

Industry Forecast

Prepared for the

Casting Industry Suppliers Association
(CISA)

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by

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Presentation Outline

- Current conditions and trends in the general economy
- Demand for metal castings & trends
- Changes in the foundry industry
- Implications for industry suppliers

In Brief - The Conclusions

- Recovery under way -- could be stronger than expected
- Positive casting outlook
- Consolidations, closures - effect of improved productivity
- A smaller, more demanding market - but there are opportunities

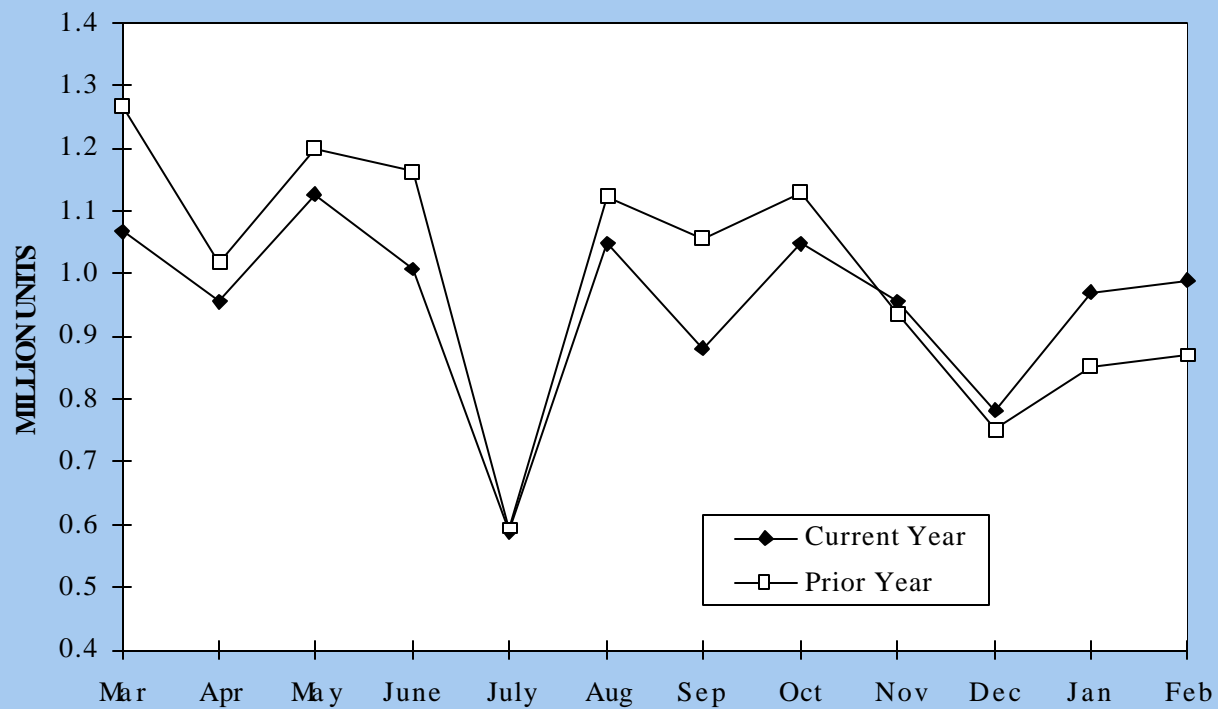
A surprising turnaround --

KEY ECONOMIC TRENDS

	Most Recent Period	Prior Period	Year Ago Period
Gross Domestic Product - Fourth Quarter 2001 Chained 1996 \$ Billion - Annual Rate)	1.7%	-1.3%	1.9%
Industrial Production - February 2002 1992 = 100	137.6	137.1	143.9
Durable Goods Orders - February 2002 \$ Billion	179.4	176.7	190.3
Producer Price Index - February 2002 1982 = 100	137.8	137.5	141.7
Personal Spending - Fourth Quarter 2001 Chained 1996 \$ Billion - Annualized)	6,540.3	6,443.9	6,341.1
Net Exports - Fourth Quarter 2001 Chained 1996 \$ Billion - Annualized)	(408.7)	(411.0)	(421.0)
Source: Department of Commerce			

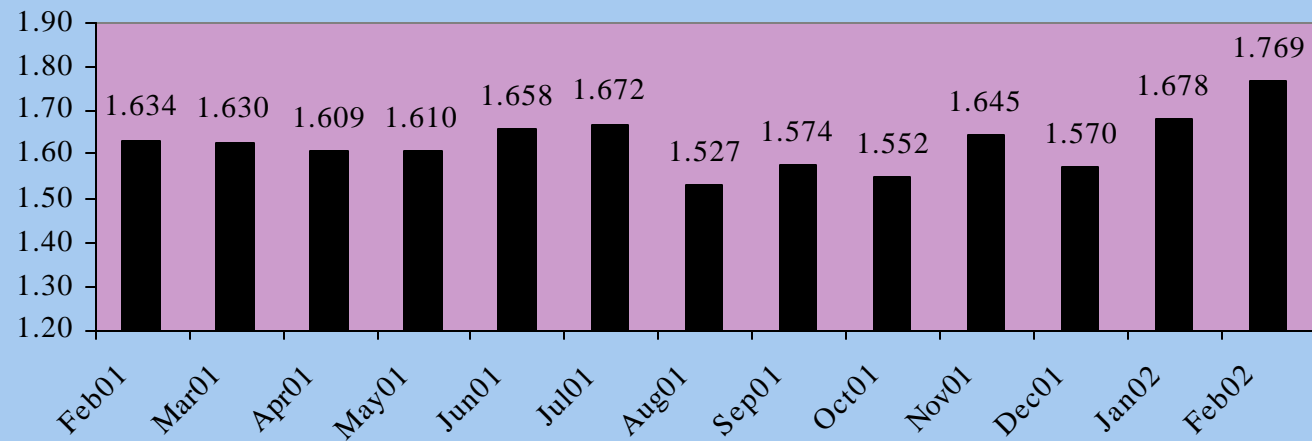
In motor vehicles --

U. S. AUTO AND LIGHT TRUCK SHIPMENTS



And housing...

Housing Starts
(Million Total Units, Annual Basis)

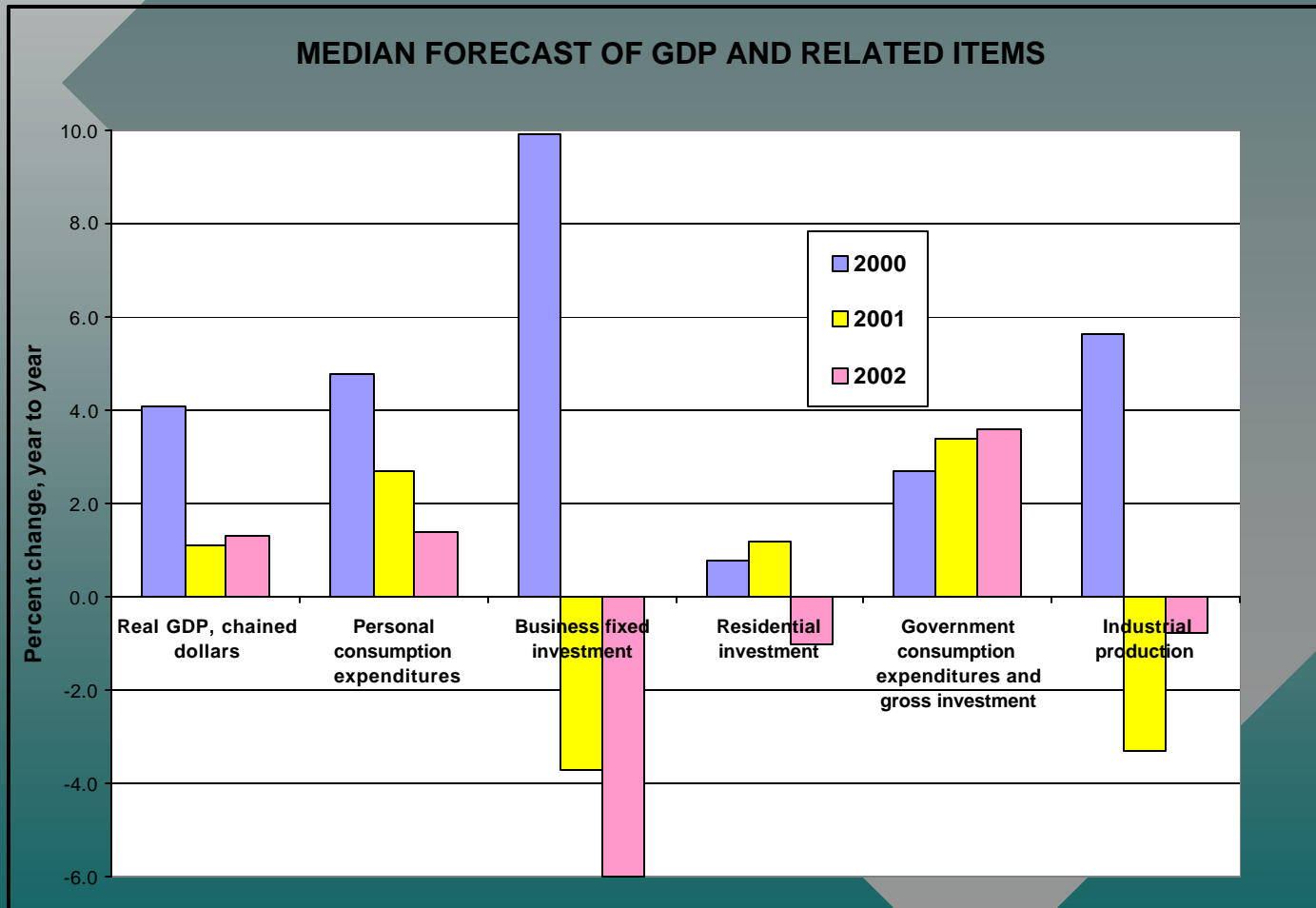


Especially as compared to just a few months ago!

Median Forecast of GDP and Related Items			
	Percents, year to year, unless stated otherwise		
	2000	2001	2002
Real GDP, chained dollars	4.1	1.1	1.3
Personal consumption expenditures	4.8	2.7	1.4
Business fixed investment	9.9	-3.7	-6.0
Residential investment	0.8	1.2	-1.0
Government consumption expenditures and gross investment	2.7	3.4	3.6
Industrial production	5.6	-3.3	-0.8
Car and light truck sales (mil. units)	17.2	16.8	15.6
Housing starts (mil. units)	1.57	1.59	1.54
Oil price (West TX intermediate, \$/bbl.)	30.30	26.00	23.48

Source: Federal Reserve Bank of Chicago, November, 2001

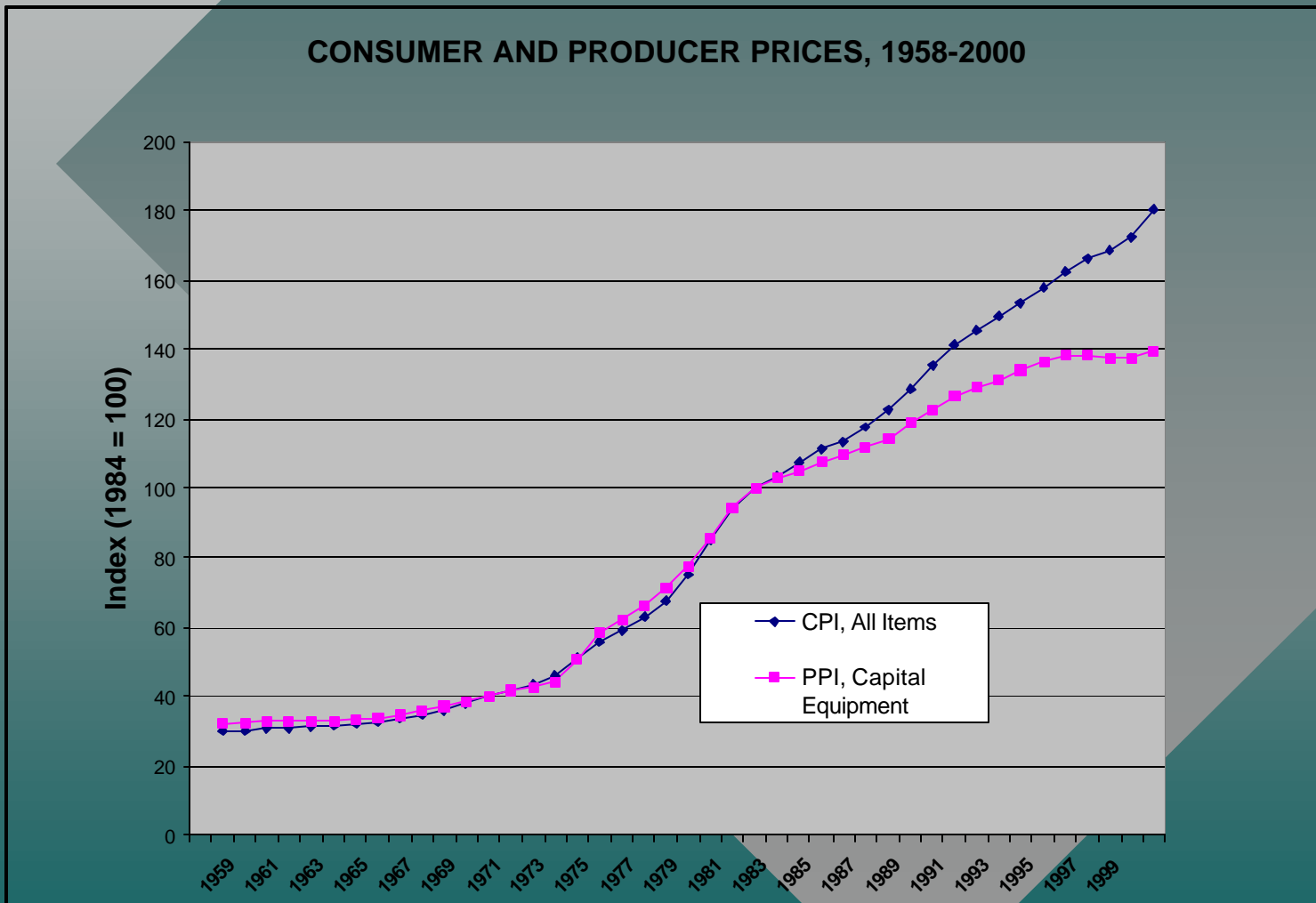
You know what they say about pictures...



We conclude --

- The consumer economy is in reasonably good shape
- -- But, industrial production is less of a factor than it used to be
- And, in consequence, investment in plant and equipment is lagging

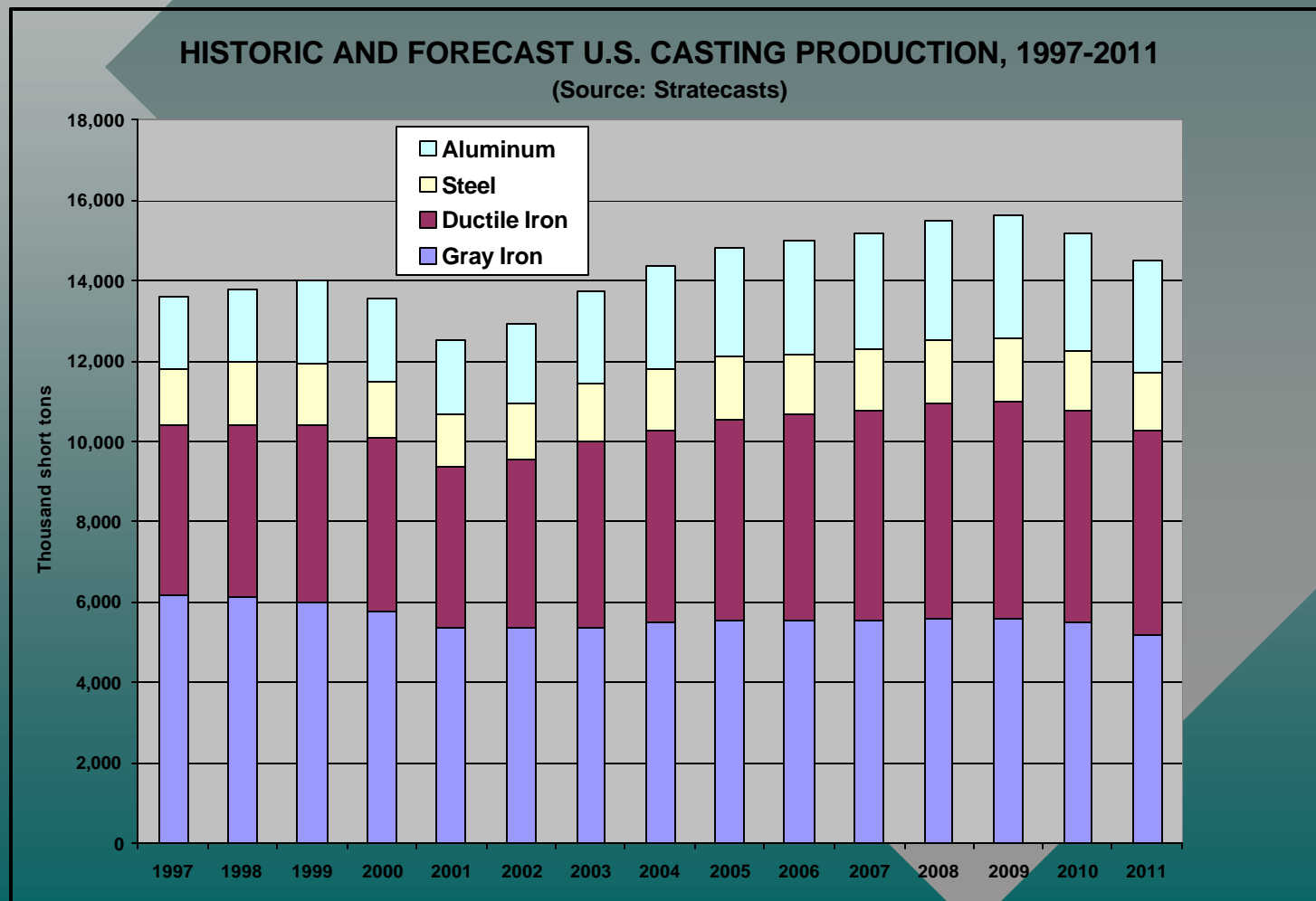
And there is still more to say -



The U.S. foundry industry in 2002

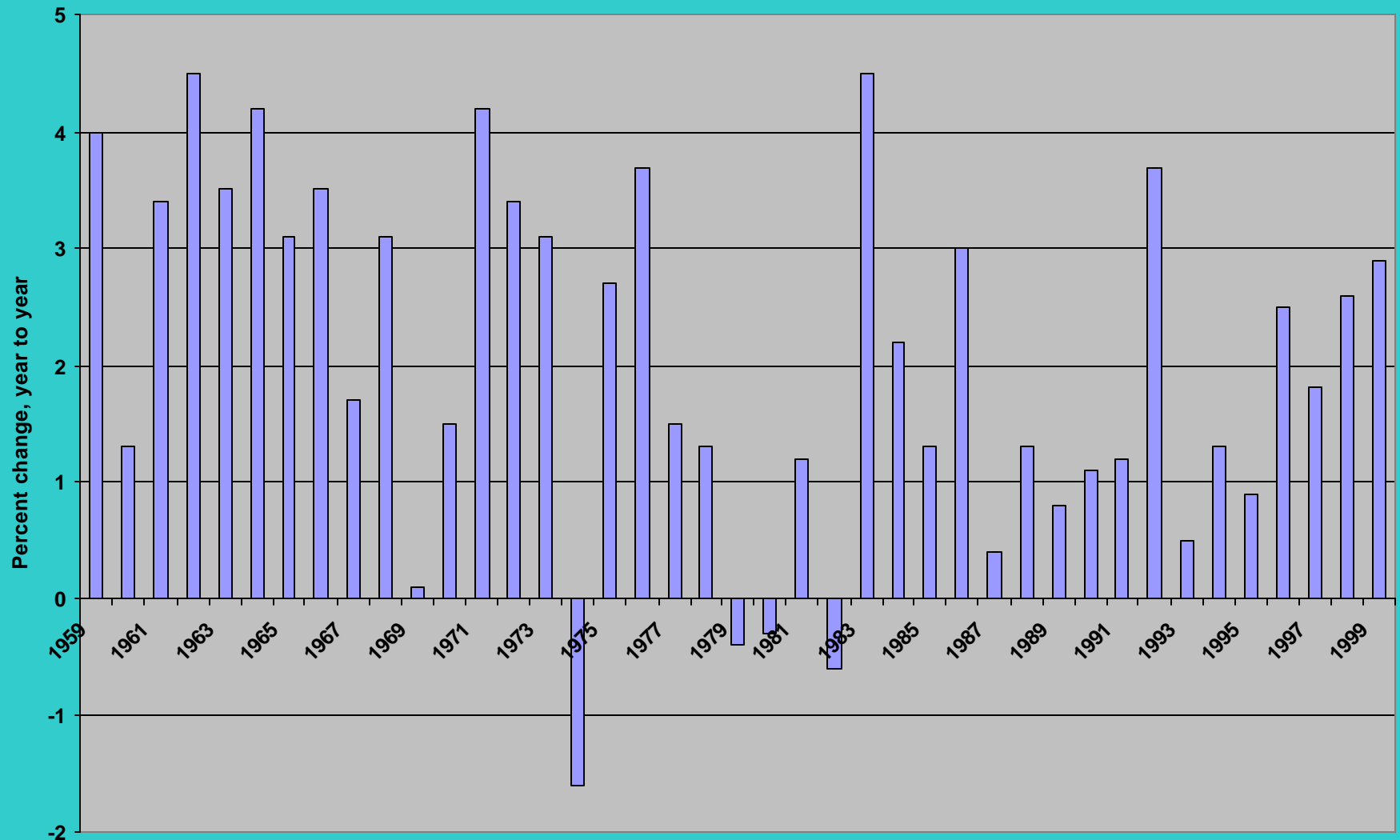
- 2,700 plants, compared to about 3,300 in 1990
- Continuing attrition - not quite one plant per week
- BUT some new plants, AND additions to capacity - 400,000 annual tons in 2000, per AFS

Some recovery in casting shipments, beginning this year



But what about the equipment market ? We need to look at productivity...

NONFARM INDUSTRIAL PRODUCTIVITY, 1959-2000



In general --

- 1960s - last decade of U.S. economic dominance - spectacular improvements
- 1970s - energy crisis, inflation, nonproductive government regulations - a collapse
- 1980s - end of inflation, some stabilization - "Reaganomics"
- 1990s - high growth, no inflation, and a surprising (and not well understood) acceleration in productivity

A couple hypotheses

- Lean manufacturing, just-in-time inventory management, etc.
- The computer/internet thing
- But the economists weren't sure...

...Until Cummins and Violante published their paper (Jan. 2002)

- It is the computer: “Technological improvement in equipment and software”
- It did accelerate in the 1990s, by about 50%
- And it affected productivity positively in ALL industries, not just the high-tech

And, finally, the best performers really are getting better!

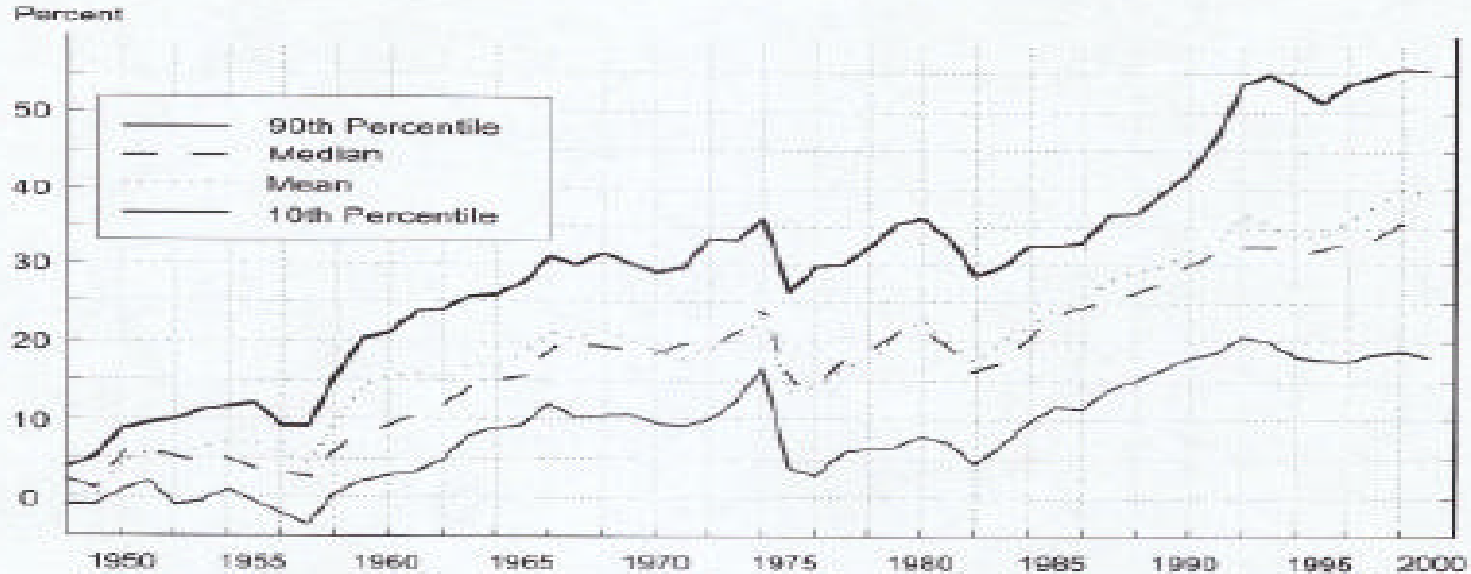
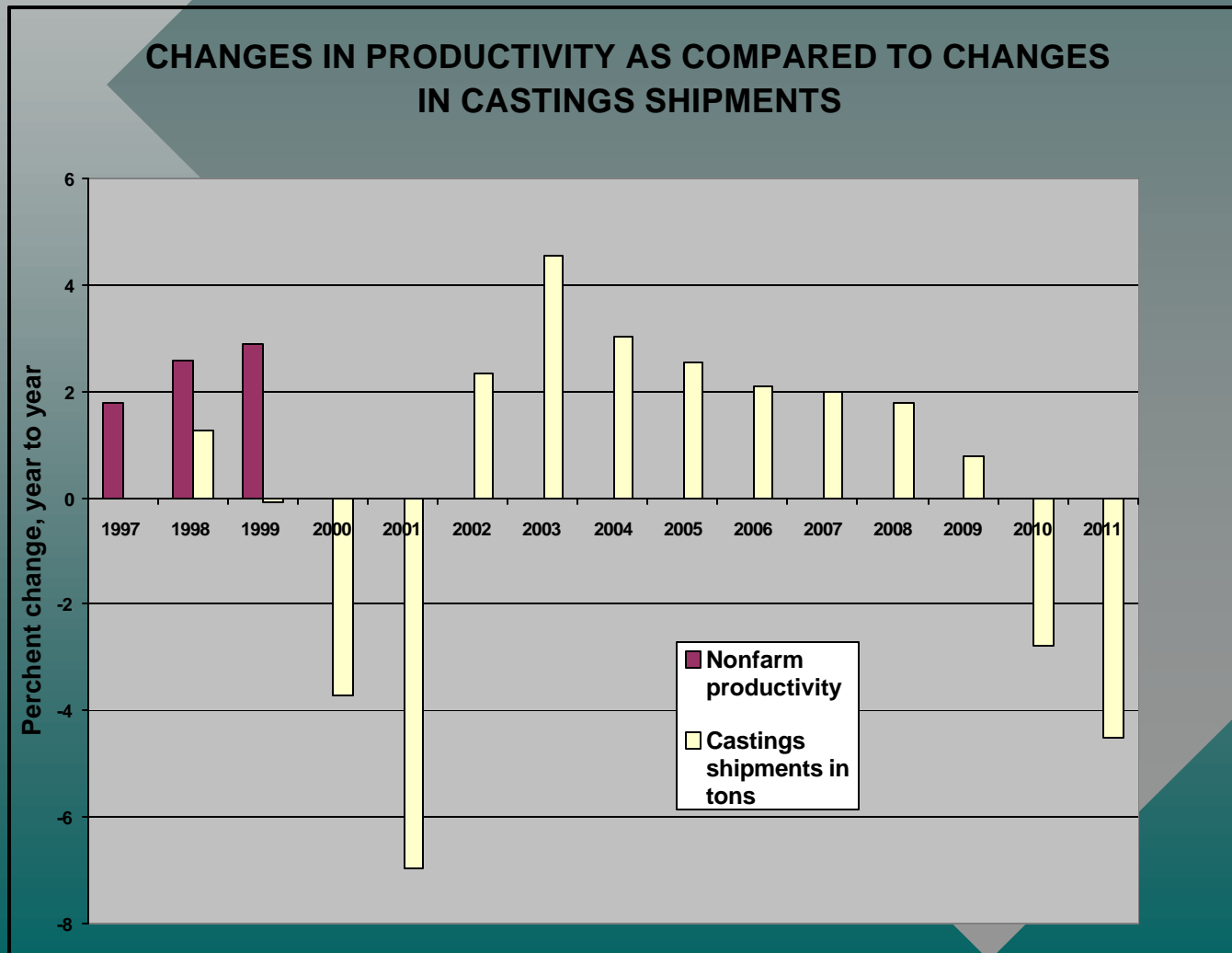


Figure 5: Distribution of Technological Gap Between Productivity of New Vintages and Average Practice for Equipment and Software by 62 Industry Groups

Conclusions: Some limited new and replacement capacity, around 2003-2004



And some other suggestions

- Focus on the leaders' business - what they want and what they need
- Expect demands for quick payback/high ROI
- Blockbuster improvements likely to exist in many department, and in integrated systems (broaden the line?)
- Payoff is in electronics, computer
- Build a foundry "on spec?"