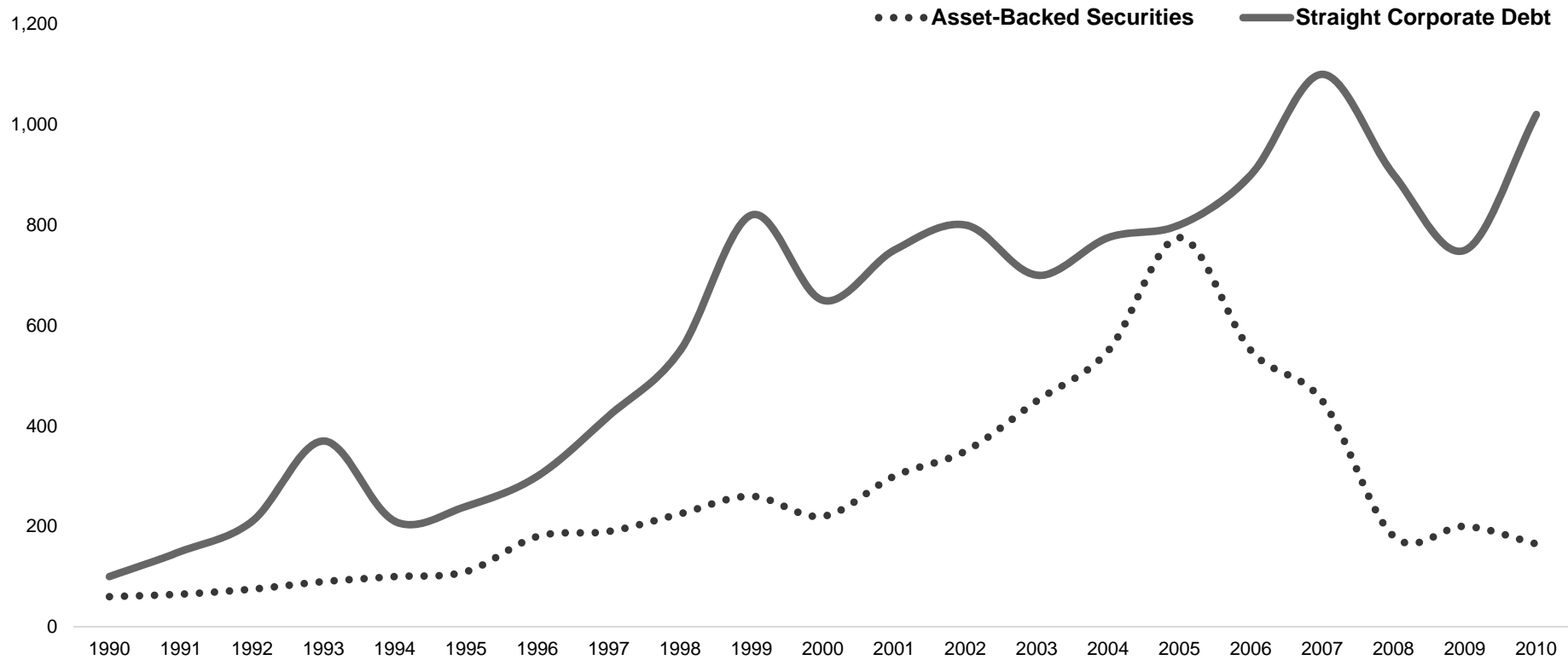
**02**

---

**U.S. non-mortgage  
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increased sharply in  
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## Non-Mortgage ABS Issuance vs. Corporate Debt Issuance

Billion dollars



Source: Gorton, Gary B. and Andrew Metrick, Securitization, 2013, Handbook of the Economics of Finance, Volume 2A, George Constantinides, Milton Harris, and Rene Stulz eds., 1-70, Elsevier.

# **The Global Financial Crisis**

## **Module 4 Safe Assets and the Global Savings Glut**

### **11 Summary**

# Summary

## Module 4

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- |    |  |    |   |
|----|--|----|---|
| 01 | Safe assets are information-insensitive  | 04 | Supply of safe government debt was insufficient to meet the resulting increased demand.                         |
| 02 | Global demand for safe assets increased significantly before the Global Financial Crisis                                       | 05 | Financial institutions responded by manufacturing information-insensitive debt, primarily using securitization. |
| 03 | Countries with large current account surpluses, European banks, and institutional cash pools increasingly demanded safe assets | 06 | Securitization reduces agency risk and lowers liquidation costs should the value of the assets fall too far     |