Deficits, Demographics & Growth

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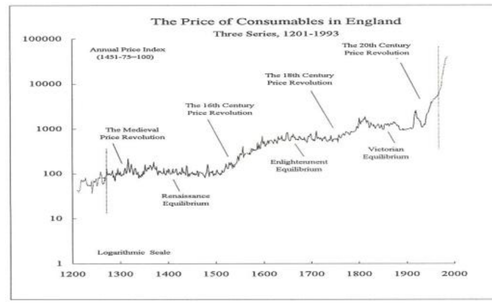
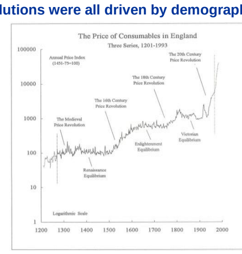
Russell Investments

Inflation From Medieval Times To The Present Day



Inflation From Medieval Times To The Present Day

- **From 1200 to 1900 prices rose 10 fold**
- **From 1900 to 2000 prices rose 100 fold**
- **Medieval, 16th & 18th Century price revolutions were all driven by demographics**
  - Fertility rates increased
  - Populations expanded
  - **Demand for commodities increased &**
  - **Supply of labour increased**
  - Prices rose but real wages fell
  - Wealth dispersion increased
  - Fiscal deficits increased
  - Governments debased and borrowed
  - Financial crisis and social unrest
  - War, Famine or Plague
  - Price stability returned



Demographics & Deficits

Developed Economies have been hit by three demographic shocks:

1. Rising Longevity
2. Falling Fertility
3. Fall of Communism – sudden increase global labour supply

These have caused:

- Increased dependency ratios
- Higher commodity prices
- Wage stagnation & unemployment
- Government spending rising faster than tax receipts

Exacerbated by:

- Fixed retirement ages
- Fixed exchange rates

Long Term Growth & Asset Returns in the US

- Over the last 100 years P/E ratios averaged ~ 14.5
  - giving a real return on US equity of roughly ~ 7% per annum
- Long run real US GDP growth has averaged about ~ 3.7% per annum

Bond Yields, Economic Growth & Yields are Linked

$$P_0 = D_0 + \frac{D_1}{(1+r)} + \frac{D_2}{(1+r)^2} + \dots \frac{D_n}{(1+r)^n} \qquad P_0 = D_0 + \frac{D_0(1+g)}{(1+r)} + \frac{D_0(1+g)^2}{(1+r)^2} + \dots \frac{D_0(1+g)^n}{(1+r)^n} \qquad P_0 = D_0 \sum_n \frac{(1+g)^n}{(1+r)^n}$$

$$P = \frac{D}{r-g}$$

The dividend discount model

$$P = \frac{E\alpha}{r-g} \qquad \frac{P}{E} = \frac{\alpha}{r-g}$$

$$g = \frac{D_{t+1} - D_t}{D_t} = \frac{E_{t+1} - E_t}{E_t} \qquad E_{t+1} = E_t + E_t(1-\alpha)r \qquad g = (1-\alpha)r$$

Implied dividend growth, assuming retained earnings are invested at the dividend discount rate

$$\frac{D}{P} = \frac{E\alpha}{P} = (r-g) = r\alpha \qquad \frac{P}{E} = \frac{1}{r} \qquad r = \frac{E}{P} = \frac{1}{P/E} \qquad g = (1-\alpha)\frac{E}{P}$$

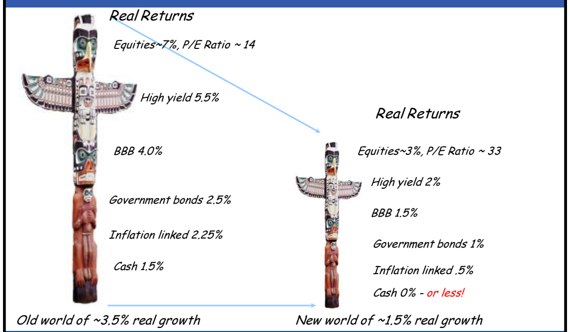
$$g = g_{gdp} = (1-\alpha)\frac{E}{P} \qquad \frac{P}{E} = \frac{1}{2g_{gdp}}$$

Relationship between P/E ratios and real GDP growth, assuming earnings grow with GDP

$$r = 2g_{gdp}$$

The real return on equity should be about twice real GDP growth

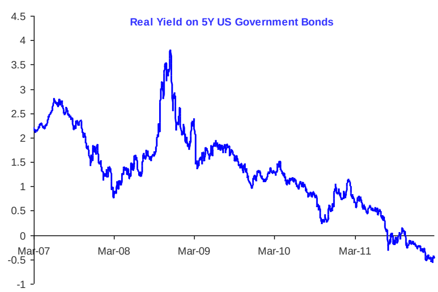
Equilibrium Returns in a Low Growth World



Investors are Price Takers

- Investors set asset values only in the short run
- In the long run investors are obliged to accept the returns delivered by the economy
- Prospective real returns are likely to be depressed by:
  - Demographics
  - Monetisation
  - Financial Repression / Taxation
- We should expect a world of persistently low real returns
  - this implies **higher** Price/Earnings Ratios

Turning Japanese



Be Careful What You Wish For

- Germany is pushing for austerity…
- Greece is proving that Keynes was right
  - Paradox of thrift –
    1. Fiscal austerity causes economic contraction…
    2. …which reduces tax receipts…
    3. …causing higher deficits…
    4. …requiring greater austerity... (go to 1)
- If enacted the new austerity pact will likely lead to a self-defeating self-reinforcing economic contraction...
- …eventually requiring monetisation

Three Flavours of Monetary Policy

- **Yesterday - Interest Rate Policy** (Alcohol)
  - Lower rates to boost credit creation
- **Today - Quantitative easing** (Homeopathy)
  - Give cash…
  - …take assets
- **Tomorrow - Monetisation** (Heroin)
  - Give cash…

Quantitative easing is useful for the public sector but…

… largely pointless for private sector growth

Summary

Diagnosis:

- Demographic shocks reduced Western growth
- Central banks masked this problem with a credit boom…
- …driving their economies into a Japanese style debt-deflation trap…
- …which will probably require outright monetisation

Prognosis:

- Near term – low growth, low inflation, low returns
- Long term – low real growth, high inflation, negative real returns

The Challenge:

- The biggest investment challenge will be navigating the transition between debt-deflation and monetisation
- Asset allocation will dominate security selection