

The Sixth Kondratieff Cycle the Era of Financial Market Instruments: A Reflection on the Australia vs US Subprime Mortgage Market

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Abstract

This paper posits that the present global financial crisis is the sixth Kondratieff cycle and that the underlying cause of transactions-based financial capitalism points to this cycle as being the era of financial market instruments. The US subprime mortgage market having contributed to the present financial liquidity shock as a consequence of the derivative market instruments known as collateralised debt obligations (CDO) is responsible for this cycle. The comparison between the subprime mortgage market in Australia and the US suggests that the Australian market should be less vulnerable but not entirely immune to the financial problems of the world liquidity shock.

Keywords: Subprime mortgage market, Kondratieff Cycles, Transactions-based financial capitalism

1. Introduction

Since the end of World War II recessions, in industrialised countries, have occurred every 8 to 10 years and these have been associated with changes in business cycles. Business cycle theories such as the Kitchin cycles, Jugular cycles and the Kuznet cycle basically seemed to provide reasonable explanations for the events. The distinguishing features of these cycles are that the Kitchin cycles are characterised as being for three to four years and dominated by swings in inventory investment, while the Jugular cycles are characterised as lasting for seven to ten years and dominated by long-term shifts to investment in equipment, and the Kuznet cycles are characterised by migration and investment in construction. However, the present cycle of change is more associated with the Kondratieff cycle which is mainly concerned with structural economic development issues.

Kondratieff is credited as having posited that major corrections in the world markets would be likely to occur every 50 to 60 years (Pruden, 1978; Kingston, 2006). Historically, the evidence seems to support this notion as major collapses are on record as having occurred in 1720, 1772, 1825, 1873, 1929, and perhaps to a lesser extent 1982. According to Kingston (2006) all these major corrections could be linked to cycles involving changes in society that directly related to the ways in which businesses operated. Researchers (Haustein & Neuwirth, 1982) have documented a range of waves of different lengths which may be ascribed to economic development or innovations in society, which suggest support for the existence of Kondratieff cycles. Van Duijn (1983, p.6) argued that shorter cycles fitted into a pattern which were interlinked such that "1 Kondratieff = 3 Kuznets = 6 Juglars = 12 Kitchins" and the rate at which exponential change has occurred in the twentieth century suggests that shorter cycles may be more common in a global environment.

In the current global market a number of key changes have occurred to the way in which businesses operate. A significant innovation has been the creation of highly sophisticated financial instruments. This has led to the rise of the derivative market and the asset-backed security instruments known as collateralised debt obligations. It is the questionable use of these asset-backed security instruments that are responsible for the present Kondratieff cycle. The transactions-based model of financial capitalism (Grossman & Weiss, 1983) suggests that the growth in financial instruments facilitates risk taking, and provides a greater flexibility in the market. However, the down side to transactions-based financial capitalism is that it encourages opportunistic behaviour, and the market becomes vulnerable to liquidity problems because of the high risk associated with the financial instruments that are created (Christiano & Eichenbaum, 1995). Various governments across the globe are attempting to deal with the liquidity crisis by injecting funds to prop-up the financial sector. Whether their efforts are too little too late is yet to be determined however, if Kondratieff's theory is correct social variables may play an even greater role in determining the extent and nature of the financial liquidity stress in the global market.

2. Method

The approach employed to evaluate the events of the global financial crisis is based on the principles which have evolved from empirical research that has examined various aspects of prior cycles. Cycles, also referred to as long

waves, have generally started in what Reati and Toporowski (2004, 397) identified as 'core' countries, that were identifiable as leaders in technology, before spreading to economies of countries that were less developed. The prior cycles have been identified (Reati & Toporowski, 2004) as being linked to very specific events in the history of global economic activities. For example, the first long wave related to the era of early mechanisation and the industrial revolution; the second to the era of steam power and railways; the third to the era of electrical and heavy engineering; the fourth the era of mass production; and the fifth the era of computerisation and information technologies. The classification of these eras highlights the unique characteristics inherent in each of the historical periods. When this is applied to the present financial crisis the unique characteristic is identifiable as being the subprime lending in the residential mortgage market and the growth of financial market instruments such as derivatives (An & Bostic 2007; Cutts & Van Order, 2005; Gilkeson & Smith 1992). A pertinent factor in the evaluation process is that in each of the previous eras there were incremental and fundamental innovations which triggered a creative period and generated growth that influenced society and the economies of countries before resulting in a global crisis. There is an abundance of research papers which attest to the extent to which the era of financial market instruments has resulted in a global financial crisis (Nadir & Ilhan, 2011; Shi, 2010; Griffith-Jones & Ocampo, 2009; Zago de Azevedo & Terra, 2009;). Subsequently, the assertion made in this paper is that the evidence clearly points to the sixth cycle as being the *era of financial market instruments*.

3. Subprime Lending

Subprime lending in the residential mortgage market grew to satisfy the demand for homeownership by borrowers who did not necessarily meet the credit standards required by prime market lenders (An & Bostic 2007; Cutts & Van Order, 2005; Gilkeson & Smith 1992). In the US these loans were targeted at borrowers with low and moderate incomes thus many of the loans were approved on the home buyers' ability to pay only the low introductory rate. When the low rates expired and the higher mortgage rates were introduced, many of the borrowers could not afford the larger payments required (Crane, 2007). Consequently, delinquency numbers rose rapidly among the subprime borrowers in the US. This is consistent with research that volatility of house prices was significantly correlated to default in mortgage repayments (Foster & Van Order 1984; Crawford & Rosenblatt 1995).

In the years prior to 2004 strong home-price appreciation (and underlying inflation for goods and services) provided the flexibility for borrowers to refinance their mortgages or sell their homes to repay the mortgage. With house prices in most regions of the US now stagnating or falling and lending standards becoming tighter this option is no longer feasible. According to Johnson (2007) the housing recession in the US in the fall of 2005 had a significant role in the decline of the subprime market. A cumulative decline in real terms of 13% in homebuilding as measured by residential investment from the third quarter 2005 to fourth quarter 2006 (Johnson, 2007 64).

The housing recession in the US had a dramatic impact upon the subprime mortgage market and, in turn, global credit markets (Crane, 2007). There has been some discussion of the flow-on effect that this crisis will have on the Australian mortgage market (Bizouati, 2007) as well as implications for the New Zealand mortgage market (Wozniak, 2007). However, the exact nature of the Australian subprime mortgage market has not been explored fully in light of the differences in lending practices existing in Australia that clearly distinguish the market from the US.

4. Sophisticated Financial Instruments

The link between the US subprime loans and broad market volatility is more indirect and lies, not through the asset-backed security (ABS) market itself but through a derivative market that effectively resecuritises asset-backed securities into instruments known as collateralised debt obligations (CDO), and which in turn are related to the hedge-fund industry (Mauldin, Olasov & Ruff, 1990; Crane, 2007).

Liquidity in certain parts of these markets has dried up, making assets hard to revalue. In the US and Australia, some hedge funds that had invested in collateralised debt obligations ran into trouble - one in the US was declared virtually worthless - as lenders exercised margin calls. The market used collateralised debt obligations to exploit investor appetite for yield in a low-interest-rate environment by, for example, buying the lowest-rated (and therefore highest-yielding and highest-leveraged risk) tranches of asset-backed securities and repackaging them. In principle, this follows the same process as employed by asset-backed securities which involves buying assets of a certain credit quality, restructuring them to achieve a range of credit-rated tranches, and arbitraging the spread on the underlying cash flows and the coupon payable on the collateralised debt obligations (Amato & Remolona, 2002).

The mortgage pools supporting asset-backed securities typically represent a diversity of risks. As noted above, collateralised debt obligations generally securitise the higher-risk tranches of asset-backed securities (those rated BBB or below, for example) (Amato & Remolona, 2002). The notes issued by the market as collateralised debt obligations are in turn tranching to offer securities rated from AAA at the lowest end of the risk spectrum to, at the highest end, sub-investment grade or unrated notes (often referred to respectively as the junior and equity tranches).

Hedge funds were major buyers of collateralised debt obligations equity tranches and were among the first of those severely affected by news of the subprime market's difficulties (Bizouati, 2007).

The point to note here is the nature of the volatility itself: to a large extent it was a liquidity shock, rather than a credit shock. A liquidity shock is due to a lack of investor confidence in all counterparties, as a result of a loss of confidence in synthetic modelling (Holmstrom & Tirole, 2002). A credit shock is a specific reaction to the poor credit of a subprime borrower or specific lenders (Berlin & Mester, 1999). In the Australian bond market, the shock was experienced initially as a sharp widening of the 10-year swap spread, normally a measure of financial-market liquidity, before affecting spreads in the physical credit market. This underlines the proposition that the fundamentals in the Australian and, indeed, the global credit markets remain sound, although clearly they are likely to experience some repricing during the coming months as markets continue to adjust globally.

5. Impact on the Australian Residential Mortgage-Backed Securities market

Australian residential mortgage-backed securities (RMBSs) at the AAA and AA levels have remained largely unaffected by the problems arising from the US subprime market. There have been fewer buyers for tranches rated lower than AA, however. Investors appear to be displaying caution towards tranches in the BBB or lower ratings band regardless of whether they have performed better than might have been expected. This is a significant point, as the BBB and lower band contains RMBSs backed by subprime loans that, conceptually, are the Australian market's version of the US subprime sector.

There are, however, important differences between Australian and US subprime loans, and, indeed, between the Australian and US mortgage and securitisation markets, as well as the housing markets, which help to explain why the local subprime market has so far been relatively untouched (other than as to price) by the problems affecting its US counterpart. At issue is whether the structure of the financial market can provide a level of immunity from the severity of the financial stress. In the Australian subprime mortgage market the operational structure has been conducted under a different set of criteria specifically, with regards to the lending practices and yet the events following the US subprime collapse have impacted upon the Australian market.

The ANZ Bank and the National Australia Bank have both now made provision for bad debts in excess of three billion (combined) due to their exposure to cover losses related to debt defaults on housing loans in the US. The Commonwealth Bank is reported (Uren and Gluyas, Australian *July 29, 2008*) to have issued a statement that its exposure to loans related to the US sub-prime crisis had reduced since May 2008. Westpac was also reported to have issued a statement that its exposure to the collateralised debt obligations would not affect its own profits. Banks in Australia must be watching very closely the events unfolding in the USA. Australia's Big Four banks have reportedly confirmed an exposure of up to \$400m in the US investment bank Lehman Brothers which is the latest bank to collapse (Gluyas & Jimenez, Australian *September 17, 2008*). The impact upon major financial institutions in the US such as FrediMac, FanyMay, IndyMac, Lehman Brothers, Merrill Lynch and the insurance giant American International Group (AIG) suggests that the finance sector is experiencing a domino effect the likes of which has not been seen for many years.

6. Australian and US Subprime Markets Compared

The differences between the markets include relative size and importance, market conventions, legislation and financing methods. The first difference of note is in the definition of the market itself. In the US, "subprime" loans, are targeted at borrowers with low to moderate incomes. In Australia, the term "subprime" tends to be broader and captures nonconforming loans as well as loans to borrowers with an impaired credit history (the latter comprise a relatively small proportion of the market). The working definition of a subprime borrower in Australia is a person who does not qualify for a loan from a bank. Most subprime borrowers are, strictly speaking, nonconforming borrowers. That is, they are either unable or unwilling to provide the full documentation required by banks, or they require loans to be structured in a particular way, for example, a high loan-to-valuation ratio (LVR), or flexible repayment arrangements which are not normally available from a bank.

These borrowers are not necessarily low or moderate income; indeed, their incomes or personal assets may qualify them, on most banks' criteria, as prime borrowers. The Australian subprime loan sector, therefore, is generally of a higher credit quality than the US subprime sector. Another key difference is the relative size and importance of the markets. The US subprime market represents roughly 20% of US RMBSs; the Australian subprime market comprises less than 5% of securitised loans (Gaukroger & Rhodes, 2007). Nearly all the important differences between the two markets reflect favourably, from a credit perspective, on the Australian subprime lending sector.

Some aspects of the credit culture apply to the broader mortgage markets in both countries, as well as to the subprime portions. For example:

In Australia, lenders' mortgage insurance (LMI) is widely used and covers a high proportion of higher-risk lending (such as low- or no-documentation and high LVR loans).

Levels of accountability in the Australian market are higher than in the US. In Australia, lenders have full recourse not only to the loan security, but to the borrowers. This makes the penalty for defaulting on a loan more severe, generally speaking, than in the US, where full recourse applies only in some states.

Lenders have obligations, in Australia: there is a strict Uniform Consumer Credit Code which places the onus on lenders to demonstrate that borrowers can afford the loans offered to them.

Only 20%–25% of the Australian mortgage market is funded through securitisation compared to nearly 70% in the US.

Many of the home-loan security providers in Australia are banks. Because the banks initially fund the loans themselves, most securitised loans in Australia tend to be well-seasoned and therefore relatively low-risk (the worst-performing US subprime loans were originated as recently as 2007).

Among the differences specific to the US and Australian subprime markets, about half a dozen specialist lenders cover the whole of the sector in Australia compared to about 25 lenders that covered nearly 90% of the subprime market in the US. One result is that the competitive pressures in the Australian market have been less intense than those in the US subprime market. Product offerings have been typically less complex and aggressive than in the US and, while some deterioration in underwriting standards has been evident in the Australian market, the overall standard has remained higher than in the US. Indeed, subprime lenders in Australia typically seek to offset risks with higher margins and/or increased equity; and many also participate in the first-loss tranches of securitisation transactions, either directly or through related investment vehicles.

These structural differences, arguably, point to there being little fundamental overlap between the US and Australian subprime markets and the small size of the CDO market in relative proportion to the US should in the short-term protect the Australian RMBS market from the liquidity pressures arising elsewhere.

This is not to say, however, that the Australian subprime market is in all respects the polar opposite of the US subprime market. There are similarities between them (although even here there tend to be differences of degree), particularly in the markets' recent history and development.

7. Conclusion

While similarities between the Australian and US subprime markets exist, two points must be stressed: the difference in degree between these similarities, and the structural differences between the markets that have already been noted. Although underwriting standards have slipped in the Australian mortgage market and product design has become more aggressive, these changes have been far milder than in the US subprime market, reflecting Australia's more conservative credit culture. The features attaching to loan products are also generally less exotic: Very few loans in the Australian subprime market, for example, are reset or are subject to an adjustable rate (adjustable-rate loans have emerged as a major credit risk in the US subprime market).

In Australia there have already been a number of organisations, not in the mortgage lending sector, that have been adversely affected by the decline in the global financial market. For example, local government bodies such as Manly City Council and Uralla Shire Council have been adversely affected by their exposure to the global credit market. Exposure was also responsible for the collapse of the Centro Properties Group - Australia's second largest shopping centre owner, which had trouble refinancing up to \$4 billion in loans.

The growth of transactions-based financial capitalism has led to the introduction of ever more sophisticated financial instruments. The traditional methods of assessing the risk factors and dealing with financial instruments are undergoing reassessment in light of the current financial circumstances. In conclusion, the current global financial crisis is considered to be the sixth Kondratieff cycle and this cycle is characterised as the *era of financial market instruments*.

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