Granger non-causal with respect to u. In other words, past values of military expenditure and unemployment are no better for predicting future values of unemployment than past values of unemployment on their own. This can be tested by an F-test between the equations with and without m.

4. HISTORICAL ANALYSIS

The effect that rearmament for the Second World War seemed to have in ending the high unemployment of the inter-war period convinced many people of a link between military expenditure and unemployment. The post-war coincidence of historically high peace-time shares of military expenditure in output with relatively full employment reinforced that conviction in some.

The longer-run patterns are shown in Figures 1 and 2 which give data for the share of military expenditure in output and the employment rate (1 – the unemployment rate), both in percent for the UK 1855–1987 and for the US 1890–1987. Barro (1987) examines the effect of military expenditure on prices, money, interest rates and deficits over the period 1701–1918 for the UK and discusses a range of transmission mechanisms that may be relevant in mediating the effect of military expenditure on employment. Long runs of data of this sort are subject to inevitable problems of measurement and interpretation. In particular, the volatility of unemployment prior to the First World War may be an artifact of the method of construction of the series (Romer 1986) and there are substantial problems in measuring the shares

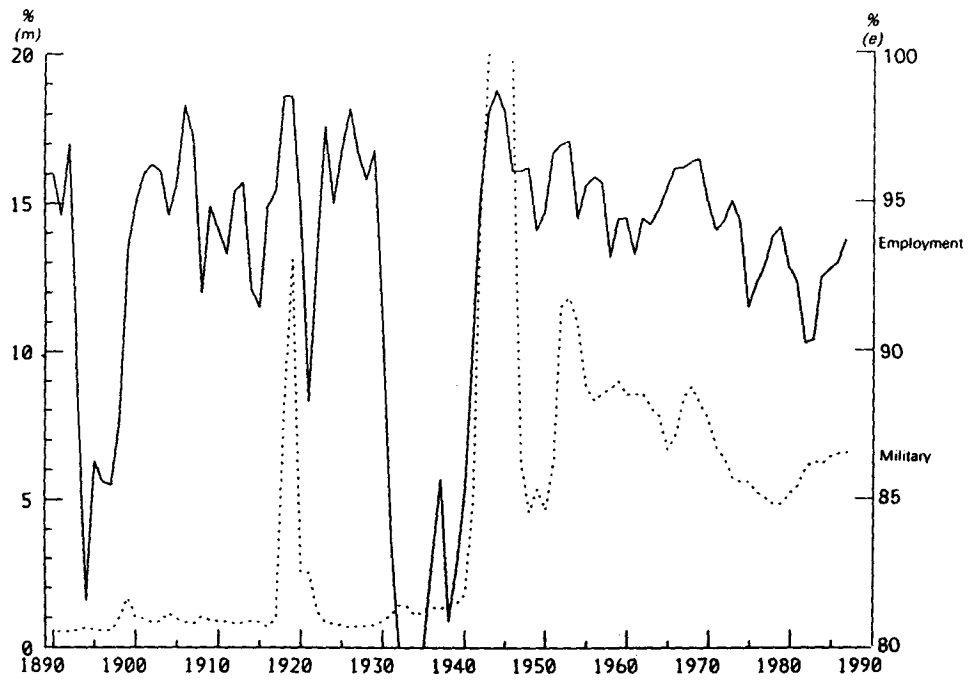

Figure 1 Shares of employment and military expenditure in the USA.