With Hindsight, Can We See the Financial/Liquidity Crisis Coming?

Kenneth J. Singleton

Stanford University and NBER

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Looking Back, Do Risk Premiums Hint at a Pending Crisis?

- The ongoing global financial crisis has raised new questions about the contributions of financial market frictions to business cycle fluctuation and risk in financial markets.
- What economic forces underlie variation in excess returns in bond markets over the past twenty years?
  - (i) Comove with business cycle variables?
  - (ii) Comove with financial conditions, liquidity, and hedging activity?

Business Cycle Components of Bond Risk Premiums

- The literature on risk premiums has focused on indigenous risks in bond markets: "level," "slope," and "curvature" as captured by the principal components (PCs) of bond yields.
  - See Duffee [2002], Dai and Singleton [2002], Cochrane and Piazzesi [2005].
- Yield curves factors reflect all economic sources of risk–growth, inflation, liquidity, financial frictions.

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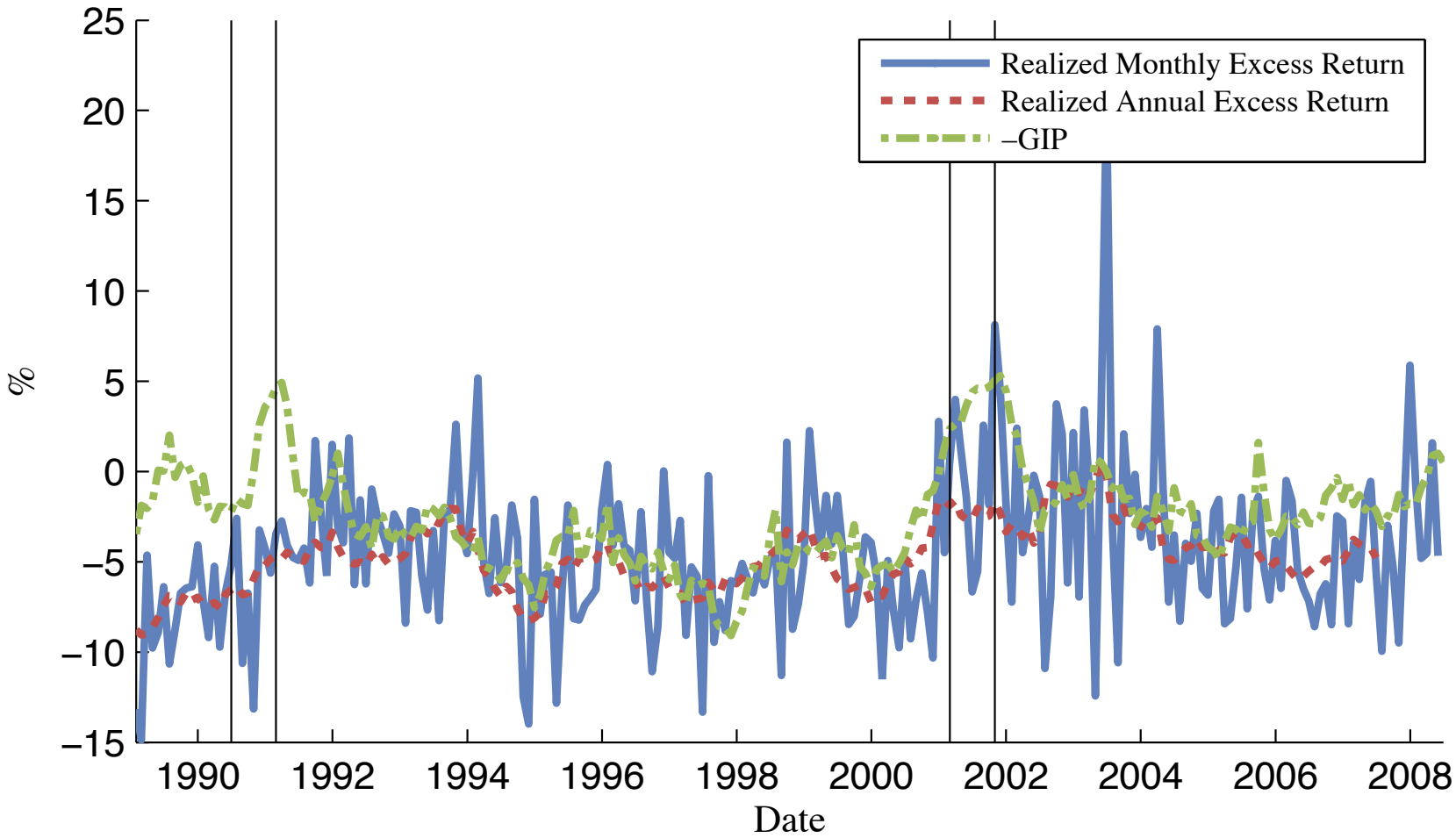
- Yield curves factors reflect all economic sources of risk–growth, inflation, liquidity, financial frictions.
- How much variation do business cycle factors explain?
  - Ludvigson and Ng [2009] and Joslin, Priebsch, and Singleton [2010]: risk premiums determined by economic growth.

Realized Excess Return on a Slope-Tracking Portfolio

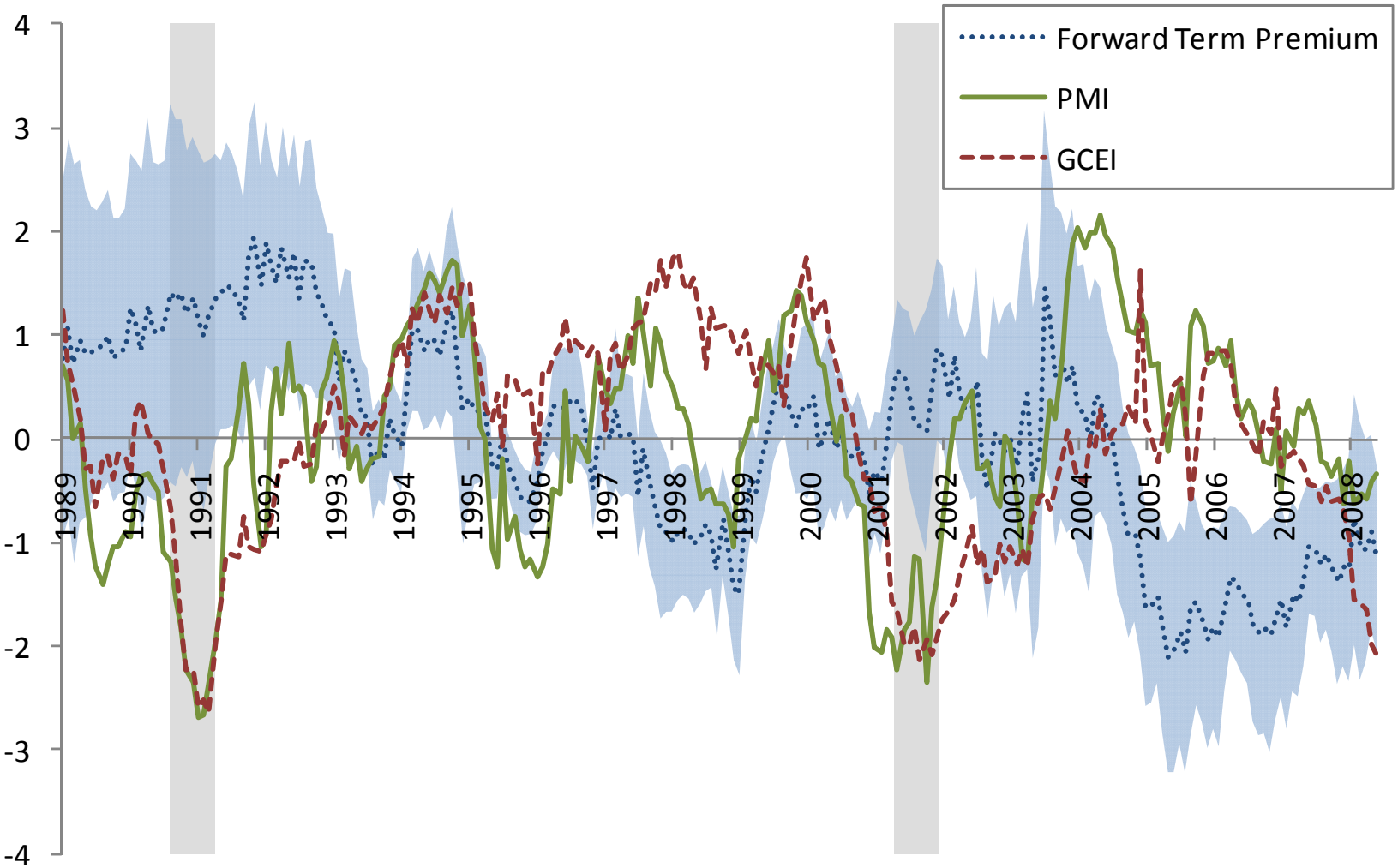


A Dynamic Term Structure Model in Which the Business Cycle Influences Risk Premiums

- Expected excess returns in swap markets influenced by output growth and inflation.
- All other risks captured through yield-curve factors (level, slope, curvature).
- Do business cycle factors alone explain risk premiums?
- Look through the lens of forward term premiums:

$$FTP_t^{9,1} \equiv f_t^{9,1} - E_t[r_{t+9yr}^{1yr}]$$

Standarized "in-9-for-1" Forward Term Premium

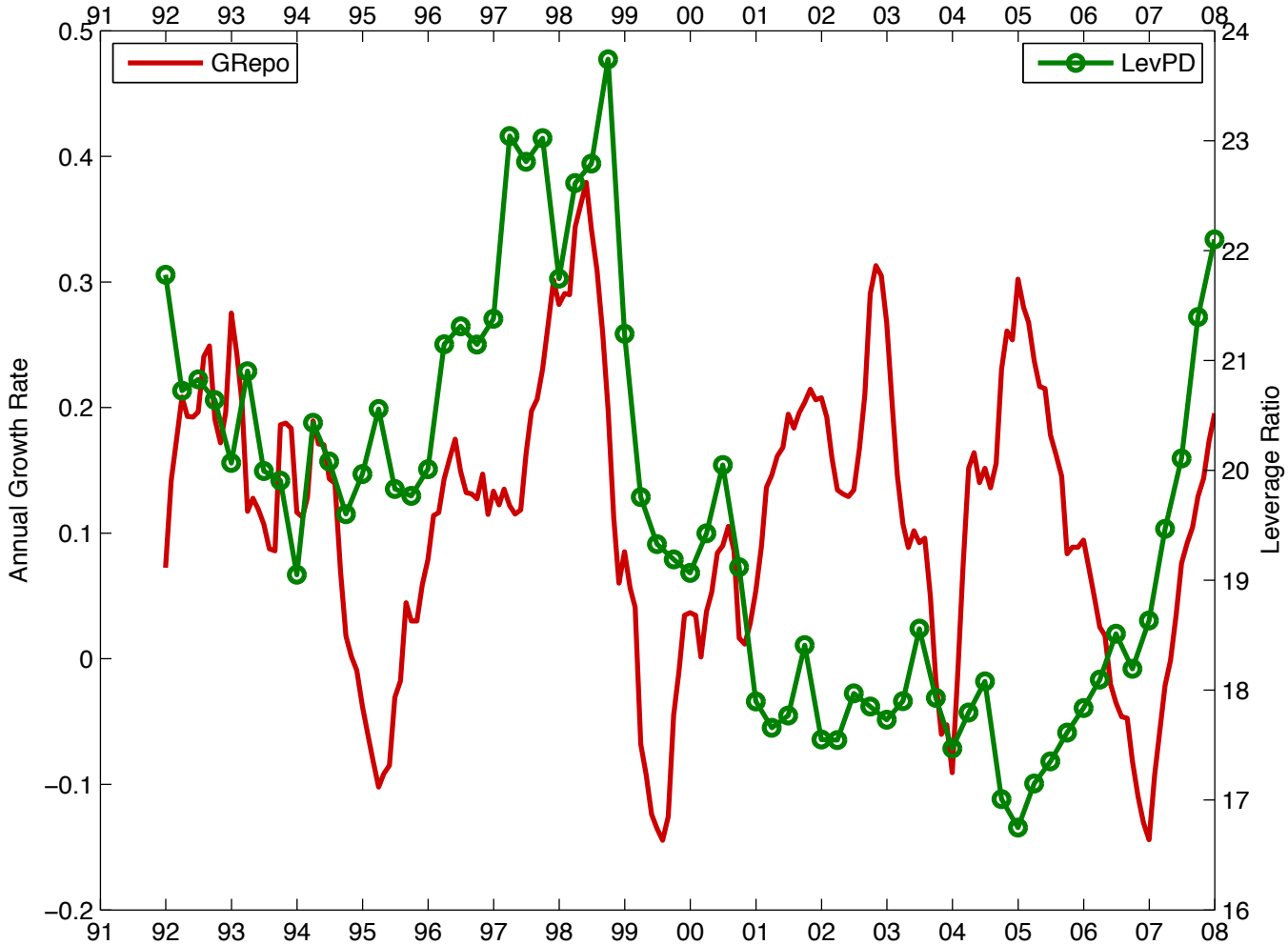


Do Financial Frictions Matter for Swap Spreads?

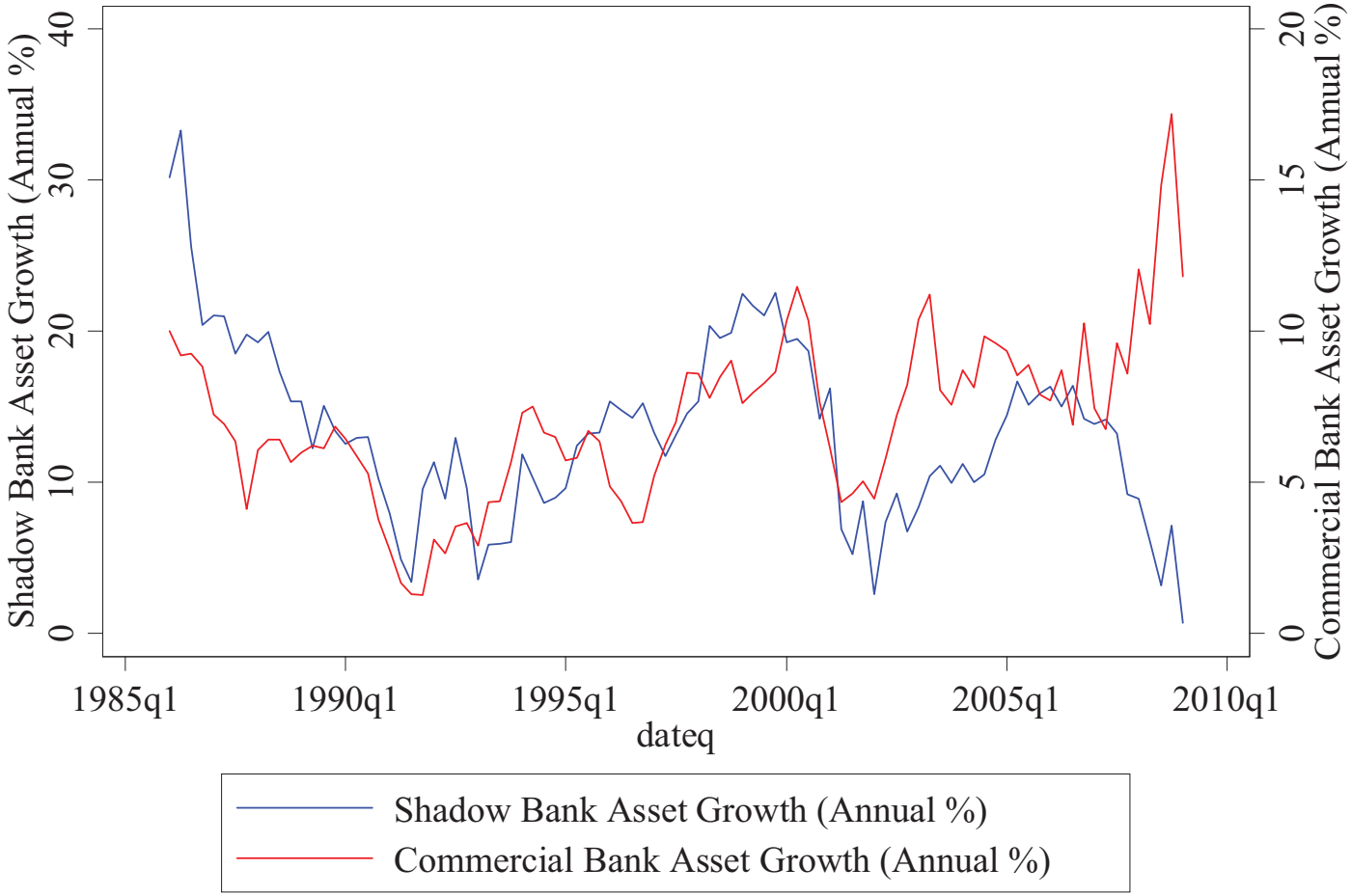
- What should we look for? [Remember, we have hindsight!]

1. Liquidity and the balance sheets of financial institutions: Shin [2008], Adrian and Shin [2009].
2. Funding and Hedging pressures from GSEs: slope of the term structure of GSE spreads, $GSE2$.
   - Massive growth in balance sheets of GSEs, indicative of funding conditions.
   - GSEs hedge the interest rate risk of their mortgage positions with swaps.
3. Conditions in bank-loan market: senior loan officer survey of demand for $C\&I$ loans by large and medium size companies.

Repo Positions and Mean Leverage of Primary Dealers



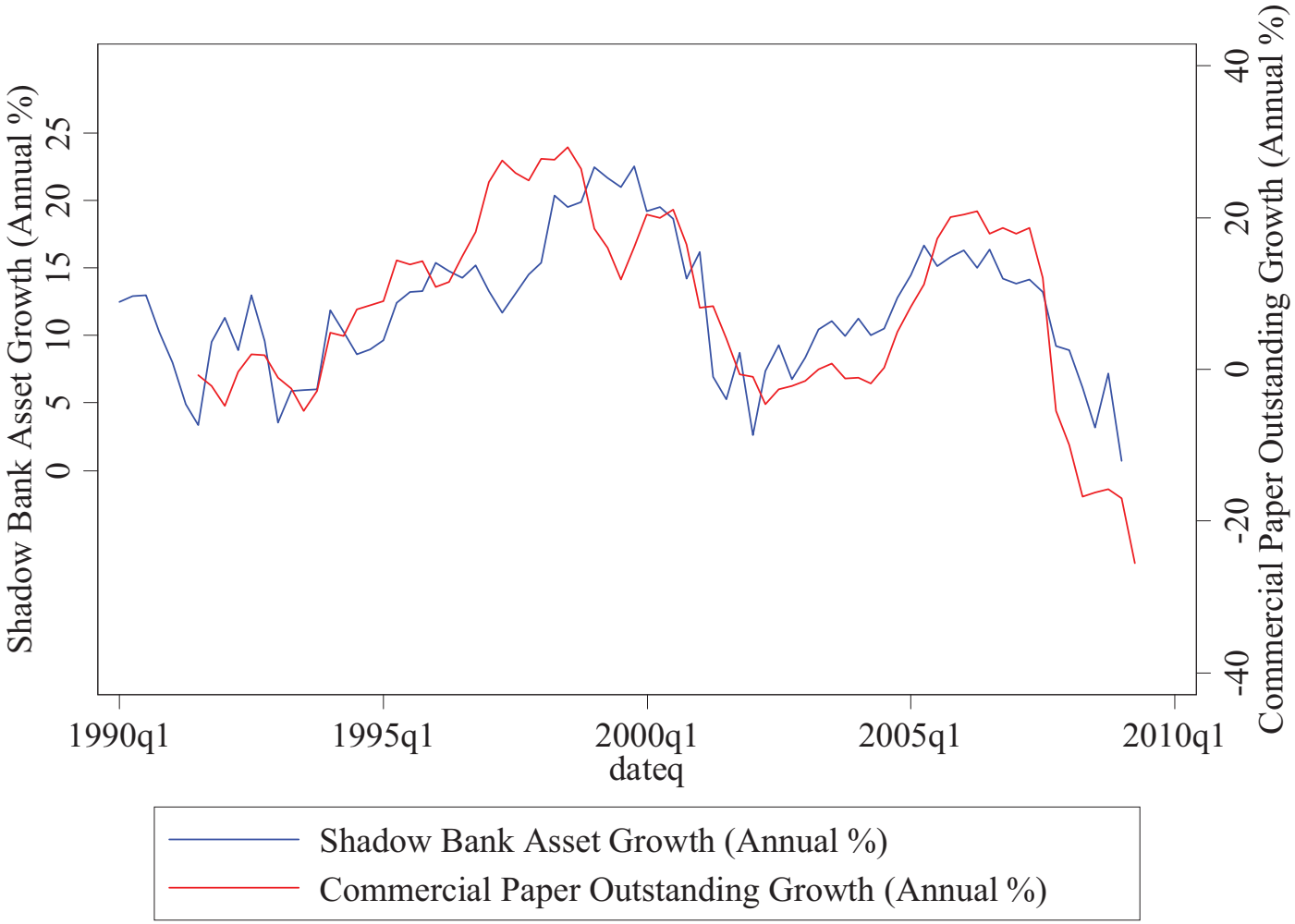
Banks and Their Shadow



Note: Shadow banks are ABS issuers, finance companies, and funding corporation
Source: Board of Governors of the Federal Reserve

From Shin (2009)

How Was this Growth Funded?



Sources: Board of Governors of the Federal Reserve

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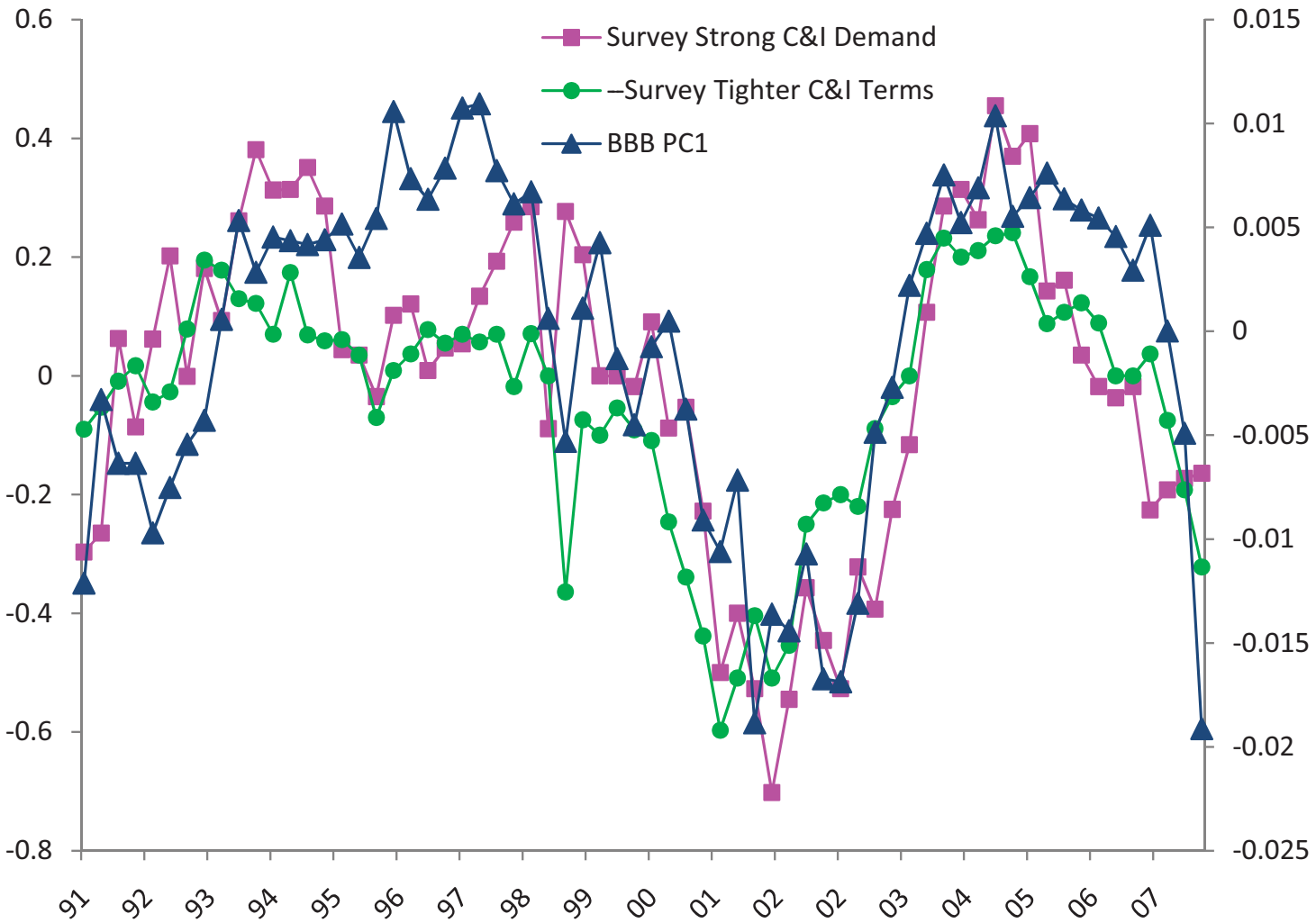
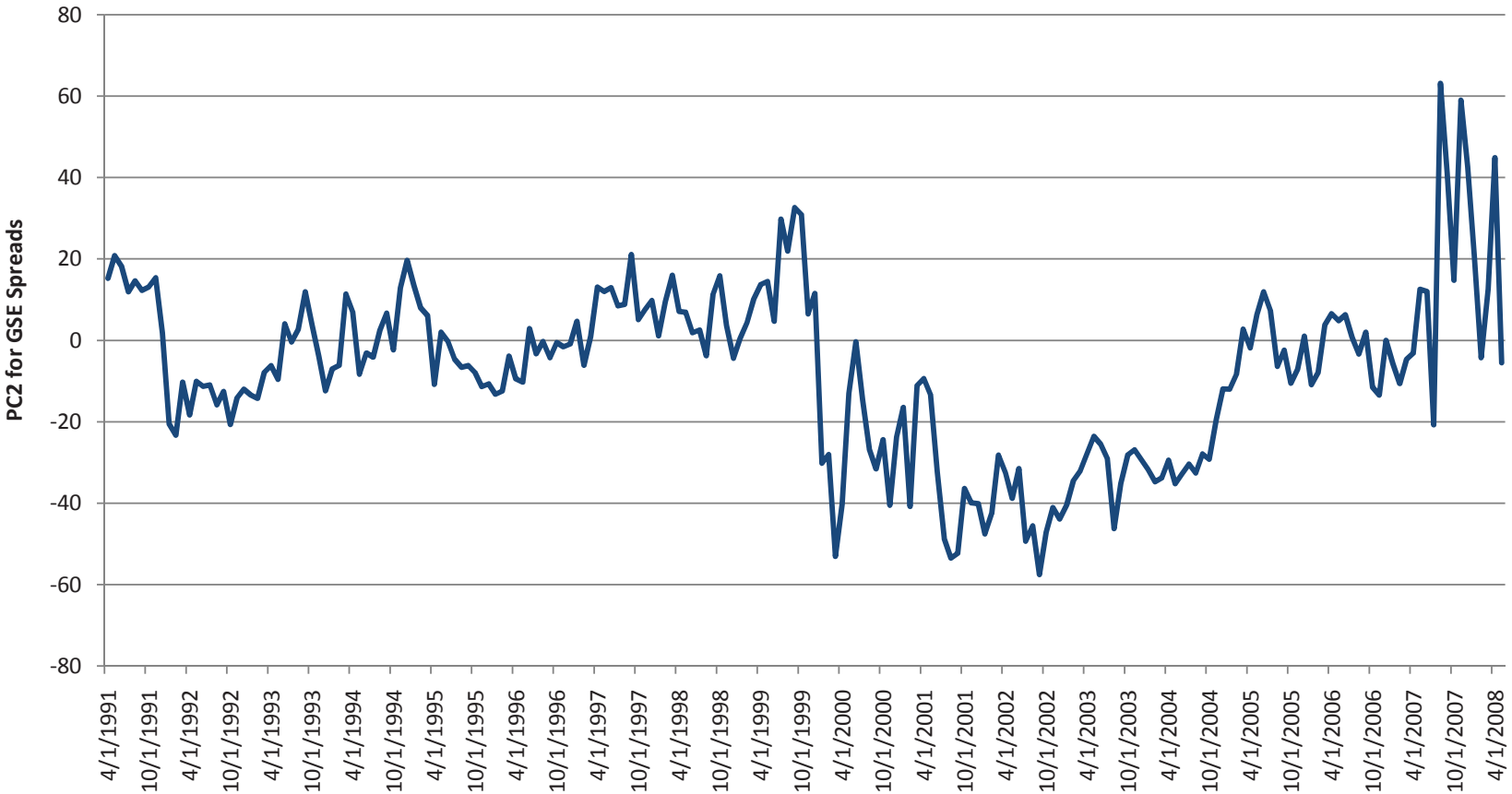
Senior Loan Officer Survey And BBB Corporate Spreads



Slope of GSE Spread Curve



Projections of $xrLevel_{t+1yr}$ and $xrSlope_{t+1yr}$

LHS / RHS	$xrLevel_{t+1yr}$			$xrSlope_{t+1yr}$		
$PC1$	$-.424^{*}$			$.306^{\diamond}$		
$PC2$	$.853^{\dagger}$			$-.377^{\diamond}$		
$PC3$	-1.90			1.11^{*}		
INF	-4.58	2.60	$.148$	$2.33^{\diamond}$	-2.21	$-.470$
GIP	1.83^{*}	2.13^{*}	$2.91^{\diamond}$	$-.935^{\diamond}$	$-1.17^{\dagger}$	$-1.65^{\diamond}$
$GPay$	$-9.79^{\diamond}$	$-10.2^{\diamond}$	$-10.0^{\diamond}$	1.36^{*}	-1.88	1.10
$MbsED$	$.001$		$.016^{\diamond}$	$-.005^{\diamond}$		$-.013^{\diamond}$
$GSE2$	$-.0004^{\diamond}$		$-.0003^{\diamond}$	$-.0001$		$-.0001^{\diamond}$
$C\&ILT$	$.004$		$.039^{\diamond}$	$.026^{\diamond}$		$-.0005$
$ShwBnk$	-1.83		$-2.22^{\dagger}$	$-.408$		$-.406$
R^2	0.75	0.47	0.69	0.91	0.52	0.86

Significance: $\diamond$ 1%; $*$ 5%; $\dagger$ 10%.

Projections of $xrLevel_{t+6m}$ and $xrSlope_{t+6m}$

RHS \ LHS	$xrLevel_{t+6m}$			$xrSlope_{t+6m}$		
$PC1$	$-.136$			$.058$		
$PC2$	$.147$			$.174^{*}$		
$PC3$	-2.15^{*}			$.781^{*}$		
INF	1.57	$3.77^{\diamond}$	1.65	$-.256$	$-.788$	$.375$
GIP	$1.73^{\diamond}$	$1.83^{\diamond}$	$2.00^{\diamond}$	$-1.24^{\diamond}$	$-1.01^{\diamond}$	$-1.27^{\diamond}$
$GPay$	$-7.19^{\diamond}$	$-7.07^{\diamond}$	$-7.29^{\diamond}$	1.38^{*}	$-.047$	$1.10^{\dagger}$
$MbsED$	$-.006$		$.005^{\diamond}$	$-.005^{\diamond}$		$-.007^{\diamond}$
$GSE2$	$-.0001$		$-.0007$	$-.0005$		$-.0001^{\diamond}$
$C\&ILT$	$.012$		$.023^{\dagger}$	$.0001$		$-.005$
$ShwBnk$	$-3.18^{\diamond}$		$-3.09^{\diamond}$	$.664$		$.268$
R^2	0.50	0.40	0.48	0.78	0.71	0.76

Significance: $\diamond$ 1%; $*$ 5%; $\dagger$ 10%.

And the Next Crisis?

- Will it be
  - GSEs or the Mortgage Market?
  - Shadow Banks?
- What should we be measuring?
- Are our regulators collecting the requisite data to see the next crisis coming?

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