APPENDIX F
Round 1 Future Developments

This Appendix presents paraphrased responses to the questionnaire's request for future developments that could affect the course of the four variables. As noted in the text, the responses are grouped into the following categories:

- Commodity Prices
- Productivity
- New Technology
- Foreign Affairs
- Energy and Resources
- The Dollar
- Corporate Factors
- Trade and Foreign Investment
- Social Factors
- Inflation and Investment Climate
- US Deficit

1. Annual increase in Consumer Price Index

Commodity Prices

- Oil prices rise $30 bbl in one year, pushing inflation above 3.5%
- Oil prices rise to above $30 bbl for a period of at least 5 years.
- Oil prices rise to above $ _60_ / barrel for a period of at least 5 years
- Oil prices rise to above $100 / barrel for a period of at least 5 years
- Energy prices rise sharply on a sustained basis
- Oil prices rise to above $ _70_ / barrel for a period of at least 5 years
- Oil prices surge frequently, interspersed with periods of steady or slightly declining prices, as demand grows rapidly in developing nations, in addition to slow growth or steady demand in industrialized nations.
- Oil prices rise to above $ _100_ / barrel for a period of at least 5 years but this might lead to an economic collapse and deflation in the longer run.
- Oil prices rise to above __70___$/barrel for at least five years.
- Oil prices rise to above $ _55_ / barrel for a period of at least 5 years
- Oil prices rise to above __70___$/barrel for at least five years.
- Oil prices rise to above $ 70 / barrel for a period of at least 5 years
- Oil prices rise to above $ 50/barrel for a period of at least 5 years
- Oil prices rise to above $80 / barrel for a period of at least 5 years

Productivity

- Productivity gains lower inflation to close to zero
- Rapid shrinkage of the labor force as population ages contributes to lower productivity growth.
- Stable labor force as population ages helps to keep productivity growth high.
- Productivity improves 1% per year for an extended period of time

New Technology

- New technologies dramatically increase the number of people who can be served per worker, leading to a significant drop the costs of high-demand services.
- New technologies drop costs of production of most products by 20%
- New technologies drop costs of production of most products by _20_ %

- New technologies drop costs of production of most products by 20 %
- New technologies drop costs of production of most products by 10 %
- New technologies drop costs of production of most products.
- New technologies drop costs of production of most products by _2_ %
- New technologies drop costs of production of most products by _10_ %
- New technologies drop costs of production of most products by 10__ %
- New technologies drop costs of production of most products by _10_ %
- New technology driven productivity gains cause lower market prices masking government inflation.
- New technologies drop costs of production of most products by 40 %
- New technologies drop costs of production of most products by _50_ %
- New technologies drop costs of production of most products by 10 %
- New technologies drop costs of production of most products by 1.5%
- New technologies dramatically drop costs of natural resources.

Foreign Affairs

- The U.S. reasserts and further develops its moral, political, and economic leadership of the west: that leadership is essentially accepted throughout the world.
- The impact of prolonged war in Iraq, and new conflicts in other parts of the world, plus the ever-present threat of terrorism are all very uncertain areas that could have a huge impact on all major financial indicators.
- Terrorism events escalate, increasing cost of production
- Terrorist/ war-related events drive up costs of security and insurance.
- Global instability (Islam, China-India push for power) creates spot shortages.
- NATO, a western institution, essentially succeeds in its new anti-terrorist and I Islamic extremist role. Such problems become under control by 2008. .
- Extended war in the middle east leads to large sustained increase in the price of oil

Energy and Resources

- New technologies further reduce general dependence on fossil fuels.
- Energy costs and availability, exacerbated by climate change constraints on fossil fuels will make energy a very costly commodity.
- Oil shortages due to exhaustion of natural resources
- Materials and resource depletion will give rise to feedstock substitutions made possible by advances in technology, but these opportunities will come at a higher cost.
- As people realize oil production will peak and slowly fall, alternatives at higher cost kick in keep all energy costs high.
- China and India will be a giant factor in keeping energy prices low, but they too will begin to have higher labor costs and their water and energy access limits their grown in production of low cost items.
- New sources of oil are developed in the United States (e.g., Arctic drilling)
- Shift in sources of energy (e.g., nuclear, solar, wind, hydroelectric, natural gas) leads to change in cost of energy supply
- Shift in usage of energy (e.g., energy-efficient home design) leads to shift in mix of CPI basket

The Dollar

- Depreciation of the US dollar vs. euro by 30% for more than 5 years
- Collapse of US dollar as world reserve currency.
- U.S. dollar weakens considerably from present levels, pushing up import prices.
- US Dollar currency collapse vs. Euro.

Corporate Factors

- A rapidly rising retired population outpaces productivity gains, severely straining the ability of businesses and workers to meet demand. This is especially true in medical fields, where access to the newest technologies, procedures, and medications for common age-related conditions is widely seen as a basic entitlement.
- Highly successful globalization which leads to consistent reductions in cost of labor and thus maintains deflationary pressures. [However, my forecast of CPI implicitly assumes this trend will continue.

Trade and Foreign Investment

- Very extensive trade agreements (essentially customs unions) are made before 2015, encompassing the Americas, Europe, Australia, and New Zealand. .
- Massive foreign investment in the U.S. resumes by 2012, because U.S. investment climate has again become attractive. .

Inflation and Investment Climate

- Long term weather patterns affect supply/cost of food

2. 10 Year Treasury Spot Yields

Foreign Affairs

- The U.S. reasserts and further develops its moral, political, and economic leadership of the west: that leadership is essentially accepted throughout the world.
- NATO, a western institution, essentially succeeds in its new anti-terrorist and I Islamic extremist role. Such problems become under control by 2008. .
- Extended war requires heavy military expenses/deficit spending

The Dollar

- Euro is increasingly accepted as a reserve currency amid USD weakness.
- US Dollar currency collapse vs. Euro, lowering demand for debt, lowering prices (increasing interest rates)
- Euro becomes the currency of choice.
- Major collapse in the value of the U.S. dollar prompted by foreign investors turning away from U.S. dollar assets.

Trade

- Developing nations out-compete developed nations for market share of manufactured goods. Room at the top of the food chain for developed nations is pressured, and profitability of intellectual/service based economies are called into question.
- Trade restrictions resulting from inability of non US countries to alter their policies to pro-growth..

Social Factors

- Litigation abuses come under control in 2006.
- Fears about the collapse of social safety nets and the adequacy of savings prompt many baby boomers to delay retirement, resulting in increased tax revenue and maybe a reduced call on federal promises of retirement income and medical care.

- Tax and Social Security changes are made in the U.S., before 2010 which greatly increases savings rate.
- Mass exodus from US government bonds.
- Large scale re-allocation of pension assets out of equities and into fixed income
- Tax and Social Security changes are made in the U.S., before 2010 which greatly increases savings rate . .
- Litigation abuses come under control in 2006. .
- Fears about the collapse of social safety nets and the adequacy of savings prompt many baby boomers, and younger generations, to significantly curtail consumption in an attempt to reduce debt and save more for the future.
- The aging of the industrialized world leads to a critical mass in demand for age-related medical care. With this transition, it becomes possible for providers and their suppliers to compete profitably on price.
- An increase in natural catastrophes increases costs and inflation
- Health care costs increase substantially
- Immigration drops by 20%
- Ratio of retired workers to active exceeds 2.5:1 after baby boomers retire

US Deficit

- U.S. Government current account deficit increases to 6% of GDP, dollar drops, and yields must rise to attract capital
- Government deficit rises above 5% of GDP and yields rise above 6%
- U.S. Government current account deficit increases to 13% of GDP.
- U.S. Government current account deficit increases to _4__% of GDP.
- U.S. Government current account deficit increases to 10% of GDP.
- U.S. Government current account deficit increases to 10% of GDP.
- Investors diversify holdings away from U.S. capital markets in response to widening current account deficit.
- The U.S. fiscal deficit continues to deteriorate and/or the Fed adopts more ad hoc strategies to sustain growth.
- U.S. Government deficit increases to _10__% of GDP.
- U.S. Government current account deficit continues at current levels for a prolonged period...
- Budget deficit worsens for a prolonged period.
- U.S. Government current account deficit increases to 10% of GDP.
- U.S. Government current account deficit increases to 10% of GDP.
- U.S. Government current account deficit increases to _20__% of GDP.
- U.S. Government current account deficit increases to 10% of GDP.
- U.S. Government current account deficit increases to 30% of GDP.
- Federal deficit stays at the current level.
- U.S. Government current account deficit increases to 8% of GDP.
- Failure to control entitlement spending – U.S. Federal budget deficit persistently exceeds 5% of GDP.
- The US current account deficit is more a problem for the rest of the world; the concern of currency speculators
- U.S. steps up spending (e.g., additional wars, health care) combined with further cuts taxes, resulting in severe debt problems that would put upward pressure on real rates
- Improvements in the current account mean less pressure on the dollar and cheaper imports.)
- Budget deficit will catch up, probably much faster than the 20 years.
- Current account deficit grows by > 5%/year
- US credit no longer seen as the AAA standard due to high budget deficits/ high trade deficits

Foreign Investment

- Confidence in US drops due to twin deficits, foreigners bail out of US securities
- Confidence in US drops; direct foreign investment reaches 53% of current levels
- Confidence in US drops; direct foreign investment reaches _60__% of current levels

- Direct foreign investment will continue to be attracted by high Treasury yields .
- Confidence in US drops; direct foreign investment reaches 20% of current levels
- Confidence in US drops; direct foreign investment reaches __% of current levels DELETE
- Massive foreign investment in the U.S. resumes by 2012, because U.S. investment climate has again become attractive.
- Confidence in US drops; direct foreign investment dries up with a prolonged large net outflow.
- Confidence in the US drops; direct foreign investment reaches 20__% of current levels.
- Confidence in the US drops; direct foreign investment reaches __50_% of current levels.
- Confidence in US drops; direct foreign investment reaches _200__% of current levels
- Confidence in US drops; direct foreign investment reaches __70_% of current levels
- Confidence in US drops; direct foreign investment reaches 85% of current levels
- Massive foreign investment in the U.S. resumes by 2012, because U.S. investment climate has again become attractive. .

Inflation and Investment Climate

- An improvement in the risk characteristics of Asian and Latin American investments relative to U.S. alternatives draws global savings away from U.S. markets.
- Treasury Department resumes issuance of 30-year bond.
- Inflation rises to 12% for any length of time
- Inflation due to oil shortages will drive up inflation and the treasury will resort to restricting bank reserves similar to Volcker in 1979 to 1982.
- Increased government monetization of debt caused by entitlement costs outpacing productivity gains or tax receipts. Increases inflation, and also supply of debt, lowering prices (increasing interest rates)
- Changes in demand for Treasuries across the yield curve leading to a change in yield curve shape could mean short-term rates behave quite differently to long-term rates.
- Prolonged economic stagnation as in Japan in the 1990s.
- A shift in monetary policy proves inflationary
- Inflationary expectations build after US budget deficit exceed 4% of GDP for 3 years
- Fed adopts explicit inflation target and/or Congress focuses on sustaining balanced budgets.
- U.S. can no longer afford to buy many foreign products as their prices rise.
- Rising health care costs, and their share of expenditure, push up the all-items CPI inflation above 3.5%
- Significant commodity price inflation (including but not limited to oil) which does not cause a collapse of the global economy could lead to high CPI rates.
- Continued increase in the money supply
- Increased government monetization of debt caused by entitlement costs outpacing productivity gains or tax receipts. Could cause CPI above range.
- Change in the independence of the Federal Reserve.
- Collapse in home prices as in Japan.
- Fed controls inflation (not precisely, and not at every moment) but the sustainable rate.
- The Fed may not be able to effectively offset a global recession (especially a serious one), so fighting deflation may be less effective than containing renewed inflation.
- Inflation increases

3. S&P 500 Total Rate of Return

Commodity Prices

- Oil prices rise by more than 50% for more than 2 years = 40% drop
- Here, too, energy prices will strangle US and other companies. Also, see argument in 2.3. above.

Productivity

- Productivity gains are above/below 2% and the expected value rises/falls by same amount
- Productivity increases 4% for five consecutive years.
- Productivity increases _5% for five continuous years.

- Productivity increases 5% for five continuous years.
- Productivity increases 10% for five continuous years.
- Productivity increases _5% for five continuous years.
- Productivity increases _5% for five continuous years.
- Productivity increases _8_% for five continuous years.
- Productivity increases _5% for five continuous years.
- Productivity increases _10_% for five continuous years. .
- Productivity increases 1% for five continuous years.
- Productivity increases 4% for five continuous years.
- Strong productivity growth

New Technology

- New technologies dramatically drop costs of natural resources, opening up new markets and infrastructures.

Foreign Affairs

- The U.S. reasserts and further develops its moral, political, and economic leadership of the west: that leadership is essentially accepted throughout the world.
- NATO, a western institution, essentially succeeds in its new anti-terrorist and I Islamic extremist role. Such problems become under control by 2008.
- War with China or Russia leads to economic turmoil.
- Global political instability creates problems for business
- Terrorism and war-related issues induce investors to shift portfolios into less risky, more liquid fixed income alternatives.

Corporate Factors

- Increased compliance costs for public companies drive small cap players out the market, removing a source of the most dramatic returns – tendency to reduce volatility.
- Companies fail to invest in innovation due to a perceived inability to profit from the expenditures. Drug companies are one example.
- Tax law changes favor corporate earnings

Trade

- Very extensive trade agreements (essentially customs unions) are made before 2015, encompassing the Americas, Europe, Australia, and New Zealand.

Social Factors

- Depression will cause major drop in the S&P for a period exceeding 5 years
- Litigation abuses come under control in 2006.
- The baby boom generation’s need for spending money during retirement leads to a large scale shift in corporate focus from earnings growth to dividend growth. Despite the resulting growth in dividend income, stock prices decline as many boomers sell to obtain funds needed for daily living expenses and to protect against further price declines.
- Large scale re-allocation of pension assets out of equities and into fixed income.
- Tax and Social Security changes are made in the U.S., before 2010 which greatly increases savings rate .
- Retiring baby boomers begin selling large accumulated stock holdings

Foreign Investment

- Massive foreign investment in the U.S. resumes by 2012, because U.S. investment climate has again become attractive.

Inflation and Investment Climate

- Profit margins of most US companies drop to _40__% of current levels for 10 years.
- Profit margins of most US companies drop to 100% of current levels for 10 years. (not an issue)
- Global competition leads to a sustained narrowing of earnings margins
- Profit margins of most US companies drop to _50_% of current levels for 10 years
- Profit margins of most US companies drop to _50_% of current levels for 10 years
- Profit margins of most US companies drop to _90__% of current levels for 10 years.
- Profit margins of many US companies continue to be damaged by political settlements – negative impact in stock prices.
- Profit margins of most US companies drop to _2_% of current levels for 10 years
- Profit margins of most US companies drop to _80__% of current levels for 10 years.
- Profit margins of most US companies drop to 75% of current levels for 10 years.
- Bear market returns and S&P falls by more than 10%
- Loss of confidence in equities as a long-term investment and preference for other forms of investment (e.g.,, property). Also, foreign investment is very important for equities – a loss of overseas confidence in the US could be really problematic for the US equity markets.
- Prolonged high interest rates kill business activity.
- Greater transparency of corporate risks leads to shareholders differentiating between corporations on the basis of their risk management experience; increased cost of risk management dampens profits for companies that are not good at ERM (deadweight cost) while boosting returns for companies that are good at it (better returns on risks undertaken). .
- Rates of return will rise through a combination of increased productivity and replacement of baby boomers by younger and lower-paid workers.
- Competition and or investor caution triggers a repricing of equities, reducing earnings multiples
- The U.S. market becomes less attractive relative to alternatives in Asia and Latin America.
- Profit margins of most US companies drop to 66% of current levels for 10 years.
- Upward spike in bond yields drops P/E ratios.
- Prolonged economic stagnation as in Japan in the 1990s.
- Low inflation
- Extended period of high stock volatility leads to higher equity risk premium
- Social security reform causes large increase in equity purchases

4. Corporate Baa Spot Yields

Foreign Affairs

- The U.S. reasserts and further develops its moral, political, and economic leadership of the west: that leadership is essentially accepted throughout the world.
- NATO, a western institution, essentially succeeds in its new anti-terrorist and I Islamic extremist role. Such problems become under control by 2008.
- Terrorism and war-related concerns trigger a flight to safe and secure investments, widening corporate spreads.

The Dollar

- Concern about U.S. dollar valuation or U.S. growth and/or a downgrading of U.S. government securities undermines confidence in U.S. corporate paper.

- Major collapse in the value of the U.S. dollar prompted by foreign investors turning away from U.S. dollar assets.

Corporate Factors

- Expanded R&D by most US companies substantially jeopardizes ability to service debt.
- A sharp deterioration or improvement in corporate earnings fundamentals widens/narrows spreads of the treasury curve.
- U.S. corporations become less/more aggressive in issuing paper relative to the U.S. government.
- Major decline in corporate profitability.
- Major increase in corporate bankruptcies.

Trade

- Very extensive trade agreements (essentially customs unions) are made before 2015, encompassing the Americas, Europe, Australia, and New Zealand.

Social Factors

- Retirement of baby boomers and resultant dis-saving will increase competition for limited savings, forcing spot yields up.
- Tax and Social Security changes are made in the U.S., before 2010 which greatly increases savings rate .
- Litigation abuses come under control in 2006.

US Deficit

- U.S. Government current account deficit increases to 8% of GDP.
- Failure to control entitlement spending – U.S. Federal budget deficit persistently exceeds 5% of GDP.

Foreign Investment

- Massive foreign investment in the U.S. resumes by 2012, because U.S. investment climate has again become attractive.

Inflation and Investment Climate

- Excessive borrowing leads to a credit crisis and high yields
- Strong and stable growth, coupled with low and falling inflation lowers yields below 4.8%
- Investors diversify holdings away from U.S. dollar assets.
- Prolonged economic stagnation as in Japan in the 1990s.
- Low inflation, responsible fiscal policy (which is never a guarantee), open trade are all factors that will keep spreads from widening dramatically.
- Extended downturn in credit cycle causes wider credit spreads