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Yield Curve Inversions and Future Economic Growth

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Issue

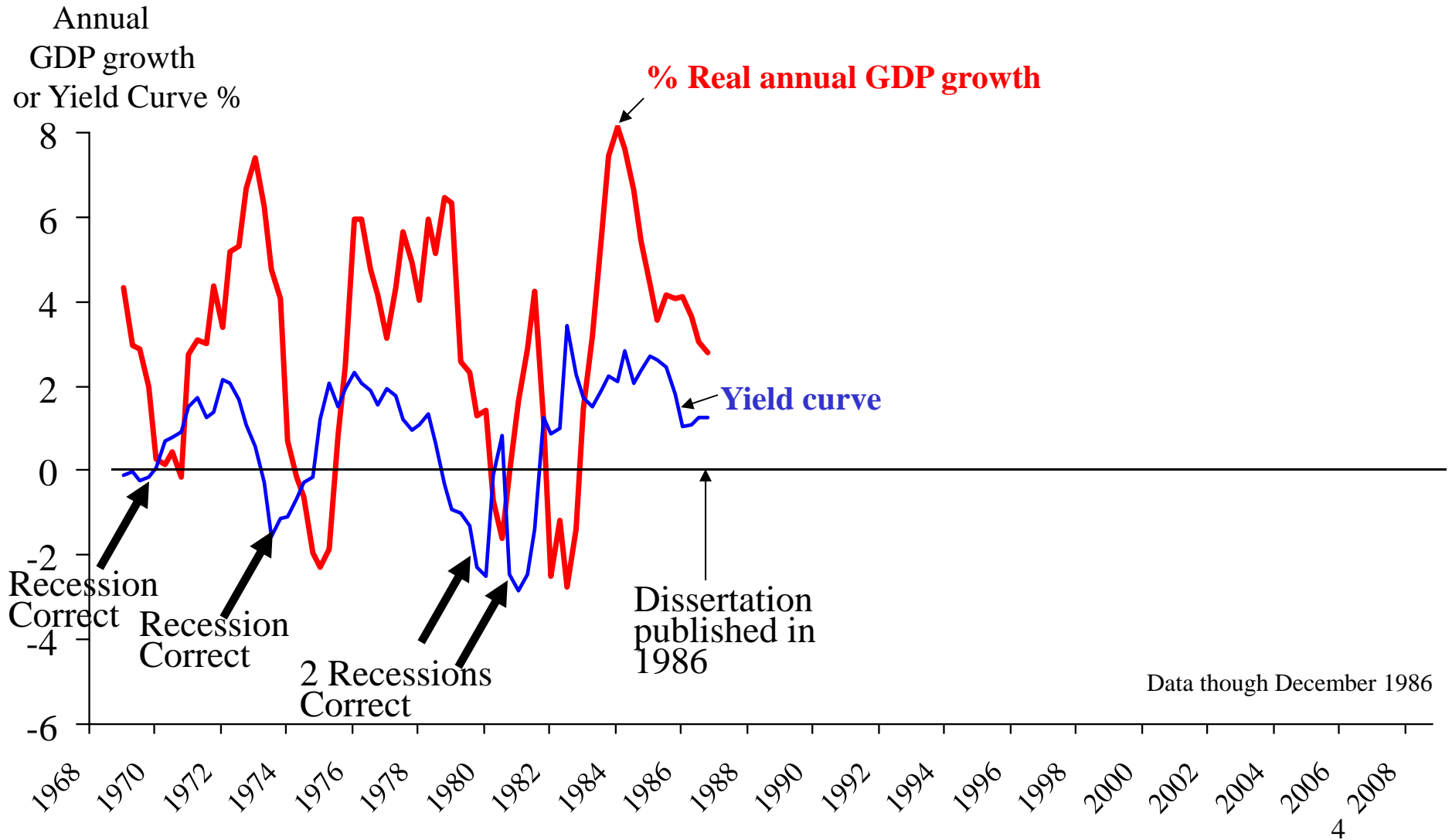
- I pioneered in my 1986 dissertation at the University of Chicago a recession prediction model linked to the term structure of interest rates

Historical Track Record

- Yield curve measure attracted significant attention in **accurately forecasting** the last seven recessions
- The measure also **avoided false signals** (for example, it forecasted strong growth in 1988 after the October 1987 crash and it forecasted strong growth in 1999 after the August 1998 financial crisis).

Yield Curve Inverts Before Recessions

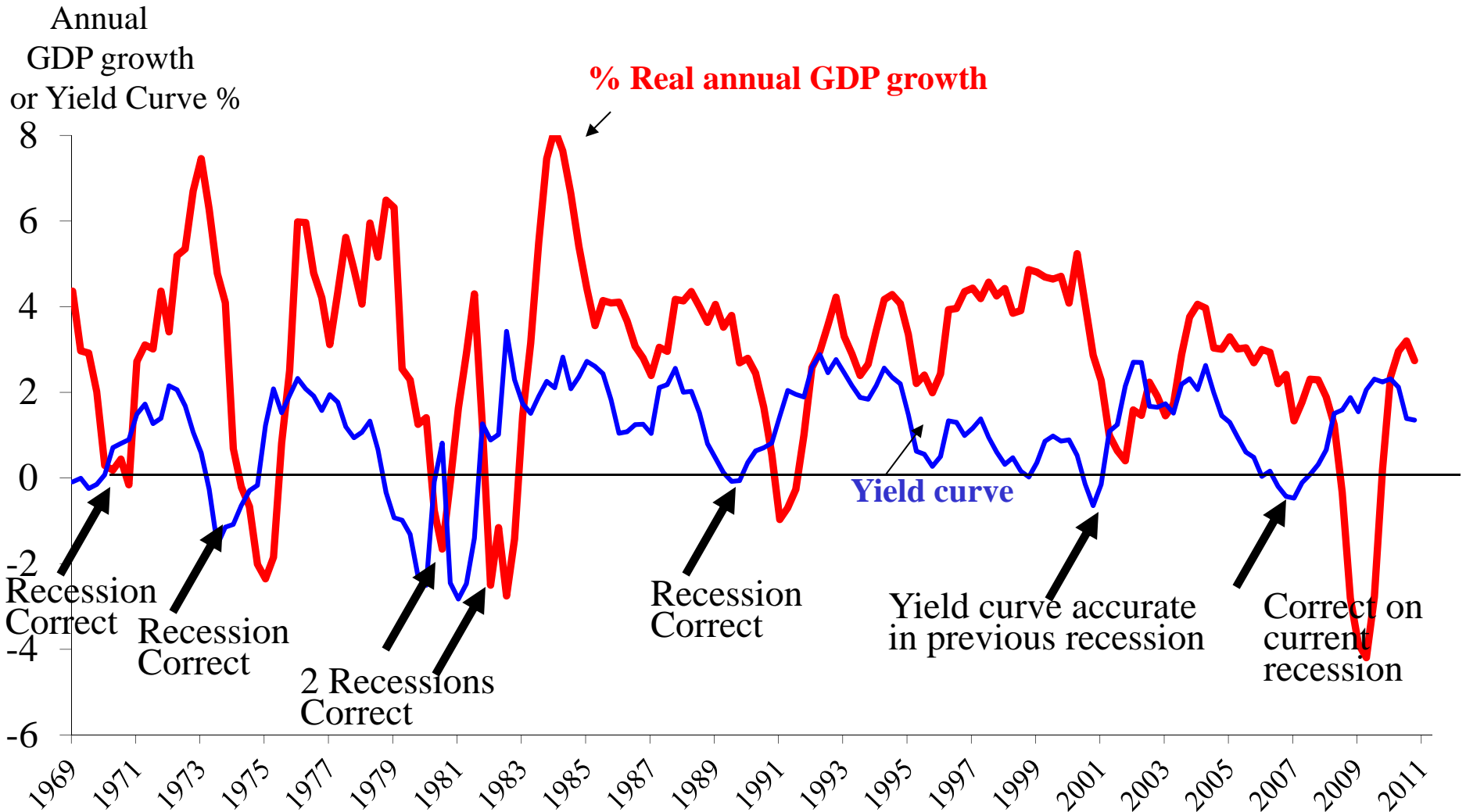
(5-year Treasury note minus 3-month Treasury bill yield – constant maturity)



Source: Campbell R. Harvey. Update of Harvey (1986, 1988, 1989, 1991).

Yield Curve Inverts Before Last Seven Recessions

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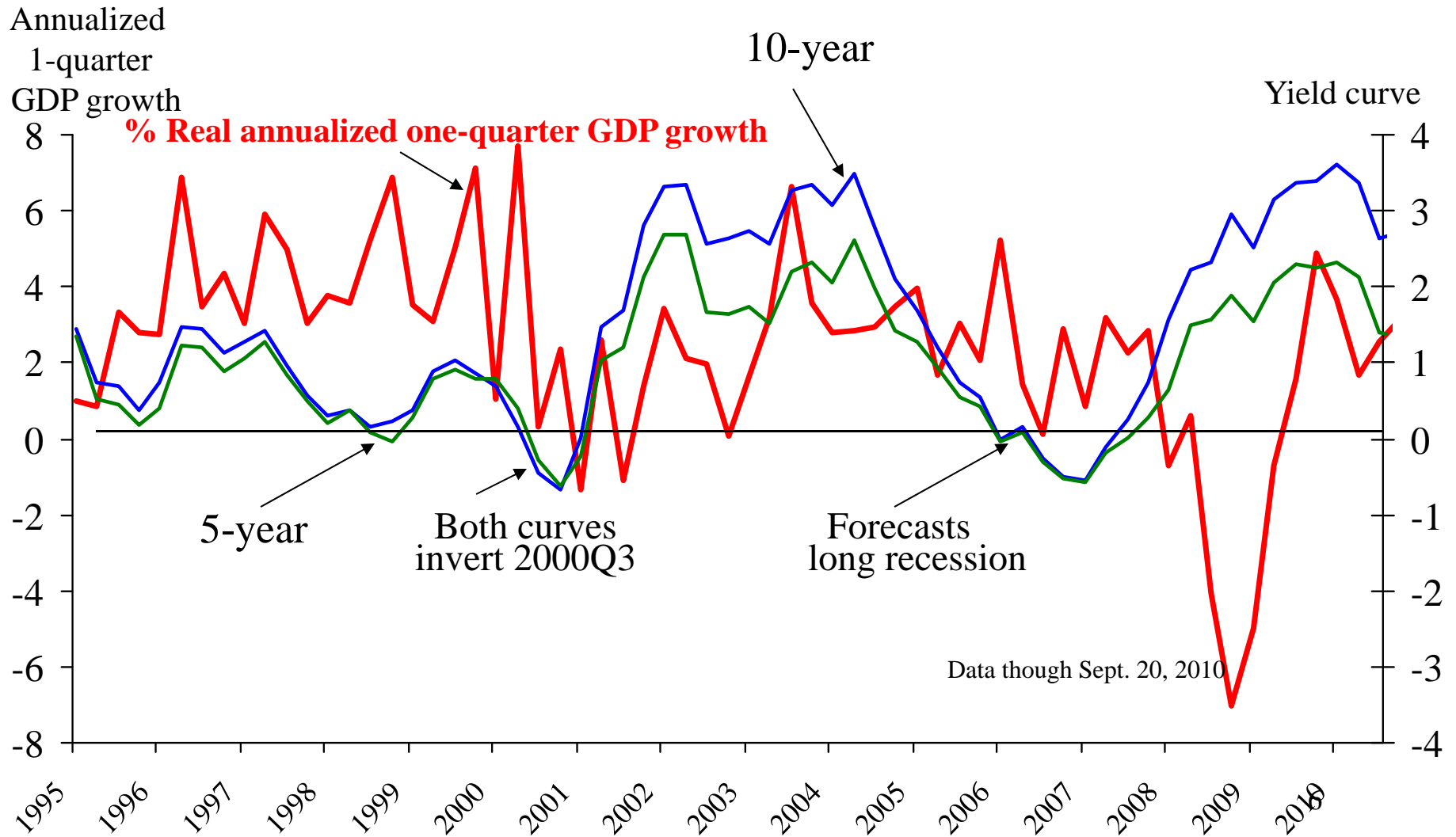


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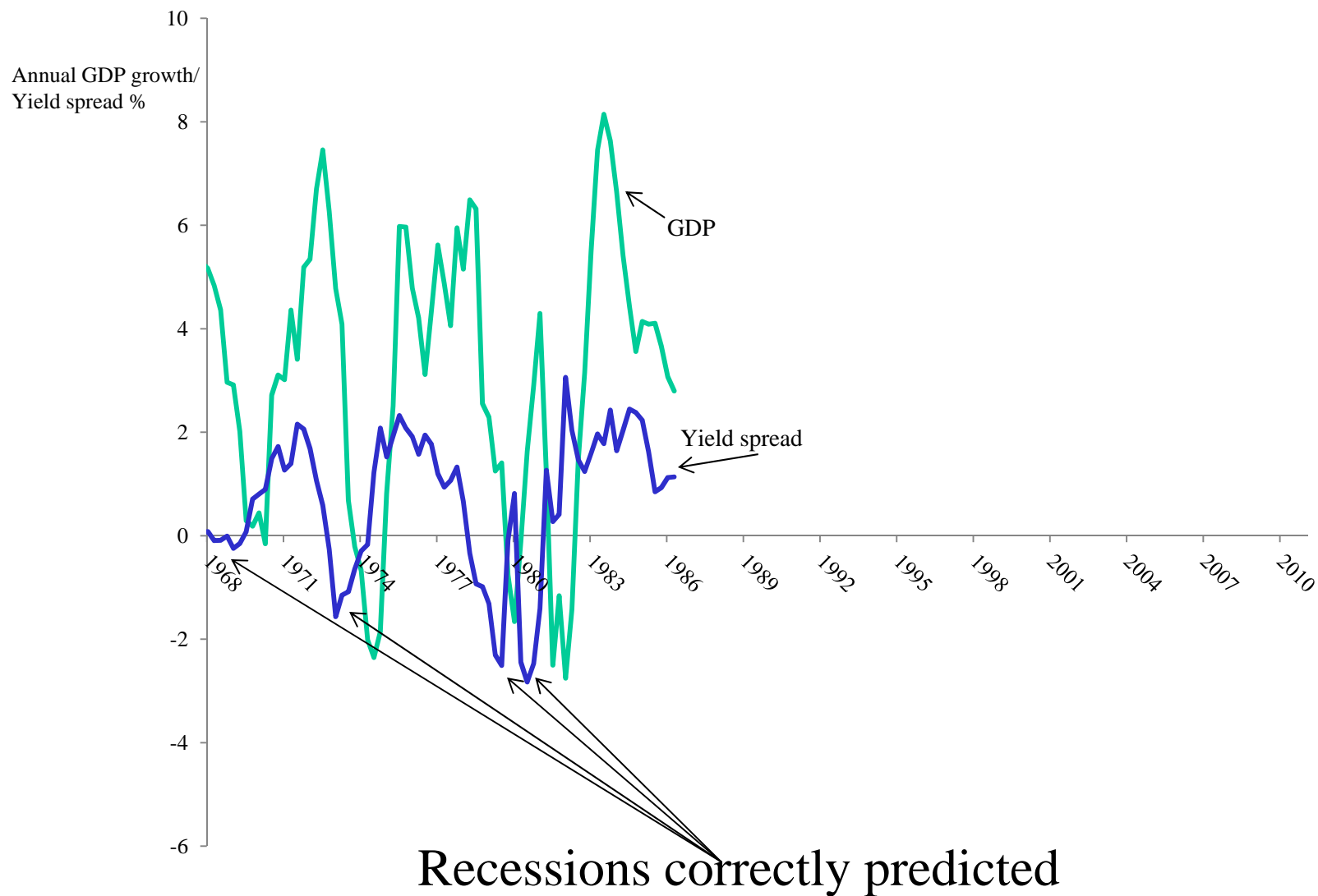
Data through May 17, 2011

Recent Annualized One-Quarter GDP Growth

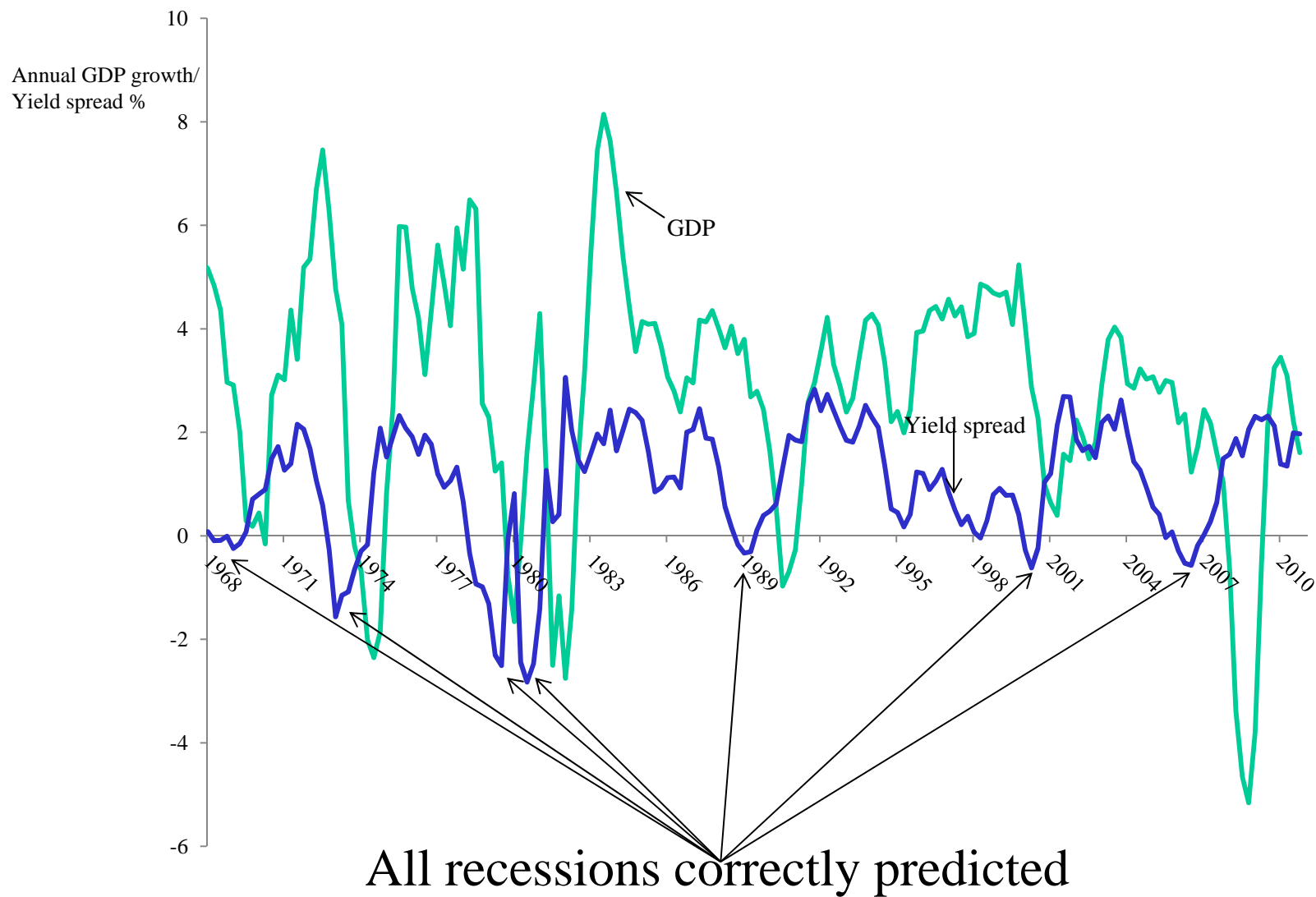
(10-year and 5-year Yield Curves-secondary market)



5-year-3-month Yield Spread Predicts Real GDP Growth



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Evaluating the 2001 Recession

- In July 2000, the yield curve inverted forecasting recession to begin in 2001.
- Official NBER Peak is March 2001.
- In March 2001, the yield curve returned to normal
- Inversion length = 8 months
- Forecast recession trough November 2001.
- On July 17, 2003 the NBER announced the official end of the recession was November 2001.

Evaluating the 2008-09 Recession

- In January 2006, the yield curve inverted forecasting recession to begin in 2007.
- Official NBER Peak is December 2007.
- In August 2007, the yield curve returned to normal.
- Inversion length = 19 months indicating long recession.
- On September 20, 2010 the NBER announced the official end of the recession was June 2009.
- **Length of recession=18 months**
- **Length of inversion=19 months**

Exhibit 1

Lead Lag Analysis in Months

<i>Business Cycle</i>			<i>5-Year Yield Spread</i>				
NBER Peak	NBER Trough	Length of Cycle	Inversion	Lead	Normal	Lead	Length of Inversion
Dec-69	Nov-70	11	Oct-68	14	Feb-70	9	16
Nov-73	Mar-75	16	Jun-73	5	Jan-75	2	19
Jan-80	Jul-80	6	Nov-78	14	May-80	2	18
Jul-81	Nov-82	16	Oct-80	9	Oct-81	13	12
Jul-90	Mar-91	8	May-89	14	Feb-90	13	9
Mar-01	Nov-01	8	Jul-00	8	Mar-01	8	8
Average last six		11		11		8	14
<i>Current Episode</i>							
Dec-07	Jun-09	18	Jan-06		Aug-07		19

Yield Curve and GDP Research Chronology

- Campbell R. Harvey's *Ph.D. Thesis*, University of Chicago, 1986.
- Campbell R. Harvey, "The Real Term Structure and Consumption Growth," *Journal of Financial Economics*, 1988
- Seven other articles found at:

http://www.duke.edu/~charvey/research_term_structure.htm