Introduction

This submission addresses points 1.c, 3.a, and 4.a of the Committee's terms of reference: issues pertaining to the stability of the finance sector, its impact on the economy, and the objectives and procedures of the Reserve Bank. It outlines the Financial Instability Hypothesis (FIH), which argues that the 91-93 recession was the result of a debt deflation, and that such events are likely to recur in a deregulated financial system. Its policy recommendations are:

1)the need for an index of financial fragility as a guide to monetary (and fiscal) policy;

2)the inappropriateness of high interest rates as a control mechanism during booms.

The Financial Instability Hypothesis

The FIH was developed the American economist Hyman Minsky as an explanation of the Great Depression. Minsky's explanation begins with the observation that any period of relative economic calm has always been preceded by a period of economic distress.

In the immediate aftermath to the crisis, both businessmen and banks are extremely cautious, and this is reflected in conservative valuation of investment projects, and a desire to minimise debt to equity ratios. However, as economic stability persists and the crisis fades into memory, both businessmen and banks become more confident. Expectations thus rise during a period of tranquil growth: as Minsky puts it, "Stability--or tranquility--in a world with a cyclical past and capitalist financial institutions is destabilising" (Minsky, 1982, p. 101).

Rising expectations lead to rising investment, rising asset valuations, increased willingness on the part of business to go into debt to acquire assets, and increased willingness on the part of bankers to finance those asset purchases. In part these expectations are self-fulfilling: rising expectations increase both investment and the rate of growth of the money supply (Minsky argues that the money supply is "endogenous"--a function of economic activity--rather than "exogenous"--set by a non-market agent, such as the Reserve Bank), which in turn increase the rate of economic growth, further fuelling the rise in expectations.

The economy then passes into a boom stage which Minsky characterises as "the euphoric economy" (Minsky, 1982, p. 120-124.) . The preceding caution gives way to a euphoria in which both lenders and borrowers believe that the future is assured, and therefore that most investments will succeed.

This environment allows the emergence of speculators who profit by borrowing money to trade in assets, whom Minsky calls "Ponzi financiers". The rate of asset price inflation is by this stage significantly higher than the rate of interest, making these speculators willing to pay high rates of interest to acquire the funds they need for asset speculation, and this drives the rate of interest higher still.

Eventually, euphoria reaches its time limit. On one hand, the level of returns being anticipated exceeds the physical capacity of the economy to generate profits. On the other, rising interest rates make many originally conservative investments potentially unprofitable. This inspires their initiators to consider selling these assets, and the entry of these new sellers into the assets markets halts the exponential rise in asset prices on which Ponzi financiers depend. Highly geared firms start to fail, Ponzis go bankrupt as the asset price bubble bursts, and suddenly the euphoria collapses into a panic. Both firms and bankers become pessimistic about the prospects for successful investment, leading to a collapse in both investment and speculative activities. Banks try to rein in their credit exposure while firms focus solely upon reducing their level of debt, and both actions lead to a collapse in the growth of money--and a new crisis.

What happens after the crisis depends on the rate of inflation, and the behaviour of government. With the collapse in asset prices and investment, the main problem confronting

the economy is the disparity between the interest payments needed to finance the debt accumulated in purchasing assets, and the cash flows expected from these assets in the now depressed economy. If the underlying rate of inflation is high, then the rising price level eventually brings cash flows and debt servicing into balance, enabling debts to be repaid. This avoids a depression, but leads to what in the 70s was called Stagflation--the coincidence of high inflation and low growth. Prompt government intervention (lowering taxes, increasing spending and guaranteeing liquidity to financial institutions) can also generate sufficient cash flow for firms to repay their debt, and thus let the system limp out of the crisis---into yet another cycle. On the other hand, a low inflation rate (and no government intervention) can mean that debts can never be repaid: firms go bankrupt, eventually so do banks, the economy undergoes debt-deflation and enters a Depression.

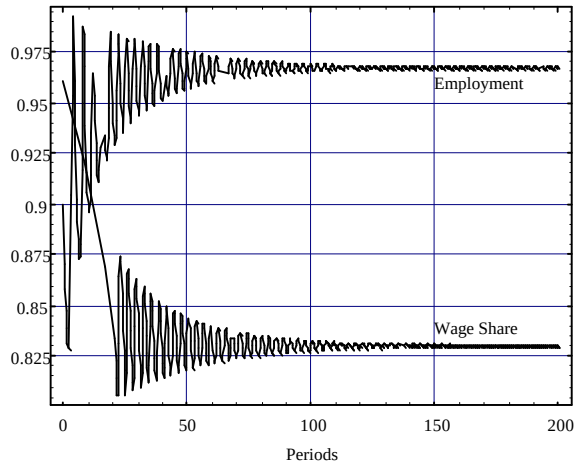
A dynamic economic model of debt-deflation

This section outlines an economic model which shows that a debt deflation can result simply from the interaction of three manifest facts:

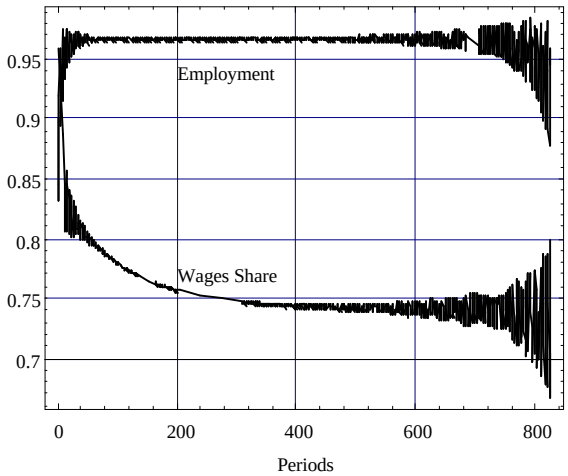
- Workers wage demands are higher during booms than slumps;
- Investment is higher during booms than slumps;
- Banks lend money at interest to finance investment.

While these propositions are obvious and seemingly innocuous, their combination can generate a debt deflation, if the rate of interest is relatively high. The explanation for this is quite intuitive: it is possible for firms to borrow more during booms than they are able to repay during slumps.

The three key variables in this model are the rate of employment, the wages share of output, and bankers share of output (see Keen 1995 for complete details). With a low real rate of interest, these variables converge to a stable equilibrium. With a high rate of interest, the outcome is quite different. While initial indications are that the model is, once again, approaching a stable equilibrium, the stability gives way to increased cycles and eventually complete breakdown:

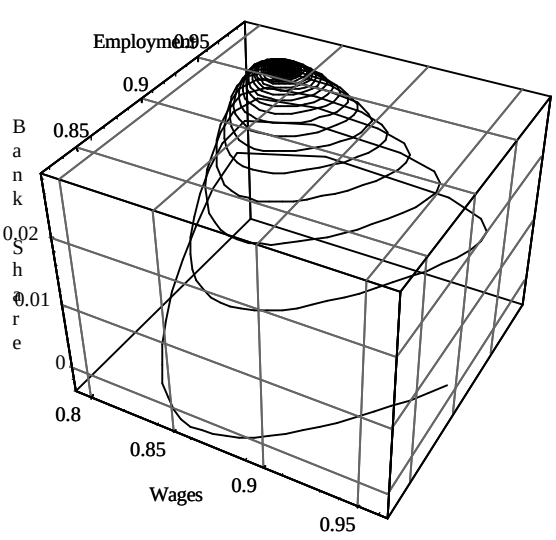


Low Interest Rates

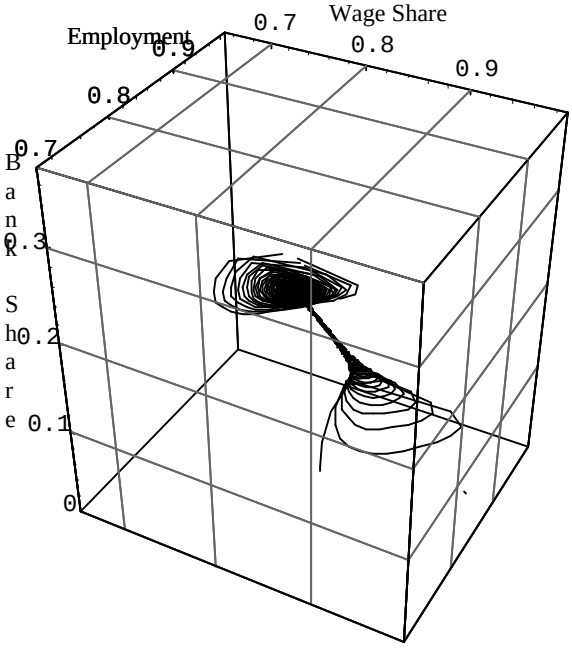


High interest rates

These two scenarios stand in stark contrast when plotted in 3 dimensions:



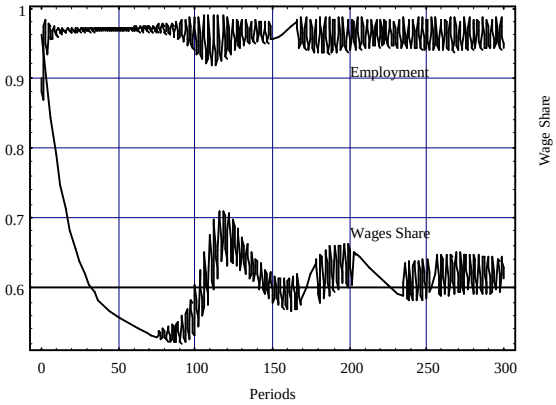
Low Interest Rates



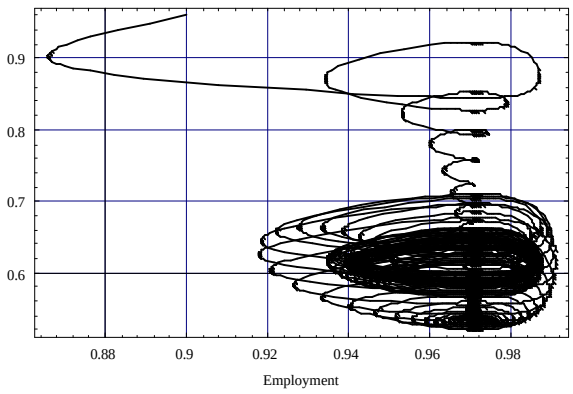
High Interest Rates

The economic interpretation of this system is fairly straightforward. If the initial sum of workers' and bankers' share of output is low, profit share will be high and desired investment will exceed the profits of firms. Firms then borrow to finance this desired investment, leading to both rising debt and rising growth. The higher rate of growth leads to higher employment and, eventually, demands for higher wages, which (along with the increased level of debt) reduce profits, investment, and hence growth. If the real rate of interest is below a critical level (4.6% in these simulations), then this cyclical process eventually stabilises as the debt/output ratio, employment rate and wages share taper towards a stable equilibrium. If the rate of interest exceeds this level, then the system initially appears to gravitate towards this point, but the debt ratio continues to rise, as firms continue to accumulate more debt during booms than they are able to liquidate during slumps. The booms and slumps themselves at first attenuate, as increasing bankers' share reduces the maximum profit share achieved, and thus reduce the rate of accumulation of new debt; however, they eventually start to grow in magnitude, as the reduced average growth level leads to progressively lower wages share of output, which for a while cyclically counters the depressing effect of higher debt on profits. Eventually, the level of debt becomes such that the "exponential" side of the debt relation overwhelms the system, investment ceases and with it economic growth, and the economy collapses.

To this point, the model is an explanation for a complete breakdown, such as occurred during the Great Depression. Minsky's argument that this total calamity can be prevented if the government which follows counter-cyclical tendencies is illustrated by introducing a government sector whose rate of change of tax is a function of the rate of profit, and whose rate of change of subsidies is a function of the level of unemployment. This approximates government behaviour during the 1950s and 1960s, when progressive tax rates were the norm, and when the government was expected to run a deficit during recessions. Minsky argues that the Keynesian stabilisation policies of the 1945-73 period worked, not because they eliminated cycles, but because they prevented debt-deflations of the kind that occurred in 1929-33 (Minsky, 1982, p. xiii). A government sector which increases taxes during booms, and increases spending during slumps, likewise makes a debt deflation impossible in this model:



Cycles without Breakdown



Cycles kept within Limits

The Australian economy lies between these two extremes, of a economy without government intervention, and one with a government dedicated to counter-cyclical stabilisation policies. This is especially so in relation to the absence of government stabilisation policies during the boom stage of the cycle. It is therefore quite likely that debt deflations will occur, though it is also probable that non-discretionary changes to government taxation and spending during the slump will mean that the economy will avoid a complete debt deflation.

The 1983-91 Period

A review of Australia's economy during the 1983-91 period makes it apparent that the Financial Instability Hypothesis should be taken seriously. The preceding crisis was the downturn of 1981-83, when the economy registered near-zero or negative growth for seven consecutive quarters. The period began with the economy recovering strongly, recording 9% growth in the first four quarters, and this strength was maintained, with only 3 of the following 28 quarters registering a fall in GDP.

This solid economic performance led business sentiment to rise to euphoric levels. This optimism was manifested in asset prices, which underwent a far greater boom than the underlying economy was experiencing. The Stock Market rose over 380% from its previous low in March 82 to its peak in October 87, whereas the real GDP rose by only 21% and consumer prices only 52% over the same period. Callen's index of assets prices rose 160% between March 82 and its peak in December 89, at the height of the real estate boom, compared to a 30% increase in real GDP and 80% rise in the CPI.. The money supply also behaved as Minsky predicted: M3 rose by over 200% between March 82 and December 89, compared to a 130% increase in nominal GDP.

These euphoric conditions led to the emergence of a welter of Australian Ponzi financiers: corporate and individual names such as Bond, Skase, Connell, Adsteam and many others were regarded as business icons as they profited enormously from asset speculation, only to crash even more spectacularly in the 87-91 period.

The severity of the crash was exacerbated by the conjunction of low inflation rates and high interest rates with historically high levels of corporate debt. The AGSM 1950-1985 database of company annual reports shows that in the 1950s, our major companies on average declared profits five times the size of their interest commitments. The 81-83 downturn had reduced the profit/interest cover from 2.67 in 1980 to 0.98 in 1983; though it recovered to 1.45 in 84, by 85 it had fallen to 1.24, in the very early days of the explosion in corporate debt levels. The ratio would surely have been below one when the boom finally collapsed in 1989/90, at a time when the rate of inflation was 5% and the rate of interest on overdrafts exceeded 20%. Though the policy objective behind these high interest rates was to slow the level of

speculative investment, particularly in real estate, their real impact was to accelerate the rate of accumulation of debt, thus making the eventual collapse more severe.

Policy Recommendations

The FIH argues that cycles are inevitable in an economy with a sophisticated financial system. The key objective of monetary and fiscal policy should be to prevent the cycles reaching a degree of severity where a debt deflation is possible. If a debt deflation nonetheless occurs, then monetary policy should not exacerbate it. This submission therefore makes the following recommendations

(a) That an index of financial fragility should be developed

The index would provide an objective measure of the extent to which the economy is susceptible to a debt deflation. This index would combine data on the level of corporate indebtedness, the rates of asset price and consumer price inflation, price volatility on finance markets, and interest rates.

(b) A revised approach to interest rate policy

Conventional economic theory assumes that the level of investment can be manipulated by varying the rate of interest. In contrast, the FIH argues that business expectations are the main determinant of investment. Interest rate variations are therefore a limited tool, and their effectiveness is mainly confined to the stable stage of the economic cycle. At the boom and slump stages, the main impact of interest rate variations is not upon the rate of interest, but upon the rate of accumulation of debt. A high rate of interest during a boom does not constrain speculative investment, but instead causes a rapid growth in debt levels which can lead to a deflation. Similarly, a low rate of interest during a slump will not revive investment, but it will slow the rate of accumulation of debt.

Interest rate policy should therefore be conditional upon the degree of financial fragility of the economy. When the economy is stable, according to the index, variations in interest rates can be expected to alter economic activity in the desired directions. When the economy is fragile, interest rate policy is unlikely to be able to control speculative behaviour, and high interest rates are only likely to exacerbate the eventual downturn. In the immediate aftermath to a crisis, interest rates should be reduced to as low a level as possible to reduce the rate of accumulation of debt.

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