



Economic Outlook and Capacity Utilization 2009 – 2010

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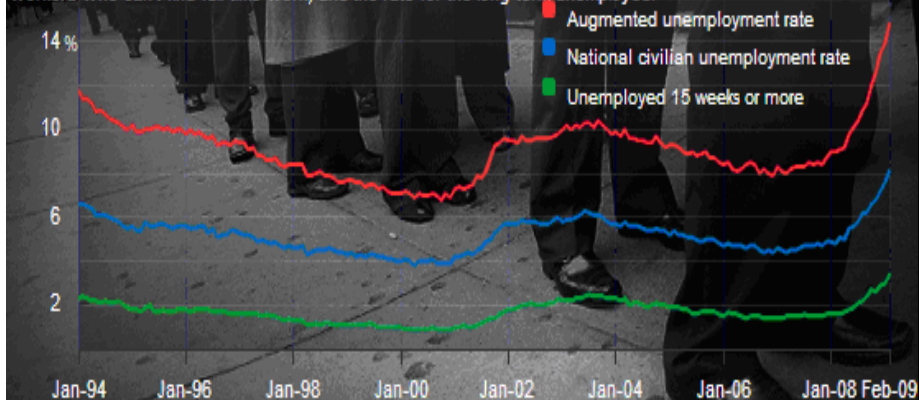
Great Economic Crisis of 2007-2010

Year	Events	Key Statistics
2007	<ul style="list-style-type: none"> •US Housing Market Crashes (prices fall 10%) •Declining Value of the US Dollar to the Euro •Rising Energy and Materials Costs •US Economy falls into recession in December •Credit Markets begin to freeze 	<ul style="list-style-type: none"> •Estimated loses in Real Estate \$150-\$400B •US Govt Deficit \$162B (1% of GDP) •Fed Funds at 4.5% •Manufacturing Capacity Utilization: 79%
2008	<ul style="list-style-type: none"> •Oil and Materials markets peak then Crash •Major Banks in the US and Europe Collapse •Global Stock Markets fall by 20-60% •Iceland's economy collapses. •Global coordinated reduction in interest rates •Global Run on the Banks: September 26, 2008 •US implements \$750 TARP and other Bailouts with the FED •US Auto companies forced to the Brink •Barack Obama wins the Presidential Election 	<ul style="list-style-type: none"> •Oil Peaks at \$150/BI •S&P falls 45% between Jun-Nov •US Govt Deficit \$455B (3.6% of GDP) •US GDP falls 6.2% in real terms in 4th Qtr 2008 on an annualized basis. •Fed Funds Rate falls to 0% •3M jobs disappear in 2008 •Manufacturing Capacity Utilization: 76%
2009	<ul style="list-style-type: none"> •Stock markets continue to decline: •\$787B Stimulus Package passed by congress •More bailouts possible including Nationalization of Banks •Auto companies Bankruptcy/Bailout? •Japanese, UK, European economies in Deep Recession 	<ul style="list-style-type: none"> •DJIA down 54% from its peak in 2007. •DJIA closes at 6594: 12yr low •US Govt Deficit: \$1.75T (12% of GDP) •CPI first declines since the 1950s •Unemployment: 7.6% 1/2009 •Manufacturing Capacity Utilization: 68%
2010	<ul style="list-style-type: none"> •Recovery begins 2010: Stimulus Spending? •Possible Double Dip recession and High Inflation? •Collapse of US Dollar and other currencies? 	<ul style="list-style-type: none"> •US Govt Deficit \$1.1T (7.3% of GDP) •Unemployment: 7.9% (annual ave) •Manufacturing Capacity Utilization: 71%

Macro Employment Trends: Down & Down

Unemployment rates

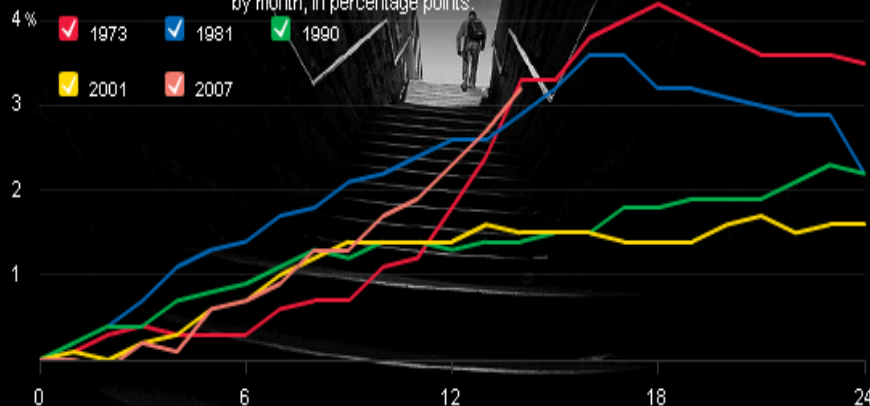
How the national rate compares with the augmented rate (which includes discouraged workers and part-time workers who can't find full-time work) and the rate for the long-term unemployed.



Source: Labor Department, Photo: Kurt Wilberding

Measuring the Pace

Uptick in national unemployment rate after the start of each recession, by month, in percentage points.



Source: Labor Department, Photo: Kurt Wilberding

Rollover for more

Measuring the Pain

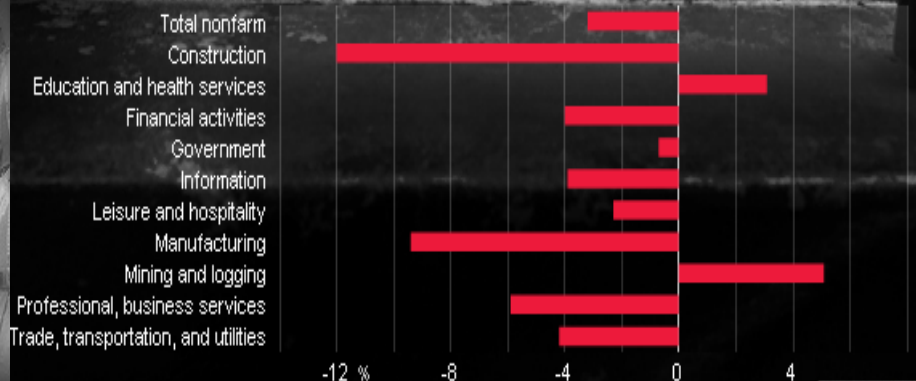
Job losses since the recession began



Source: Labor Department, Photo: Kurt Wilberding

Broad-Based Losses

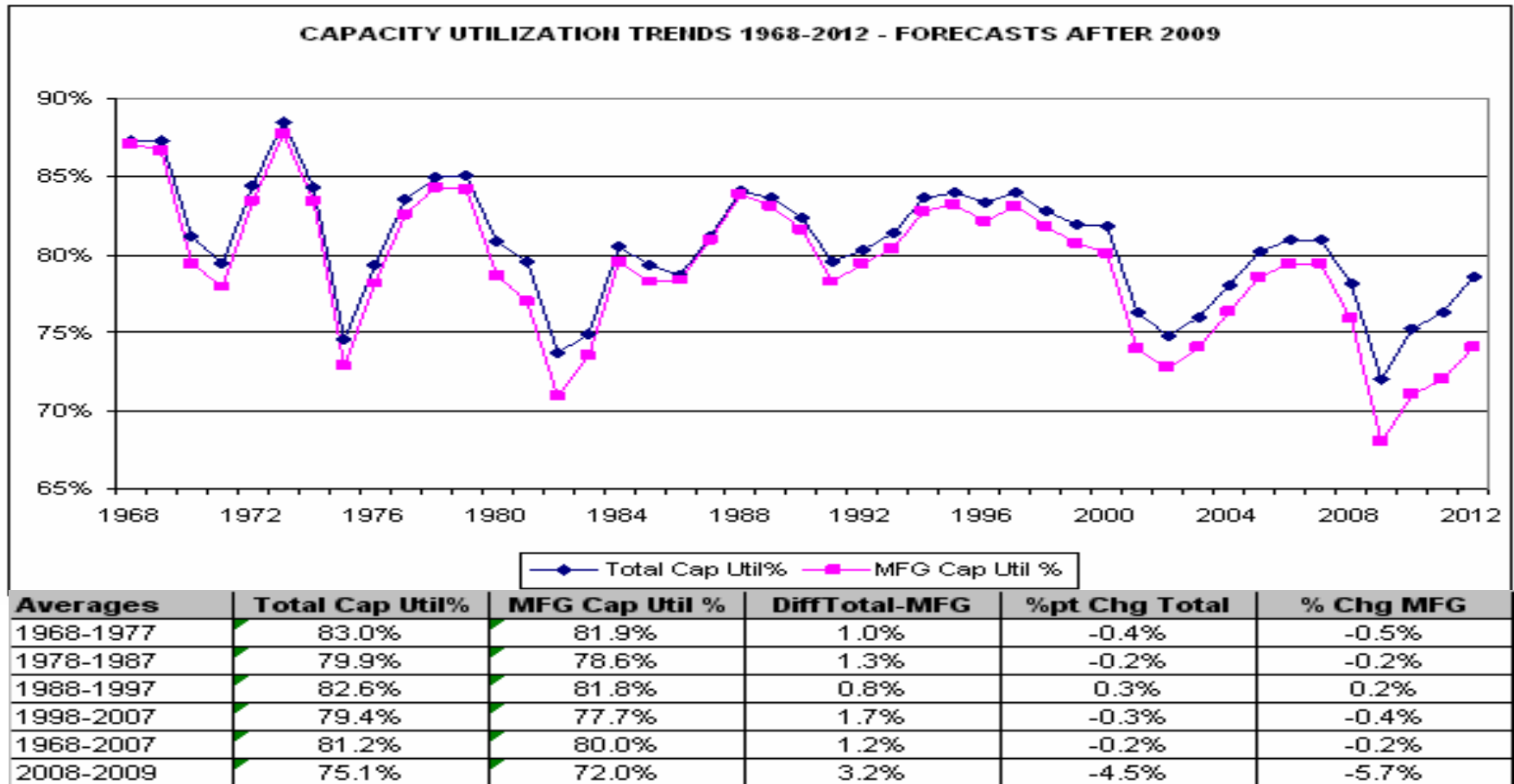
Jobs lost or gained since the recession as a percentage of the total at peak



Source: Labor Department, Photo: Kurt Wilberding

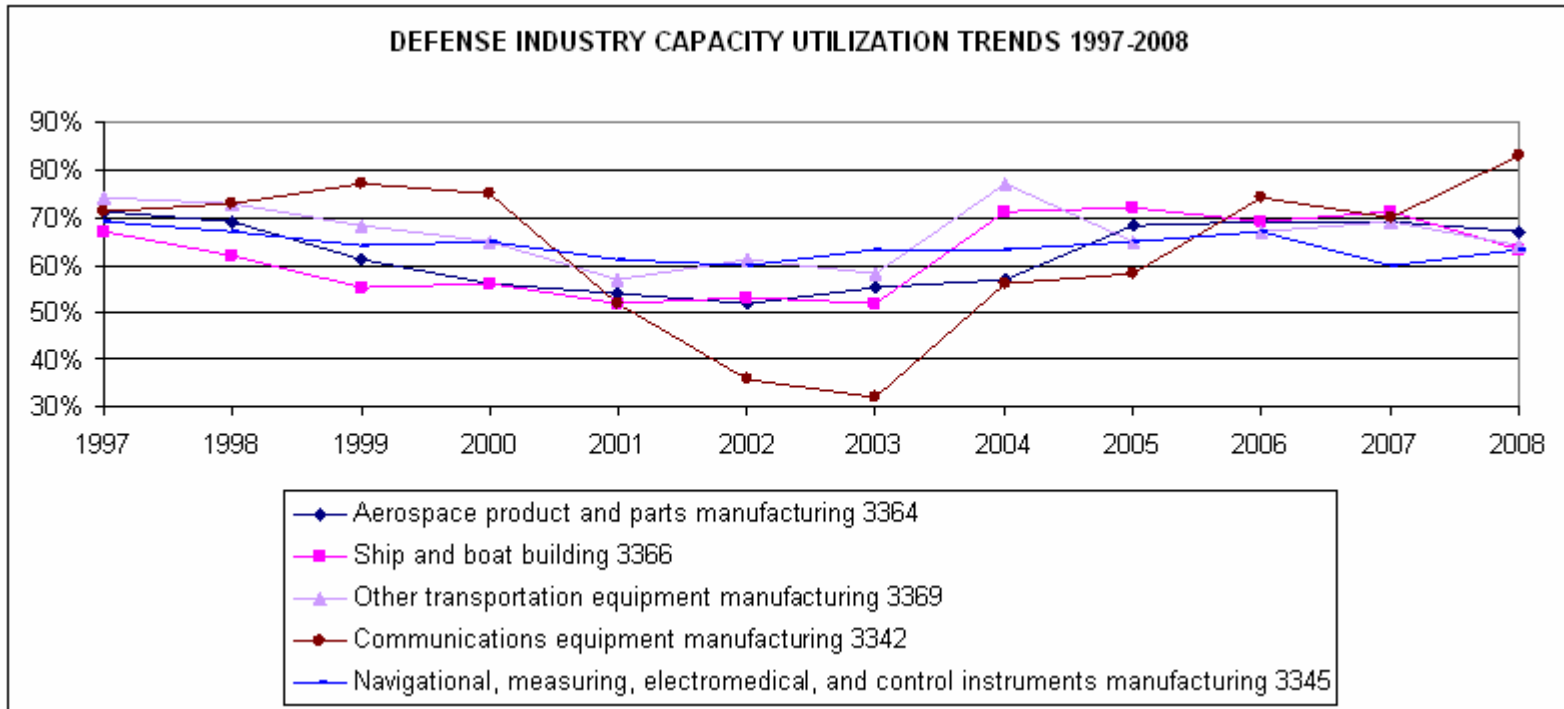
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Long-term Capacity Utilization Trends



- **Manufacturing Utilization – focuses Manufacturing NAICS**
- **Total Industry Capacity includes Utilities, Construction, Services as well as Manufacturing**
- **Lowest Manufacturing Capacity Utilization since 1947**

Key Defense Industries Utilization Trends



- **Too early to discern current economic crisis impact (data as of 9/30/2008):**
 - Early indications of falling utilization in 2008 – especially in Aerospace
 - Falling capacity is also possible:
- **Significant changes Census Program for measuring and reporting Capacity Utilization Data**
 - Eliminate annual publication after 2006
 - Replaced with a more timely quarterly survey and Excel Spreadsheet based report

Current Definition of Capacity And Capacity Utilization

- **The Federal Reserve Board's** capacity indexes attempt to capture the concept of sustainable maximum output—the greatest level of output a plant can maintain within the framework of a realistic work schedule, after factoring in normal downtime and assuming sufficient availability of inputs to operate the capital in place.
- **Census Bureau: Full Production Capability** – The maximum level of production that this establishment could reasonably expect to attain under **normal** and **realistic** operating conditions fully utilizing the machinery and equipment in place. In estimating market value at full production capability, consider the following:
 - Assume only the machinery and equipment in place
 - Assume normal downtime, maintenance, repair, and cleanup. If full production requires additional shifts or hours of operation, then appropriate downtime should be considered.
 - Assume labor, materials, utilities, etc. are fully available.
 - Assume a product mix that was typical or representative of your production during the quarter. If your plant is subject to short-run variation assume the same product mix as the actual production.
 - Do not assume increased use of productive facilities outside the plant for services (such as contracting out subassembly work) in excess of the proportion that would be normal during the quarter.
- **Capacity Utilization** is the ratio current output to capacity. Definitions of Output and Capacity vary by company and industry. Metrics to measure capacity include sales, unit production, square footage usage, materials used, and direct labor hours.

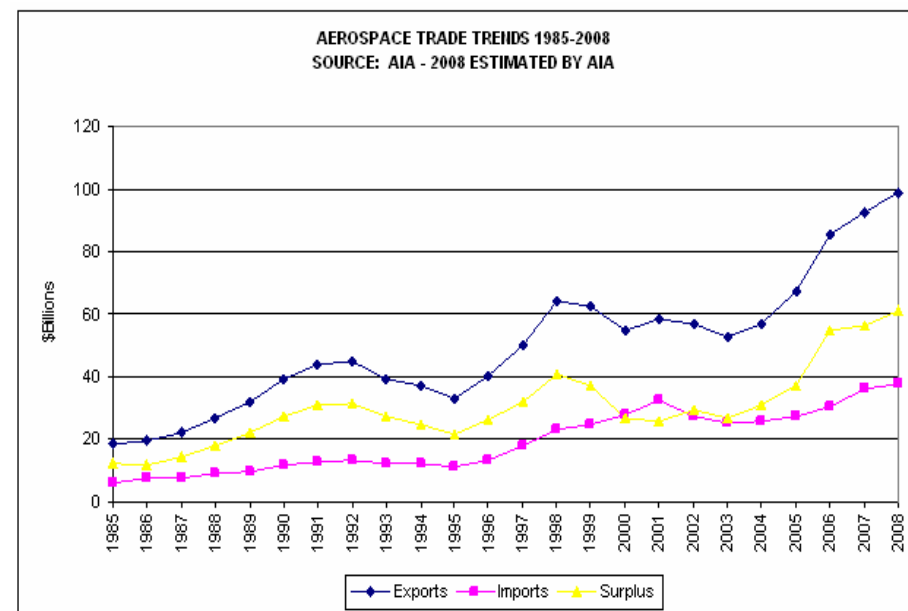
Economic Crisis impact on the Defense Industrial Base

- **Falling Rates of Utilization**
 - **Falling Industrial Production in both US and abroad**
 - **Total Manufacturing Utilization: 68%**
 - **Falling plant & equipment investment**
- **Frozen Credit Markets**
 - **Small Companies having difficulties securing financing for contracts.**
 - **Larger companies paying more for financing operations**
 - **\$758B Corporate debt coming due in 2009**
 - **Increase in Chapter 7 Bankruptcies in the broader economy**
 - **Little M&A activity except for small all cash deals**
- **Surplus Labor for now**
 - **High Unemployment: 8.1% (Feb 2009) and 4M jobs lost since Dec 2007**
 - **Concerns of migration could lead to skill shortages in many regions and markets.**
 - **Major Defense Firms have started cutting jobs: Boeing 10K, United Technologies and GD 2K: Pre-emptive**

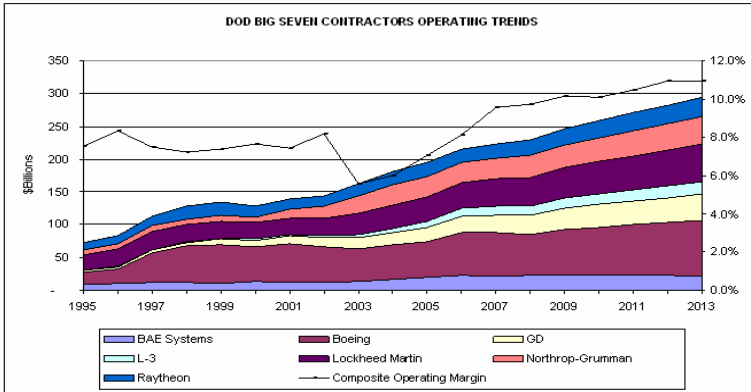
Foreign Sourcing and Impact on Capacity Utilization

- **Small but growing**
 - **Lower costs and better technology:**
 - Helicopters – Presidential Helicopter???
 - **Skill Shortages and Tax Issues**
 - **Globalization**
 - **Offsets and other political drivers**
- **DoD Foreign Sourcing Studies: 2001 & 2005**
 - **6-10% of total subcontract value**
 - **3-4% of total prime contract value**
 - **There is one planned for 2009**
- **Industrial Base Impact**
 - **Hollow out Industrial Capability**
 - **Reduces US Manufacturers to prototyping or limits product lines**
 - **Reduces Value Added**
 - **Restrictions – Increase costs**
 - **Limits sources of supply – Berry Amendment – Legal Hurdles**
 - **Reduce foreign sourcing can restrict products and technologies available.**
 - **No Restrictions – Reduced US Jobs**
 - **Reduces employment and supplies of skilled workers.**
 - **Can end up reducing domestic sources.**

Import Penetration of Selected Defense Prime and Subtier Industries				
HAICS	Industry	1997	2004	Chg %pts
325412	Pharmaceutical preparations	9.48%	22.27%	12.79%
331511	Iron foundries	3.41%	5.38%	1.97%
332722	Bolts, Nuts, Screws And Rivets	23.38%	34.05%	10.67%
333611	Turbines and turbine gen. sets	25.42%	49.39%	23.97%
334111	Electric computers	13.93%	41.77%	27.84%
334112	Computer storage devices	66.67%	70.30%	3.63%
334210	Telecommunications hardware	17.66%	43.18%	25.52%
334412	Printed circuit boards	23.57%	35.06%	11.49%
334413	Semiconductors & related devices	43.98%	43.26%	-0.72%
334511	Search, detection, nav., guidance instr	3.89%	7.48%	3.59%
336411	Aircraft	15.24%	24.51%	9.27%
336412	Aircraft engine and engine parts	39.99%	51.62%	11.63%
336413	Non-engine aircraft parts	31.14%	38.48%	7.34%



Major US Defense Contractors Financial Assessments



Company	CFAR Rating	Risk Rating - As of 7/31/2008	2008 Sales \$Billions	Operating Margin%	Backlog as of 12/31/2008 \$Billions
BAE	Average 3.0	Moderate	\$ 23.3	9.3%	\$ 58.5
Boeing	Average Plus 3.5	Moderate	\$ 60.9	6.5%	\$ 352.0
General Dynamics	Above Average 4.0	Low	\$ 29.3	12.5%	\$ 74.1
L-3 Communications	Average Plus 3.5	Moderate	\$ 14.9	11.3%	\$ 11.6
Lockheed Martin	Above Average 4.0	Low	\$ 43.0	11.9%	\$ 76.0
Northrop Grumman	Average 3.0	Moderate	\$ 33.9	-0.3%	\$ 78.0
Raytheon	Above Average 4.0	Low	\$ 23.2	11.2%	\$ 37.0

Sources: Company Reports, S&P, Valueline (12/2008), & DCMA Financial Analysis Branch 08/2008.

- **Prior to the Crash of 2008: Great Financial Shape**
- **Large Backlogs and diversified portfolio of programs and capabilities**
- **Crash of 2008: Defense stocks fall**
- **Frozen Credit Markets could:**
 - Hinder funding capital investment and acquisitions
 - Create liquidity issues especially if progress payments are delayed.
- **FASB-158 (accounting future liabilities of define benefit pension programs) reduces equity positions via charges to the balance sheets (FASB – Financial Accounting Standards Board)**
 - Reductions in Equity impact analysis of capitalization and debt ratios for the worse
 - Greatest Impact on Boeing: Equity -\$1.2B as of December 31, 2008 – 10K 2/2009
 - Smaller Impacts on Northrop Grumman, Raytheon, and Lockheed Martin
- **Concern over rising program costs and overruns – program cuts likely**
- **Procurement reform could cut future profits and increase risk.**
- **Re-evaluating the need for several large programs: F-22 and European Missile Defense**

Economic and DIB Outlook: Depressing

- **Economic - Near Term 2009-2010**
 - **Consensus Forecasts: GDP Falls by at least 2.2% or more in 2009**
 - **Recession not likely to end before the start of 2010.**
 - **WSJ: 20% Chance of an Economic Depression**
 - **Per Capita GDP falling 10% or more in a single year**
- **Economic - Longer Term After 2010**
 - **Inflation driven by rising energy and material costs could return after 2009**
 - **Recovery likely to be weak: Possible Double-Dip recession in 2010-2011**
 - **The American consumer is tapped out after a 25 year shopping spree**
 - **Any recovery would have to be led by government or business investment**
- **Defense Industrial Base**
 - **Large Backlogs at major primes provide cushion for now.**
 - **Pre-emptive responses: Layoffs, deferred investment and declining plant utilization**
 - **Uncertain Budget picture: Cuts are likely after 2011.**
 - **Some Consolidation possible when credit markets recover possible.**