STOCK MARKETS IN THE UNITED STATES

Stock market developments are important for an economic recovery in the United States because they influence households and firms. A historical account of US stock markets is presented below, followed by a discussion of the development of some of the fundamental determinants of share prices.

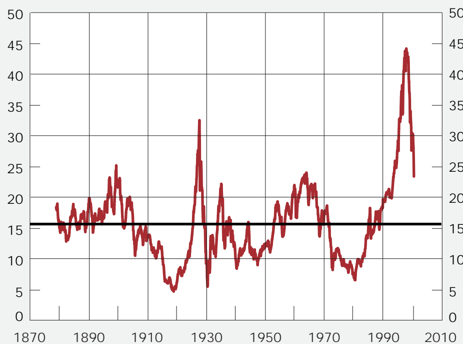
Stock markets have adjusted to valuations that are historically more reasonable.

The fundamental value of a share or a share index is determined by the expected real earnings discounted by a required return that relates to the risk-free real interest rate and a risk premium. Higher real future earnings or lower required returns motivate higher real share prices. An accepted way of forming an opinion about the value of a share or a share index is to relate the price to the earnings, that is, the price/earnings (P/E) ratio. This form of valuation envisages that in the long run it is reasonable to suppose that share prices rise with the growth of earnings.[3]

P/E ratios for the S&P 500 index ever since 1881 are presented in Fig. B9.[4] On average, the US stock market has been valued at 16 times actual earnings but there have been both short and long periods when it has been valued considerably under or over the historical average. There were, for example, wide fluctuations in connection with the world wars and the Wall Street crash in the 1930s.

Simplifying somewhat, the stock market's path since the 1960s can be divided into three periods. The economic climate in the 1960s was characterised by low inflation and low interest rates. The growth of dividends, which in the longer run is a measure of earnings growth, was then in line with the historical trend, that is, about 2 per cent in real terms (Table B1). From the beginning of the 1970s to the early 1980s there

Figure B9. Actual P/E ratios in real terms for the S&P 500 index.



Source: John Y. Cambell and Robert J. Shiller.[5]

3 See e.g. Fama, E.F. and French, K. (2001), The equity premium. *Working paper 522*, Centre for Research in Security Prices, University of Chicago.

4 The P/E ratio is a key figure that relates the market value of a company to its actual or expected earnings. For S&P 500 the P/E ratios since 1881 average about 16. For the sake of comparisons over business cycles, the ratio is calculated using the average earnings over the past decade.

5 Campbell, J.Y. and Shiller, R.J. (2001), Valuation Ratios and the Long-Run Stock Market Outlook: An Update, *Working Paper 8221*, National Bureau of Economic Research.

was economic instability with oil price shocks and high inflation. Real earnings rose more than 3 per cent in that period but the stock market was valued at less than its average level, probably on account of the prevailing uncertainty. After 1982 a period began with a focus on increased economic and security policy stability, manifested in the successive reorientation of monetary policy onto price stability and the end of the cold war between the United States and what was then the Soviet Union. This was reflected in rapidly rising stock markets as a result of falling real interest rates, smaller risk premiums and a solid growth of earnings and dividends.

Table B2. Historical averages for inflation, dividend growth and earnings growth.

	Inflation	Return Real short interest rate	Dividend growth	Earnings growth
1872-80	-2.77	9.86	4.62	NA
1881-90	-1.72	7.23	0.69	NA
1891-1900	0.18	5.08	4.49	NA
1901-10	1.95	3.18	3.25	NA
1911-20	6.82	0.82	-3.43	NA
1921-30	-1.70	7.41	9.07	NA
1931-40	-1.23	2.80	0.36	NA
1941-50	6.04	-4.57	3.02	NA
1951-60	1.79	1.05	1.22	0.61
1961-70	2.94	2.27	1.98	2.07
1971-80	8.11	-0.30	-0.86	3.47
1981-90	4.51	5.32	2.32	0.37
1991-200	2.68	2.61	0.58	7.58

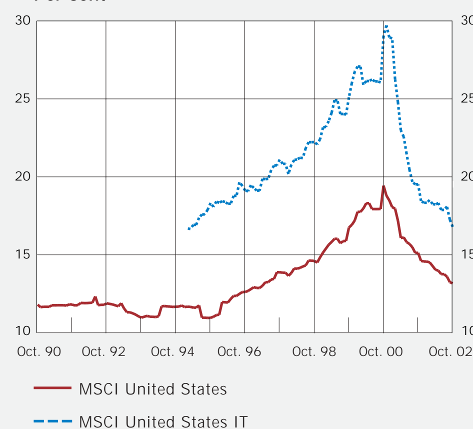
Source: Fama and French (see note 1).

In the late 1990s, however, share prices were driven upwards to historically high P/E ratios, partly due to expectations that the new information technology would lead to rapid rising productivity and earnings (see Fig. B10). Earnings growth three to five years ahead for the IT sector, for example, was predicted to average up to 30 per cent a year.

Since the US stock market high in the spring of 2000, share prices and P/E ratios have undergone a successive downward correction on account of the historically high valuations, last year's economic recession and falling earnings and earnings expectations. The P/E ratio is currently 17.8.

The cyclical upturn and the recovery of US corporate earnings that was noted in the first half of this year have not yet sufficed to stabilise the US stock markets. An important explanation for this is the accounting malpractice, for example by the WorldCom

Figure B10. Expected earnings 3 to 5 years ahead for MSCI and the IT sector. Per cent

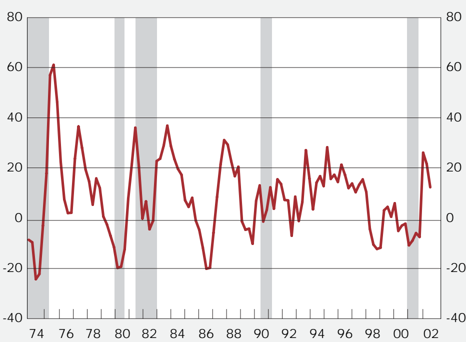


Source: Datastream/Thomson Financial.

Figure B11. Earnings indicator for S&P 500.
Per cent up-graded net of down-graded expectations of earnings 12 months ahead; monthly data[6]

Sources: Datastream/Thomson Financial and the Riksbank.

Figure B12. Post-tax earnings in the US corporate sector.
Annual percentage change



Post-tax earnings adjusted for inventory valuations and capital depreciation.

Source: US Department of Commerce.

telecom corporation, that has been disclosed and contributed to rising risk premiums on the stock market this summer.

Since the summer, moreover, stock markets have been affected by increased uncertainty about the timing of the recovery as well as by the risk of an escalating conflict between the United States and Iraq and its presumed real economic consequences. An indication of this is the successive downward revision of analysts' short-run earnings expectations (Fig. B11).

Turning now to the present conditions in the stock market, it can be said that a stabilisation is dependent on an improvement in the prospects of increased corporate earnings and some reduction of risk premiums.

Good productivity paves the way to rising earnings.

Since the end of last year the US corporate sector's productivity and earnings have turned upwards again (Fig. B12). To date, the improvement in earnings has been achieved mainly by cutting costs and rationalising, not through growth. The focus on costs has meant that, for example, real labour costs (which make up about 65 per cent of total corporate sector costs) have risen more slowly than productivity, in keeping with the earlier cyclical pattern.

In the US corporate sector's production of goods, earnings are more depressed, partly due to persistently low capacity utilisation and falling producer prices. However, productivity growth has been favourable even in manufacturing and contributed to a reduction of unit labour costs. Moreover, rapid stock adjustments have created conditions for a further gradual recovery in manufacturing activity. One sign of such a recovery is that capacity utilisation here has begun to move up and producer prices have stopped falling.

All in all, it can be noted that earnings and cash flows relative to corporate sector turnover or gross output have improved since the beginning of last year.

6 Note that on average the analysts have revised their earnings expectations upwards more often than downwards, that is, they seem to have a tendency to overestimate earnings.

Countermeasures against accounting malpractice lead in time to lower risk premiums.

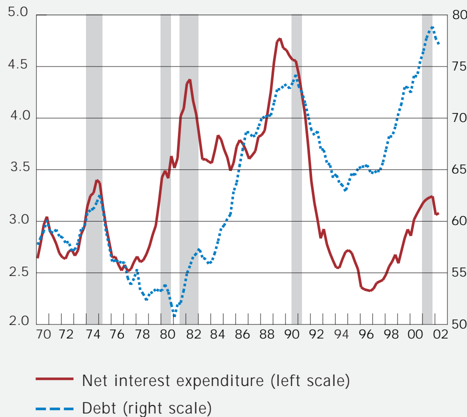
In an attempt to restore confidence in US listed companies, supervision has been tightened and sanctions introduced; as of 14 August, for example, the heads of the largest US corporations are required to testify to the accuracy of their accounts.[7] When no further essential problems with corporate accounts emerged after that date, there was a temporary fall in risk premiums, measured as implicit volatility (Fig. 4 on p. 19). Some earlier losses of confidence in the financial markets were rectified relatively quickly once the appropriate measures had been taken. One example is the financial crisis in 1998, when confidence was restored with a combination of vigorous monetary policy measures and the authorities' stronger internal requirements and recommendations for improved transparency and risk management routines. Together with a gradual economic improvement, this suggests that in time there will be some reduction of risk premiums.

To sum up, conditions for a stock market stabilisation are considered to exist. Debt burdens and security policy concerns are clear elements of uncertainty.

The conditions for a stock market stabilisation and a return towards an average long-term return are judged to be basically favourable. Strong productivity growth, low interest rates and a cyclical economic improvement provide a foundation for the recovery of earnings to continue. Moreover, the measures that have been taken to restore confidence in US corporate accounting should contribute in time to somewhat lower risk premiums. As economic activity strengthens, a general reduction of risk premiums on corporate credits is also foreseen.

7 SEC, the US financial supervisory authority, examines the accounts of the 950 largest corporations. President Bush has called for stricter rules and requirements for corporate accounting, for example through his support for the 2002 Sarbanes-Oxley Act. Moreover, the credit rating institution S&P has produced a new measure, core earnings, with a view to establishing a distinct measurement of the underlying earning potential of the companies included in the S&P 500 index and permit comparisons over time as well as between companies. This earnings measure differs from others in that, for example, it treats staff options as well as R&D procurements as expenditures and pension programmes as a cost, and includes restructuring costs, besides using new rules for writing off good will. The ten corporations that are affected most negatively when core earnings are calculated instead of traditional earnings indicators include eight IT-telecom companies, among which are Cisco, Motorola and IBM, which may imply that opaque and doctored accounts are confined to this sector.

Figure B13. Net interest expenditure and debt in the US corporate sector.
Per cent of corporate sector gross product



Source: US Department of Commerce.

However, there are still clear risks of a weaker stock market trend. One stock market risk is considered to lie in the historically high levels of outstanding corporate debt relative to corporate sector gross output. The borrowing rate has admittedly slowed in the past year and falling interest rates have helped to lessen net interest expenditure since the turn of last year (Fig. B13). For companies with lower credit ratings that have faced rising interest rates, a more protracted economic recovery may mean that credit risk premiums remain for longer. Together with a weaker development of production, that could lead to an increased payments burden and in time to certain financing difficulties.

Besides this, there is the risk that security policy concerns and a conceivable military conflict have consequences for real economic developments and lead to persistently high risk aversion in the financial markets and subdued stock markets for some further time to come. History shows, moreover, that stock markets may have low valuations for longer periods.