

Capital Market Expectations, Part I: Framework and Macro Considerations

Framework for Developing CME

Capital market expectations are used to determine an investor's optimal asset allocation.

Investors should use forward-looking methods that are consistent across different asset classes (**cross-sectional consistency**) and time horizons (**intertemporal consistency**).

Conducting thorough and disciplined capital market analysis involves the following steps:

1. Specify expectations
2. Research historical data
3. Specify methods and models
4. Determine best sources of information
5. Interpret current investment environment
6. Provide expectations and document conclusions
7. Compare expected to actual outcomes

Challenges in Forecasting

Challenges in developing capital market forecasts include:

- Limitations of economic data
- Data measurement errors and biases
- Limitations of historical estimates
- Ex-post risk can be a biased measure of ex-ante risk
- Biases in analysts' methods
- Failure to account for conditioning information
- Misrepresentation of correlations
- Psychological biases
- Model uncertainty

Exogenous Shocks to Growth

Various types of exogenous shocks are described below:

- Policy changes
- New technologies
- Geopolitics
- Natural disasters
- Natural resources/critical inputs
- Financial crises

Application of Growth Analysis to CME

One commonly used framework decomposes a country's aggregate trend growth rate into two parts: labor inputs and labor productivity.

The components of the labor input are:

- Growth in potential labor force size
- Growth in actual labor force participation

The components of labor productivity are:

- Growth from increasing capital input
- Growth in total factor productivity (TFP)

Economic theory states that yields on long-term default-free bonds are linked to the trend rate of GDP growth. The trend GDP growth rate is also linked to equity prices:

$$V = GDP \times S \times PE$$

where

- V is the aggregate value of equity
- GDP is the level of nominal GDP
- S is the share of earnings relative to the overall economy
- PE is the market price-to-earnings ratio

In the long run, both S and PE will remain constant, meaning that any increases or decreases over finite periods will eventually be reversed.

Approaches to Economic Forecasting

There are three main approaches to economic forecasting:

- Econometric Modeling
- Economic Indicators
- Checklist Approach

The strengths and weaknesses of these approaches to forecasting are summarized below:

	Advantages	Disadvantages
Econometric Modeling	• Robust models • Easy to use updated data • Quantitative assessments of changes in exogenous variables • Ensure consistency on analysis	• Complex and time-consuming • Data relationships tough to forecast • Relationship is not static • False sense of accuracy • Not good at forecasting turning points
Economic Indicators	• Intuitive and simple • May identify turning points well • Available from third parties • Easy to track	• History requires frequent revision • Can produce false signals • May not give a binary (yes/no) guidance for decision making
Checklist Approach	• Not complex • Flexible • Breadth, because any topics and assumptions can be included	• Subjective • Time-consuming • Depth of analysis is limited by the manual process • No consistency across items/ different points in time

Business Cycle Analysis

A typical cycle can be decomposed into five distinct phases.

- **Initial recovery:** Short-term rates and bond yields are low. Bond yields tend to bottom out and start to rise once signs of a recovery occur. Cyclical assets perform well.
- **Early expansion:** Short-term rates are trending up. Long-term bond yields may increase slightly. Stocks perform well.

- **Late expansion:** Short-term rates rise while long-term rates remain relatively stable, causing the yield curve to flatten. Stock prices are still rising, but volatility is increasing. Cyclical stocks may underperform while commodities outperform.
- **Slowdown:** Both short- and long-term government rates reach peak levels and subsequently fall. Inversion of the yield curve is possible. Investors require wider credit spreads for corporate bonds. Stock prices generally decline. Companies that benefit from falling interest rates and/or have stable earnings are most likely to outperform.
- **Contraction:** The yield curve becomes very steep as short-term rates fall sharply. Credit spreads continue to widen until clear signs of a cycle trough occur. Stock prices continue to fall initially, but they begin to improve before the recovery occurs.

Inflation and Deflation: Trends and Relation to the Business Cycle

Inflation expectations are important because changes in the inflationary environment can affect expectations of asset class returns.

Cash: Assuming that short-term interest rates adjust to reflect the latest inflation expectations, cash can be seen as a zero-duration, floating-rate security that is protected against inflation. Cash can be a very attractive asset in a deflationary environment if nominal rates are not permitted to fall below zero.

Bonds: If inflation moves above or below the expected range, bond prices can be significantly affected as investors adjust the long-term discount rates that have the greatest impact on valuations. In theory, bond investors benefit from deflation because fixed payments become more valuable as interest rates fall.

Stocks: High inflation is beneficial for firms that are able to pass on higher prices to their customers. Low inflation, which is associated with falling asset prices and an increased risk of a recession, disproportionately impacts companies that are highly leveraged, asset-intensive, and/or commodity producers. They tend to suffer during deflationary periods.

Real estate: Inflation typically rises above expectations during periods of high demand for real estate. By contrast, the impact of below-expected inflation/deflation is unambiguous. Rents and property values will suffer, particularly for lower-quality properties.

Analysis of Monetary and Fiscal Policy

Monetary policy is countercyclical. Central banks increase their policy rate during expansions and lower it during contractions. To determine where the policy rate should be set, central banks can use the Taylor rule:

$$i^* = R_n + I_f + [0.5 (GDP_f - GDP_t) + 0.5 (I_f - I_t)]$$

where

- i^* is the optimal nominal policy rate
- R_n is the neutral real policy rate
- GDP_f is the expected GDP growth rate
- GDP_t is the long-term trend GDP growth rate
- I_f is the expected inflation
- I_t is the inflation target

Implications of Negative Interest Rates for Capital Market Expectations

Issues that arise with negative interest rates include:

- The assumption that discount rates that are used in valuation models are often calculated by adding various risk premiums to a risk-free rate is challenged.
- Historical data and quantitative models may be unreliable.
- Market relationships (e.g., the yield curve) may be distorted.

Monetary and Fiscal Policy Mix

The possible policy mixes are summarized below:

	Loose Fiscal Policy	Tight Fiscal Policy
Loose Monetary Policy	- High real rates - High expected inflation	- Low real rates - High expected inflation

	Loose Fiscal Policy	Tight Fiscal Policy
Tight Monetary Policy	- High real rates - Low expected inflation	- Low real rates - Low expected inflation

The Shape of the Yield Curve and the Business Cycle

Cycle Phase	Monetary Policy	Short-Term Interest Rates	Long-Term Interest Rates	Yield Curve Shape
Initial Recovery	Stimulative	Low and bottoming out but expected to rise	Bottoming out	Steeply upward sloping
Early Expansion	Withdrawing stimulus	Rising at an accelerating pace	Rising but stable compared to short-term rates	Steepening early, flattening for longer maturities
Late Expansion	Increasingly restrictive	Above average and rising	Rising at a slower pace	Continuing to flatten from longest maturities inward
Slowdown	Tight	Reaching peak	Reaching peak	Flat or inverted
Contraction	Increasingly stimulative	Declining	Declining	Steepening

Macroeconomic Linkages

The link between current and capital accounts is expressed as follows:

$$(X - M) = (S - I) + (T - G)$$

where

- X : exports
- M : imports
- S : domestic savings
- I : domestic investment
- T : taxation
- G : government spending

Note that $(X - M)$ is net exports, while $(S - I)$ is net private savings and $(T - G)$ is a country's fiscal surplus. A "negative surplus" is more commonly referred to as a deficit.

Interest Rate/Exchange Rate Linkages

It is impossible for a country to simultaneously pursue the following objectives:

1. Unrestricted capital flows
2. A fixed exchange rate
3. Independent monetary policy