Members Present:
Dan Anderson, Arizona Board of Regents
James Apperson, Governor’s Office of Strategic Planning and Budgeting
Tracy Clark, Arizona State University
Georganna Meyer, Department of Revenue
Dean Martin, State Treasurer
Elliott Pollack, Elliott D. Pollack and Co.
Randie Stein, Stone & Youngberg
Marshall Vest, University of Arizona
Don Wehbey, Department of Economic Security Research Administration

Mr. Richard Stavneak, Director, JLBC Staff, opened the meeting at 9:35 a.m. and welcomed everyone to the Finance Advisory Committee (FAC) meeting.

Mr. Stavneak started the JLBC Staff presentation with an overview of state revenues and issues for the panel to consider. (Click here to view.)

Mr. Tim Everill, JLBC Staff, continued the presentation on Sales Tax Collections and Corporate Income Tax. Mr. Hans Olofsson, JLBC Staff, continued the presentation on Individual Income Tax.

Mr. Pollack gave a slide presentation on the national economy. (Click here to view.)

Mr. Stavneak asked Mr. Pollack’s perspective relative to length of the economic downturn.

Mr. Pollack said that revenue growth rates would be lower in 2008 than 2009 due to a combination of the credit crunch changing the economic cycle and the Arizona specific issues of capital gains, stock gains, housing gains, and land gains that will go away. Consumer spending will be slow and construction sales taxes will be negative.

In response to Mr. Stavneak’s questions for the Committee, Mr. Tracy Clark stated that the tax revenue always looks worse than the economy when the economy is going to start slowing. When consumers pull back and fewer people come into the state, retail sales go down. In the last cycle, capital gains were are large part of the total, and when that goes away, personal income tax looks bad and normal income slows. Corporate profits will probably slow or be negative. Revenue growth is a function of having more people and faster spending, neither of which will continue in the same manner.
Mr. Tracy Clark gave a presentation on the Arizona economy. (Click here to view.)

Mr. Stavneak asked about population growth in general, and the revenue growth path of 3.5% in 2008, 2.6% in 2009, with a recovery in 2011. Mr. Clark replied that the population rate could slow from 3% to 2.5%, but not below 2%. The revenue growth path seems reasonable and will not go back to normal until 2010. Typically, it takes awhile for the revenues to start going when the economy starts to go back up.

State Treasurer Dean Martin gave a slide presentation on the Office of the State Treasurer’s Operating Account Balance. (Click here to view.) In response to the revenue growth path, Mr. Martin stated that FY 2008 will be the worst year and FY 2009 will be better. Overall revenue growth rates will not exceed population growth until 2010 or 2011.

Mr. Marshall Vest said, in agreement with Mr. Pollack, that it does not make a difference whether the economy lapses into a recession or it simply slows down because a lot of momentum has already been lost. He noted that the Arizona economy could have slipped into recession in the first quarter this year. When sales are adjusted for inflation and seasonality and the data is filtered, they peaked in February 2007. Employment is still growing. Employment numbers may go down below 2% after data filtering. Non-farm employment growth could go negative in the third or fourth quarter. In a couple of years, after the data is revised, the timing of the beginning of the recession will reflect that it was in the third quarter. Housing, manufacturing, temporary help agencies and professional business services are declining. Construction industry peaked in March and is now down again. The probability of a recession starting in Arizona is at least 50%, happening before the end of the year. Revenues are more volatile than the economic measures. If the recession starts and lasts a year, then FY 2009 will be lower than FY 2008.

Mr. Jim Apperson said that he is in the process working with JLBC Staff and the Legislature to come up with a response to deal with a downturn in the economy in 2008 and 2009.

Mr. Dan Anderson said agrees with Treasurer Martin regarding the credit market. The credit markets were not appropriately pricing risks. There are a lot more risk premium than the markets were saying, and it will take awhile to re-price those risks. It will be a long-term problem because many mortgages will not be re-priced for a year to 2 years, taking a while to default on those mortgages, then taking another 6 to 9 months before the home comes on the market. There is a lot of inventory in the market that is occupied right now that in a year or 2 years will be vacant because the mortgages will re-price. There are not other real serious problems. There is plenty of credit for those with good credit; the international markets are good; inflation is not bad; business is still strong. The bottom could occur in 2009. It is going to take time to work out the issues.

Mr. Don Wehbey said the research administration just released its employment forecasts for the next 2 years. The employment forecast was revised from April from 3.7% to 2.5%. The differences with the forecasts are that is clear that we are in a fast-growing economy. Recently, there have been rising claims and announcements of the closures, layoffs and consolidations. The risks were not earlier “on-the-table” and they are not yet fully evaluated. The trepidation is the extent of the magnitude of the risk and the period of it will be worked out. There are healthy companies that have not been participating in the high-risk lending. They have the opportunity to show support to the free-fall. The risk is not inherent to the financial industry. This is not uncommon to what is seen in earlier periods in construction and finance downturns. There was an investment bubble in the stock market and construction market. No one probably has a handle on the magnitude of the risks in these small segments of the economy. The employment figures have been revised to show negative employment growth in manufacturing and construction for the next 2 years. It will not necessarily continue in 4 years. There was a lot of momentum in the economy and there still is a lot of regional and national strengths. Arizona has more exposure to global risks, such as export markets that could impact the economy. Tourism and other areas continue to look good for the economy. The financial industry and construction downturn will be the struggle for the next 2 years.
Ms. Randie Stein said that it is now evident that the “shoe has dropped”. From a budget perspective, as difficult as it was to forecast because of the one-time revenue issues that were increasing the rate of growth, it will be more difficult on the downturn. There was a huge base in FY 2006, and FY 2007 was “contorted” because of the negative numbers in the last quarter. Now, the base is unknown so it is very difficult to determine what is going to happen in FY 2008. In FY 2009, some of the underlying economic issues in the housing market will be reflected.

The meeting adjourned at 11:00 a.m.

__________________________________
Yvette Medina, Secretary

__________________________________
Tim Everill, Revenue Section Chief

NOTE: A full tape recording of this meeting is on file in the JLBC Staff office at 1716 West Adams.
Finance Advisory Committee

September 12, 2007

JLBC
Questions for the Committee

- The consensus calls for very slow growth through FY 2010 – why such a long downturn?
- Are there any factors which might offset the continued housing slump?
- The business and consumer indices are not as gloomy as state revenues currently – what is causing this disconnect?
The Impact of Employer Sanctions Legislation

• The forecasts do not attempt to predict the effect of the new employer sanctions legislation.

• A disruption in labor supply could impact the state’s economy – the magnitude is difficult to determine in advance.

• A decline in illegal immigrant use of public services could reduce government spending – again by a magnitude that is difficult to forecast.
6.9% ‘07 General Fund Base Revenue Growth Rate Was Lower Than Budgeted
- ‘08 Budgeted Growth of 6.0% Becomes 8.4% With Lower ‘07 Base

* Excludes statutory and one-time changes.
What Has Happened Since the March FAC Meeting?

• While revenues grew moderately for all of FY 2007, they fell by (4.6)% in the last quarter.
• FY 2007 collections were $(226) million below forecast.
• Preliminary July/August revenues grew 1.6% over FY 2007.
  – Sales tax up only 1.3%
  – Individual income tax increased by 2.3%.
  – FY 2008 revenues already $(100) million below forecast.
Factors Behind Decreased Growth Rates

• Combination of local housing oversupply and national mortgage financing problem.
  – Arizona has 3rd highest rate of subprime loans.
  – Decline in building permits of over 30% - took awhile to feel impact.
  – Both construction/mortgage issues have significantly affected consumer spending.

• One-time FY 2006 gains were not repeated.
  – FY 2006 collections grew at a much faster rate than the underlying state economy. Personal income growth was approximately 9% for the period compared to 20% base revenue growth.

• Slower national economy.
  – First quarter 2007 GDP growth lowest since 2002.
  – 1st quarter state and local tax collections grew at lowest level since 2003.
Where Are We Headed Over the Next Few Years?
- Four-Sector Consensus Forecast Incorporates Different Economic Views, Including the FAC

4-sector forecast equally weights:

- FAC average
- UofA model - base
- UofA model - low
- JLBC Staff forecast
- Remaining revenues (4% of total) are staff forecast

* Includes Big 3 categories of sales tax, individual income and corporate income taxes.
September 4-Sector Turned More Cautious for ‘08

- Decreased from 4.3% in March to 3.5% Now
- Compares to a Budgeted Rate of 8.4%

FY 2008

Weighted Big 3 Average
Prior to Tax Law Changes
4-Sector ‘09 Forecasts Are Mixed
- Overall General Fund Revenue Forecast is for Lower Growth

• FAC sees slight improvement in FY 2009 – up 1.1% over FY 2008.

• FAC gain is more than offset by 2 UA models – both envision a 2% drop between FY 2008 and FY 2009.
4-Sector Growth Drops from 3.5% in ’08 to 2.6% in ‘09
- Besides UA-Low, UA-Base is Now Approaching Recession Territory
What Are Current Odds of A National Recession?

• National Blue Chip (August 2007) places the odds of a recession at 26% in the next 12 months
  – Compares to 25% in March.

• Similar Arizona Blue Chip question has not been updated since January 2007.
AZ Blue Chip is Not Yet Seeing Conditions as Negative as 4-Sector Revenues

- Blue Chip Forecasts for Personal Income, Retail Sales, and Job Growth Remain At Or Near Historical Averages

**Source:** August 2007 Blue Chip Forecast
Like Blue Chip, Arizona Economic Indicators Are Not Recessionary

- Business Conditions Index’s 2007 average of 58.9 points is below 2006, but still above neutral point of 50.
- Leading Index positive in 3 of first 5 months of 2007.
- Business Leaders Confidence Index declined 2.5 points to 50.5 in 3\textsuperscript{rd} Quarter.
  - Barely above neutral point of 50.
Revenue Forecast by Category
4-Sector Has Slow ‘08 and ‘09 Sales Tax Growth
- No Full Recovery Until FY 2011

FY 2007 Actual = $4.5 Billion

* 5.6% without the $(55.2) million estimated payment threshold change.
‘07 Sales Tax Collections
- While Annual Growth was 4.3%, 4th Quarter Was Flat
- 4th Quarter Contracting Decline is Especially Dramatic
4-Sector Individual Income Tax Forecast

- Negative in ’08 and Weak Recovery in ‘09

FY 2007 Actual = $3.7 Billion

* Without tax law change, base growth would be 6.3% in ‘07 and 4.8% in ‘08
Arizona’s Capital Gains Grew Much More Rapidly Than National Average in 2005 and 2006

- 2-Year Growth Helps Explain Rapid Revenue Increases
- Decline in FY 02 and FY 03 Highlights the Volatility

Source: IRS SOI
Volatility of Capital Gains Leaves State Vulnerable

- In FY 2006, about $750m (20%) of tax liability attributable to capital gains.
- FY 2007 capital gains won’t be known until June 2008. However, FY 2007 growth was likely moderate.
- Sharp decline in capital gains would result in significant General Fund revenue losses.
Corporate Income Tax Was Best ’07 Performer
- But June 2007 was (11)% Below June ‘06

FY 2007 Actual = $986 Million

* Forecast growth rates have been adjusted for the phase-in of the corporate sales factor legislation beginning in FY 2008. Without the adjustment, growth rates would have been as follows: FY 2008 4.0%; FY 2009 0.4%; FY 2010 3.3%; FY 2011 7.2%.
Growth in Corporate Profits is Expected to Decrease in 2007 and 2008

• U.S. corporate profit growth has slowed to 4.5% in first 6 months of 2007.

• Blue Chip consensus forecasts suggests 3-5% growth in FY 2007 and FY 2008.
Beyond FY 2009, 4-Sector Revenue Growth Remains Slow Until FY 2011
- Housing Downturn May Have Longer Impact than 9/11 Shock

* 4-sector consensus forecast weighted average growth.
## FY 2008-FY 2011 Quartile Forecast Worksheet

<table>
<thead>
<tr>
<th></th>
<th>FY 2008</th>
<th>FY 2009</th>
<th>FY 2010</th>
<th>FY 2011</th>
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<tr>
<td><strong>Sales Tax</strong></td>
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<tr>
<td>JLBC Forecast (8/07)</td>
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<td>UA - Low (8/07 revision)</td>
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<td><strong>Consensus Weighted Average:</strong></td>
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NATIONAL OUTLOOK

Presented by:

Elliott D. Pollack

At the:
Finance Advisory Committee
September 12th, 2007

United States Real Gross Domestic Product*
Annual Growth 1970 - 2008**

Source: U.S. Bureau of Economic Analysis & Blue Chip Economic Indicators

* Based on chained 2000 dollars.

** 2007 - 2008 are forecasts from the Blue Chip Economic Indicators, September 2007.
## ODDS OF A RECESSION

Source: National Blue Chip Panel

<table>
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<th>Consensus</th>
<th>Probability</th>
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<tbody>
<tr>
<td>September 07</td>
<td>32.1%</td>
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<tr>
<td>August 07</td>
<td>25.8%</td>
</tr>
<tr>
<td>July 07</td>
<td>22.3%</td>
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</table>

September’s survey was conducted September 5th and 6th, 2007

## Is a RECESSION Imminent?

Economic expansions do not die of old age.

They die from:

1. Structural imbalances
2. Fiscal and monetary policy errors

...Combined with unusual shocks
TYPICAL IMBALANCES

- Consumers holding too much debt
- Real incomes decline
- Excess capacity
- Business has too much debt
- Too much inventory
- Employment markets too tight
- Inflation
- Bad Tax Policy

None of these imbalances presently exist to any significant degree.
PRESENTLY

• Employment still growing (slowly)
• Real incomes growing
• Business awash in cash
• Capacity utilization at a level associated with increases in plant spending
• Employment markets do not appear to be tight
• Inflation still appears under control
• Exports booming

Fed has reacted well
The economy is no longer running on 8 cylinders...
More like 3 or 4 cylinders...
but still moving \textit{forward}....

...\textit{slowly}.
LAST YEAR WE SAID:

Weakening economies are more sensitive to shocks.
Examples of Direct Shocks:

- Unexpected oil supply disruption.
- Unexpected oil price escalation.
- Terrorist event (especially to financial or commerce infrastructure).
- Decline in housing prices.

THIS YEAR’S SHOCK:

Housing prices → mortgage backed securities
Liquidity dries up as the market re-prices risk.

High Yield Credit Spread
2004 – 2007
Source: Bespoke Investment Group; Merrill Lynch

*Data through August 2007.
** The spread between high yield corporate bonds (non investment grade/below bbb rated) and comparable Treasuries.
Credit Crunch

Banks and others significantly curtail their lending to all sectors.
Problems Linked to Most Leveraged Sectors

— Mortgage Backed Bonds
— Leveraged Buyout Loans
— Junk Bonds

To Get a *Full Blown* Credit Crunch you need:

1. **FEAR** —
   of big losses on current & future loans.

2. **UNCERTAINTY** —
   *How big* will the losses be?
   *When* will the market stabilize?
   *At what price* will it stabilize?
NOW – A *Limited* Credit Crunch

The Crunch Has Not Yet Spread to the General Economy

**A Limited Credit Crunch**

- Banks are still lending to consumers & businesses.
- Credit card agencies are still issuing credit.
- Mortgage lenders are still lending to qualified borrowers.
ACTIONS OF THE FED

Common Themes of Manias

• Extreme speculative hype
• Frenzy by all levels of investors.
• Severe departure from the investments “intrinsic value”.
• Huge flows of new credit – usually new types of instruments
• No formidable barriers to entry.
The “Busting of the Bubble” shares similar features:

- Liquidity contracts
- Exogenous events may cause/exacerbate situation
- Prices decline, then plunge

The Perfect Storm in the Housing Market
Falling housing prices ➔

question the “safety” of any collateralized mortgage backed securities (especially high loan-to-value) ➔

tightening of credit

The Result

1) Tightening credit standard for all buyers
2) Reduced supply of sub-prime and Alt-A buyers (who are priced out of the market due to higher loan-to-value requirements).
This fear pushes up the spread on jumbo loans, as well as the spread on junk bonds.

Scheduled re-pricing of sub-prime loans pushes up delinquent and foreclosure rates, adding new supply that pushes down housing prices…

…which starts the process over again.
Delinquency Rates
Single Family Residential Mortgages
2004q4 – 2007q2*
Source: Federal Reserve

Delinquency Rates
Single Family Residential Mortgages
1991 - 2007*
Source: Federal Reserve

*Data through second quarter 2007
Credit crunch ends when banks see stability.

The bottom of the housing market may occur in 2008 or 2009, but a full recovery will probably take 4 years.
# National Perspective

## U.S. Business Cycle Recessions

Source: National Bureau of Economic Research

<table>
<thead>
<tr>
<th>Recession Period</th>
<th># of Months</th>
</tr>
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<tbody>
<tr>
<td>November 1948 – October 1949</td>
<td>11</td>
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<tr>
<td>July 1953 – May 1954</td>
<td>10</td>
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<tr>
<td>August 1957 – April 1958</td>
<td>8</td>
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<tr>
<td>April 1960 – February 1961</td>
<td>10</td>
</tr>
<tr>
<td>December 1969 – November 1970</td>
<td>11</td>
</tr>
<tr>
<td>November 1973 – March 1975</td>
<td>16</td>
</tr>
<tr>
<td>January 1980 – July 1980</td>
<td>6</td>
</tr>
<tr>
<td>July 1981 – November 1982</td>
<td>16</td>
</tr>
<tr>
<td>July 1990 – March 1991</td>
<td>8</td>
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<tr>
<td>March 2001 - November 2001</td>
<td>8</td>
</tr>
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</table>
## U.S. BUSINESS CYCLE EXPANSION

Source: National Bureau of Economic Research

<table>
<thead>
<tr>
<th>Expansion Period</th>
<th># of Months</th>
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</thead>
<tbody>
<tr>
<td>October 1949 – July 1953</td>
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<tr>
<td>May 1954 – August 1957</td>
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<tr>
<td>April 1958 – April 1960</td>
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<td>February 1961 – December 1969</td>
<td>106</td>
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<tr>
<td>November 1970 – November 1973</td>
<td>36</td>
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<tr>
<td>March 1975 - January 1980</td>
<td>58</td>
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<tr>
<td>November 1982 – July 1990</td>
<td>92</td>
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<tr>
<td>March 1991 – March 2001</td>
<td>120</td>
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<tr>
<td>November 2001 – current (Sept 07)</td>
<td>70</td>
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</tbody>
</table>

### Negatives

- Credit crunch
- Housing market
- Consumer spending
- Inflation ???
Positives

• Employment still positive.

• Businesses lean and mean.

• Recession would be pointless, so Fed will try to avoid one.

Consumer
**National Employment**
Annual Percent Change 1975–2006*

*Non-agricultural wage & salary employment. Changed from SIC to NAICS reporting in 1990.

**Median Weeks Unemployed (S/A)**
1972 – 2007*

*Data through July 2007.*
CONSUMER SPENDING:
Causes of Consumer Caution

- Reduced home-related spending on home improvement items such as furnishings, appliances, and building materials. (Look at completions not starts)
- Housing-related industries are now cutting jobs.
- Mortgage equity withdrawal slowing.
U.S. Real Retail Sales
Percent Change Year Ago, 3-Month Moving Average
1972 – 2007*
Source: Federal Reserve Board of St. Louis

* Data through July 2007

Recession Periods

Consumer Financial Obligation Ratio
1980 – 2007*
Source: Board of Governors, Federal Reserve Board

NOTE: The FOR includes debt service payments as a percent of disposable income.
Mortgage Financial Obligation Ratio
1980 – 2007*
Source: Board of Governors, Federal Reserve Board

8.0% 8.5% 9.0% 9.5% 10.0% 10.5% 11.0% 11.5% 12.0%


NOTE: The FOR includes debt service payments as a percent of disposable income.

Total Financial Obligation Ratio
1980 – 2007*
Source: Board of Governors, Federal Reserve Board

15.0% 15.5% 16.0% 16.5% 17.0% 17.5% 18.0% 18.5% 19.0% 19.5% 20.0%


NOTE: The FOR includes debt service payments as a percent of disposable income. The FOR is a broader measure as it includes auto lease payments, rental payments, homeowner’s insurance and property taxes.

*Data through second quarter 2007.
Mortgage Equity Withdrawal as a share of Disposable Income
U.S.: 1971 – 2006*
Source: Bureau of Economic Analysis

* Data through first quarter 2007

Recession Periods

Inflation
Personal Consumption Expenditures
Price Deflator (2000=100)
Percent Change Year Ago
1971 – 2007*
Source: Bureau of Economic Analysis

Personal Consumption Expenditures
Price Deflator (2000=100)
Percent Change Year Ago
2001 – 2007*
Source: Bureau of Economic Analysis

*Data through second quarter 2007.
Compensation / hour over Output / hour = Unit Labor Costs

(2/3 of Business Costs)

Compensation per Hour*
Percent Change Year Ago
1976 – 2007**
Source: Bureau of Economic Analysis

*Non-farm Business
**Data through second quarter 2007, seasonally adjusted

Recession Periods
Output per Hour*
Percent Change Year Ago
1976 – 2007**
Source: Bureau of Economic Analysis

Unit Labor Costs*
Percent Change from Year Ago
1976 – 2007**
Source: Bureau of Labor Statistics

*Non-farm Business
**Data through second quarter 2007
30-Year Conventional Mortgage Rates
1982 – 2007*
Source: Federal Reserve Economic Database

*Data through July 2007.

3-Month Treasury
1982 – 2007*
Source: Federal Reserve Economic Database

*Data through July 2007.
Capacity Utilization Rate
1970 – 2007*
Source: The Conference Board

*Data through July 2007
Recession Periods
Corporate Profit
(Billions of Dollars, SA)
1975-2007*
Source: Freelunch.com

Corporate Profit
Percent Change Year Ago
1975-2007*
Source: Freelunch.com

*Data through second quarter 2007
Recession Periods
Total Plant Spending
Percent Change Year Ago (Real Dollars)
1970 – 2007*

Source: Bureau of Economic Analysis

-25%
-20%
-15%
-10%
-5%
0%
5%
10%
15%
20%
25%

Data through second quarter 2007.

NOTE: Series was revised in March 2004. Data prior to 1990 was not provided.

Total Equipment & Software Spending
Percent Change Year Ago (Real Dollars)
1970 – 2007*

Source: Bureau of Economic Analysis

-25%
-20%
-15%
-10%
-5%
0%
5%
10%
15%
20%
25%

Data through second quarter 2007.

NOTE: Series was revised in March 2004. Data prior to 1990 was not provided.
Tougher Loan Standards
Source: Federal Reserve Survey, July 2007

• **56.3%** of banks tightened on sub-prime mortgages.

• **40.5%** of banks tightened on “non-traditional” mortgages (ARMs, Interest-only, or Limited Income Verification loans).

• **14.3%** of banks tightened on prime loans.
U.S. Real Net Exports as a Percent of Real GDP
1971 – 2007*

Source: Bureau of Economic Analysis

*Data through second quarter 2007

Recession Periods
U.S. Real Imports as a Percent of Real GDP
1971 – 2007*
Source: Bureau of Economic Analysis

U.S. Debt Held by Foreign & International Investors
1975-2007*
(Billions of Dollars, SA)
Source: Federal Reserve Economic Database

*Data through second quarter 2007.
U.S. OUTLOOK - 2008

- Consumer spending (-)
- Housing (-)
- Inflation (-)
- Productivity growth slowing (-)
- Fiscal stimulus (+/- -)
- Low interest rates (+)
- Business spending (+)
- Monetary stimulus (+)
- Real incomes (+)
- Businesses mean and lean (+)
- Job growth (+)

OUTLOOK 2008

A “sub-prime” year.

Things will continue to grow, but grow slowly.
Arizona’s Economy
Slow growth means declining tax revenues
FAC Meeting September 12th 2007


Source: Arizona Department of Economic Security (last data point July 2007 = 2.8%)
Arizona Construction Employment Growth 1991 to 2007

Source: Arizona Department of Economic Security (last data point July 2007=1.6%)

Arizona Financial Services Employment Growth 1991 to 2007

Source: Arizona Department of Economic Security (last data point July 2007=2.6%)

Legend:
- 1%: 1991
- 3%: 1992
- 5%: 1993
- 7%: 1994
- 9%: 1995
- 11%: 1996
- 13%: 1997
- 15%: 1998
- 17%: 1999
- 19%: 2000
- 21%: 2001
- 23%: 2002
- 25%: 2003
- 27%: 2004
- 29%: 2005
- 31%: 2006
- 33%: 2007
- 35%: 2008
Arizona Manufacturing Employment Growth 1991 to 2007

Source: Arizona Department of Economic Security (last data point July 2007: 1.0%)

Index of Help Wanted Advertising in Newspapers 1990 to 2007

The Conference Board 1987=100
(last data point July 2007 US = 25 Arizona = 34)
Arizona Wage and Salary Employment Growth

History: Arizona Department of Economic Security (percent change)
Forecasts are from the September JPMorgan Chase Arizona Blue Chip Economic Forecast

Personal Income Growth
1970 to 2007

Source: BEA (last data point Q1 2007 US = 5.8% AZ = 6.2%)
Arizona Personal Income Growth

History: Bureau of Economic Analysis (percent change)
Forecasts are from the September JPMorgan Chase Arizona Blue Chip Economic Forecast

Weekly Chain Store Sales Index 4 Week Moving Average
1990 to 2007

Source: Source: Bank of Tokyo Mitsubishi Seasonally Adjusted (last data point 09/01/07 = 2.5%)
Growth of Real Consumer Expenditures
1990 to 2007

(18%)

Source: BEA

Sales of Autos & Light Trucks
1987 to 2007

Source: BEA Millions of Units, SAAR (last data point August 2007 = 16.30)
Total Vehicle Sales Growth

History: Bureau of Economic Analysis (millions of units)
Last two years are forecasts from the Blue Chip Economic Indicators    July 2007 Issue

Arizona Real Retail Sales Growth
Three Month Moving Average Seasonally Adjusted
1989 to 2007

Source: JPMorgan Chase Economic Outlook Center calculations (percent change from same month prior year) (last data point June 2007=0.5%)
Growth in Corporate Profits

History: Bureau of Economic Analysis (with IVA and CCAdj) (percent change)
Last two years are forecasts from the Blue Chip Economic Indicators  July 2007 Issue

Purchasing Managers Index
1990 to 2007

The National Association of Purchasing Managers and JPMorgan Chase Economic Outlook Center 1990-2008
(last data point July 2007 US = 53.8 Arizona = 65.1)
S&P 500 Composite Stock Price Index
1965 to 2007

Source: Daily Press (last data point 08/31/07 = 1474)

New Privately Owned Housing Units Started

History: Census Bureau (millions of units)
Last two years are forecasts from the Blue Chip Economic Indicators July 2007 Issue

Source: Daily Press (last data point 08/31/07 = 1474)
US Total Housing Starts
1970 to 2007

Weekly 30-Year Conventional Mortgage Rate
1987 to 2007
Arizona Single Family Permits
1986 to 2007

Source: Arizona Real Estate Center 3 MMA SA (last data point May 2007)

Arizona Multi-Family Units Permitted
1986 to 2007

Source: Arizona Real Estate Center 3 MMA SA (last data point May 2007)
Arizona Single Family Permit Growth

History: Arizona Real Estate Center (percent change)
Forecasts are from the September JPMorgan Chase Arizona Blue Chip Economic Forecast

Arizona Multi-Family Permit Growth

History: Arizona Real Estate Center (percent change)
Forecasts are from the September JPMorgan Chase Arizona Blue Chip Economic Forecast
JPMorgan Chase
Economic Outlook Center
W. P. Carey
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Finance Advisory Committee
September 12, 2007

Office of the Arizona State Treasurer
Treasurer Dean Martin

State Total Operating Account Average Monthly Balance
July 1990 to present

Millions of Dollars
State of Arizona Operating Cash Balance On A Downward Trend

Percent Change in Operating Account Balance

July 1991 to present

% Change in Cash Balance
Poly. (% Change in Cash Balance)
12 per. Mov. Avg. (% Change in Cash Balance)
Linear (% Change in Cash Balance)

Inverted vs. Normal Yield Curve

Copyright: Bloomberg 2007 L. P.
US Treasury Yields vs. Fed Funds since 2000

Inflation: GDP Deflator consistently above other measures
PCE, PPI, CPI CORE, and GDP RATES Quarterly since 1987
Inflation: GDP Deflator consistently above other measures
PCE, PPI, CPI CORE, and GDP RATES monthly since 2001

Fed Target

RJ/CRB Commodity Price Index weekly average since 1977
(Energy, Metals, Grains, Livestock, and Soft Commodities)
Value of U.S. Dollar vs. 6 major currencies for last 30 years
(Euro, Yen, Pound, Canadian Dollar, Swedish Krona, Swiss Franc)