Forces that Rule the Stock Market

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Data is courtesy of Professor Shiller's homepage
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Data is courtesy of Professor Shiller's homepage and St. Louis FRED
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Macroeconomy & Stocks
Economic Forces

• Consumers are driving force in the U.S.
  – Spending
    • PCE personal consumption expenditures
      – Total, Non-Durables, Durables, Services
    • Housing Starts
  – Real earnings
    • Real hourly wage
  – Feedback through inflation
    • PCE inflation
    • CPI inflation
Composition of US Gross Domestic Product, 2004

- Consumer Spending, 70%
- Capital Spending, 16%
- Government Spending, 19%
Composition of Consumer Spending, 2004

- Services, 59%
  - Housing, household operation, medical, transportation, recreation, personal care, financial services, travel, etc.

- Nondurable Goods, 29%
  - Food, clothing, gasoline, heating oil, drugs, cleaning supplies, etc.

- Durable Goods, 12%
  - Motor vehicle, furniture, sporting goods, tools, books, etc.
Real gross domestic product

% change versus prior year, quarterly

Bear market  Recession


+10  +8  +6  +4  +2  0  -2  -4

% change versus prior year, quarterly

+10  +8  +6  +4  +2  0  -2  -4

Courtesy of Joseph Ellis
Data from St. Louis FRED
SP500 %ChgYrYR AllYears

Data from St. Louis FRED
S&P Year-on-Year % change on monthly basis

Real average hourly wage's Year-on-Year % change on monthly basis

Data from St. Louis FRED
S&P Year-on-Year %change on monthly basis

Non-farm payroll's Year-on-Year %change on monthly basis

Data from St. Louis FRED
S&P Year-on-Year % change on monthly basis

PCE Inflation Index's Year-on-Year % change on monthly basis

Data from St. Louis FRED
SP&CPI_%ChgYrYR

S&P Year-on-Year % change on monthly basis
PCE Inflation Index's Year-on-Year % change on monthly basis

Data from St. Louis FRED
Demography & Stocks
Life Cycle Planning

• As we grow, we gain and enhance our most important asset: Our Human Capital!
  – Combination of energy, youth, experience, …

• As we go through life, we also consume to survive, enjoy and enhance our life experiences
  – Maslow’s pyramid of needs is true but costly
Life Cycle

- Income
- Saving
- Time to Save & Invest
- Time to Gain Skills
- Time to Retire
- Consumption
- Dissavings
Figure 2. Average Household Income, by Age of Head of Household, 1967–2001

Thousands of 2001 dollars

Consumption & Demography

• Age determines the purchase power:
  – Child: 0 – 19 yrs. → Dirt Poor!
  – Middle-Age: 40 – 59 yrs. → Rich!

• Middle Age – to – Young (MY) ratio is perhaps the most important predictor of economy-wide prosperity and stock market price appreciation!
Figure 1. Live Births and the Five Major Cohorts, 1910–2001

Millions

Source: Historical Statistics of the United States, Series B1, and Bureau of the Census data.

a. Numbers in parentheses are total births, and bar heights average number of births per year, during the indicated period.
Figure 5. MY Ratio, 1910–2050


a. Ratio of the cohort aged 40–49 to the cohort aged 20–29.
b. Data from 2001 onward are projections.
Figure 7. Average PE Ratio of Firms in Standard and Poor’s Index and MY Ratio, 1910–2002


a. Calculated by dividing the monthly S&P index by an average of earnings for the past twelve months and annualizing.
Figure 8. Real Rate of Return on Standard and Poor’s Index and Change in MY Ratio, 1910–2002

Percent a year

Real rate of return (left scale)

Change in MY ratio (right scale)
Figure 9. Real Short-Term Interest Rate and Change in MY Ratio, 1910–2002

Percent a year

Interest rate (left scale)

Change in MY ratio (right scale)
Figure 11. Real Nikkei 225 Stock Price Index and Japanese MY Ratio, 1950–2050

Index

Real Nikkei index (left scale)

MY ratio (right scale)

Data from Professor Shiller's homepage and US census
It Matters When You’re Born!

• You’ve been told invest, buy and hold
• But beware, when you’re born matters!
• If you were lucky to start investing in late 60s and early 70s, you’ve made it big when you retire after 30 years of working!
• If you are still working and have about a decade or so left, then you’ve made it big if you have started investing in late 60s to early 80s!
Investing $1000/Month for 30 Yrs.
Investing $1000/Month for 20 Yrs.

Wealth Accumulation 30 Years

$- $200,000.00 $400,000.00 $600,000.00 $800,000.00 $1,000,000.00 $1,200,000.00 $1,400,000.00

Data from Professor Shiller's homepage
Data from Professor Shiller's homepage
Data from Professor Shiller's homepage
Macro Waves & Stocks
Long and Not-so-Long Waves

“History does not repeat itself but it does rhyme” Mark Twain

• Kondratieff waves (Super-cycle)
• Demographic waves
• Technology waves
• Economic waves
80-Year Alternating Generation Cycles

Source: HS Dent Foundation
80-Year New Economy Cycle

Source: HS Dent Foundation

Chart 14
The Industry Life Cycle

Source: HS Dent Foundation

Chart 15
Outlook Worldwide: Near-term

- US will face a long period of deflation (2 – 7 years) followed by business/technology shake out (3 – 10 years) and then a new wave of technological innovations.
- China will face a period of disinflation (2 – 4 years) along with slower growth and a move towards more regulated/higher value industrial complexes. This will result in inflation of commodities in 5 – 7 years.
Outlook Worldwide: Medium-term

- Russia, Brazil, Canada, Australia and other natural resource rich countries will benefit from a more sustainable growth in China and India in mid 2020s.
- US agricultural and industrial equipment sectors will also benefit from population boom on emerging powers.
- Oil producing nations will benefit from rising oil prices but extent of that is highly dependent on emerging energy efficiencies.
Outlook Worldwide: Long-term

• India and other south Asian and north African countries would emerge as possible growth engines in the later half of 21st century.

• Technologies are way too far into future to predict but population growth is in favor of these regions.
Corporate Profits & Stocks
What Affects Corporate Profits?

• Corporate Profit Growth
  – Net corporate profits
  – After-tax corporate profits

• Cost of Capital
  – BAA bond yield
    • Present value of corporate profits/ BAA yield

• Corporate Profit Margin
  – Corporate Profits/ GDP
  – Inflation and Money Illusion
Data from Professor Shiller's homepage
### Historical Perspective

<table>
<thead>
<tr>
<th>Decade</th>
<th>Nominal Gross Domestic Product</th>
<th>Real Gross Domestic Product</th>
<th>S&amp;P 500 EPS</th>
<th>Inflation (Deflation)</th>
<th>S&amp;P Total Return</th>
</tr>
</thead>
<tbody>
<tr>
<td>1930 - 1940</td>
<td>-1.4%</td>
<td>0.5%</td>
<td>-5.0%</td>
<td>-1.9%</td>
<td>0.0%</td>
</tr>
<tr>
<td>1940 - 1950</td>
<td>11.2%</td>
<td>5.9%</td>
<td>7.7%</td>
<td>5.0%</td>
<td>8.9%</td>
</tr>
<tr>
<td>1950 - 1960</td>
<td>6.3%</td>
<td>3.8%</td>
<td>5.4%</td>
<td>2.1%</td>
<td>19.3%</td>
</tr>
<tr>
<td>1960 - 1970</td>
<td>6.6%</td>
<td>4.5%</td>
<td>5.6%</td>
<td>1.9%</td>
<td>7.8%</td>
</tr>
<tr>
<td>1970 - 1980</td>
<td>9.7%</td>
<td>3.2%</td>
<td>7.9%</td>
<td>6.3%</td>
<td>5.8%</td>
</tr>
<tr>
<td>1980 - 1990</td>
<td>8.3%</td>
<td>3.1%</td>
<td>5.5%</td>
<td>6.3%</td>
<td>17.3%</td>
</tr>
<tr>
<td>1990 - 2000</td>
<td>5.6%</td>
<td>3.0%</td>
<td>7.1%</td>
<td>3.4%</td>
<td>18.0%</td>
</tr>
<tr>
<td>1930 - 2000</td>
<td>6.7%</td>
<td>3.5%</td>
<td>5.2%</td>
<td>3.3%</td>
<td>11.0%</td>
</tr>
</tbody>
</table>
# Bulls & Bears

<table>
<thead>
<tr>
<th>Secular Trend / Period</th>
<th>Nominal Gross Domestic Product</th>
<th>Real Gross Domestic Product</th>
<th>S&amp;P 500 EPS</th>
<th>Inflation (Deflation)</th>
<th>S&amp;P 500 Total Return</th>
</tr>
</thead>
<tbody>
<tr>
<td>Range-Bound</td>
<td>1936 - 1950</td>
<td>9.4%</td>
<td>5.3%</td>
<td>7.9%</td>
<td>3.9%</td>
</tr>
<tr>
<td>Bull</td>
<td>1950 - 1966</td>
<td>6.4%</td>
<td>4.1%</td>
<td>4.8%</td>
<td>1.9%</td>
</tr>
<tr>
<td>Range-Bound</td>
<td>1966 - 1982</td>
<td>9.3%</td>
<td>2.7%</td>
<td>6.1%</td>
<td>7.0%</td>
</tr>
<tr>
<td>Bull</td>
<td>1982 - 2000</td>
<td>6.3%</td>
<td>3.7%</td>
<td>7.5%</td>
<td>3.3%</td>
</tr>
<tr>
<td>Bull Market Average</td>
<td></td>
<td>6.4%</td>
<td>3.9%</td>
<td>6.2%</td>
<td>2.6%</td>
</tr>
<tr>
<td>Range-Bound Market Average</td>
<td></td>
<td>9.4%</td>
<td>4.0%</td>
<td>7.0%</td>
<td>5.5%</td>
</tr>
</tbody>
</table>
Large P/E means you pay more for every dollar of earnings; simply put stocks are expensive!

Earnings (EPS) need to be growing, otherwise the firm is stagnating.
What Now? Where to?

Reversion Beyond the Mean
10 Year Trailing P/Es for S&P 500

Average 18.3
Corporate Profits & Economy

Profit Margin Paradigm. The "E" in the P/E Equation.

Corporate Margins = Corporate Profits / GDP

Normalized Corporate Profits = GDP x 8.5% (Average re-Tax Margin since 1980)

Chart excerpted from Active Value Investing: Making Money in Range-Bound Markets (Wiley, 2007)
# Active Value Strategy

<table>
<thead>
<tr>
<th></th>
<th>Bull</th>
<th>Range Bound</th>
<th>High Inflation</th>
<th>Deflation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Active Value Investing</strong></td>
<td>On Par With Stock Market or Slightly Better or Slightly Less</td>
<td>Decent (Above Stock Market) Returns</td>
<td>Smaller Decline Than Stock Market</td>
<td>Smaller Decline Than Stock Market</td>
</tr>
<tr>
<td><strong>Buy and Hold (Passive Indexing)</strong></td>
<td>On Par With Stock Market (Plus or Minus)</td>
<td>Zero Price Appreciation + Dividends</td>
<td>Market Decline Plus or Minus</td>
<td>Market Decline Plus or Minus</td>
</tr>
<tr>
<td><strong>High Beta Growth</strong></td>
<td>Better than Stock Market</td>
<td>Zero or Negative Price Appreciation + Small Dividends</td>
<td>Greater Decline than Stock Market</td>
<td>Greater Decline than Stock Market</td>
</tr>
<tr>
<td><strong>Bonds</strong></td>
<td>Considerably Worse than All Above</td>
<td>On Par with Stock Market Plus or Minus (Depend On Direction of Inflation and Interest Rates)</td>
<td>Worse than All Above</td>
<td>Better than All Above</td>
</tr>
</tbody>
</table>
SP500: 60 Years

Good times for younger; bad times for Old-timers!

Data from Professor Shiller's homepage
Sectors & Stocks
Economy, Stocks and Sectors

What’s Next?
1–5 year Plan

• Hold a lot of cash (20% - 30%)

• Buy quality stocks (companies with monopoly power and conservative plans) gradually (30% - 60%)
  – Alternatively, you can gradually get into China, Russia, Brazil, Australia funds, and financial, energy, agri-business funds

• After 2 – 3 years, think about impending inflation and look into TIPS (inflation-protected Treasury bonds) and commodities (Oil, Gold, Silver, or any number of commodity ETFs) (up to 20%)
5 – 10 year Plan

• Aggressively pursue China and resource rich nations (Australia, Brazil, Canada, Russia)

• Aggressively pursue commodities and protect against inflation with TIPS or roll-over T-bills

• Alternative energy, biotech, agriculture, e-commerce, e-software, are good bets in US

• Real estate, builders, material, e-commerce, and agriculture are good bets in China
10 – 20 year Plan

• India, Middle-east, and perhaps even US and Japan would offer great opportunities
  – Infra-structure like housing, construction, cement, materials, etc. would be good in these markets

• China will continue to be a economic and investment powerhouse
  – Health care, cars, technology, and finance would be then good in China
Some Math

Beware of ‘falling dagger’ problem

• Imagine market is at 10,000 and then drops to 7,000 in 3 months
  – If you have $100,000 invested in the market now it’s $70,000; a $30,000 or 30% loss!

• Now imagine market continued to fall to 5,000 in the next 3 months
  – If you still hold the portfolio, the value drops to $50,000 or 28%.
  – If you were in not invested before but bought into it, then your $100,000 drops to $70,000!
Overview of Investment Vehicles

• Money markets, CDs, Saving Accounts
• Treasury bills, notes, bonds
• Municipal Bonds (tax-free & taxable)
• Corporate bonds (AAA-rated to BBB-rated)
• Domestic stocks
  – Mutual funds, Index funds, ETFs
• International stocks
  – Mutual funds, Index funds, ETFs
• REIT (real estate investment trusts)
• Commodity funds, Hedge funds, etc.
Short Guide

• If you don’t know the stocks, then limit your exposure to individual stocks (10%-20%)
• Buy index or ETF funds first; unless a mutual fund’s management is great for sure!
• If you need income, seek Muni and Treasury first, high quality dividends next
• If you want appreciation, growth industries and markets (agribusiness, alternative energy, biotech, China, India, Brazil, etc.)
Seasonality

- October and September are bad months
- ‘Sell May Go Away’
  - buy in late Oct & sell in late May :: some years
    June and July are good summer rallies
- Late December to Early January has a great part of the annual return! (most years!)
- Last year of a the first presidential term is a pretty good year, then the third year!
- Early years of a decade are not good years! Middle years are when rallies start