

## FINANCIAL POLICY BRIEF

### Bail-In Securities: Is the Game Worth the Candle?

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*Australian retail investors have subscribed large amounts to “bail-in” securities issued by banks and insurers. The complex design of these securities makes it extremely difficult to assess the risks involved and the appropriate compensation for investors bearing such risks. And will they ultimately work to ensure orderly resolution of troubled financial institutions as hoped for? In this FPB, **Professor Kevin Davis**, ACFS Research Director, argues that the regulatory inducement for banks to issue such complex securities warrants reconsideration.*

#### The Growing Use of Bail-in Securities

Prompted by regulatory capital requirements, Australian banks and insurers have over the past five years issued substantial amounts of preference share and debt securities which involve “bail-in” conditions. This means that should the issuer be in financial difficulty, either breaching a specified capital level or assessed by the regulator as being at a point of non-viability (PONV), some or all of the securities will be mandatorily converted into ordinary shares according to some pre-specified conversion formula.

As explained later, these securities are characterised by “uncertainty” about future payoffs (unknown unknowns) rather than “risk” (known unknowns), which means that determining fair pricing is well-nigh impossible. Moreover, their likely success in facilitating recapitalisation and orderly resolution of a troubled bank, the rationale for their introduction, is yet to be tested. Imagine what the response will be of depositors and other stakeholders in a bank where a bail-in occurs! Government guarantees will most likely be needed to avert a run.

It is thus worthwhile asking whether this experiment (for that is what it is) is worth undertaking. As the saying goes, “is the game worth the candle”?

Quite a number of bail-in securities have been issued in domestic and international wholesale markets. But a greater amount has been issued to retail investors. As at mid 2016, some \$30 billion of bail-in securities which are listed on the ASX have been issued since 2011, with well over half of the subscriptions being from retail investors including “sophisticated investors” and self managed super funds. There are typically only a handful of investors who subscribe to more than about \$4 million each and might thus be seen as “institutional investors”.

In the UK, the Financial Conduct Authority has had sufficient concerns about the opacity and complexity of risks involved with such securities that in 2014 it temporarily banned issuance to retail investors and in mid-2015 imposed very strict limitations on marketing and sales of such securities.

## Financial Policy Brief 2016-03: Bail-in Securities: Is the Game Worth the Candle?

Both the major banks and the regional banks have been substantial issuers into this market, and the use by the majors can be expected to grow when new Total Loss Absorbency Capacity (TLAC) conditions are eventually applied to them. The securities go under various names such as Convertible Preference Shares or Capital Notes, and generally provide distributions which involve franking credits. Attachment 1 provides a list of such securities on issue and the amounts issued.

### Risks in Bail-in Securities

Even without the bail-in conditions, the risks involved in these securities are complex and hard to assess. For example, many are perpetual but with mandatory conversion (subject to some conditions being met) at a specified future date (such as 8 years after issue). The mandatory conversion arrangements typically involve conversion of a \$100 security into either \$100 (or slightly more) value of ordinary shares with the value based on the average price over the previous five days, or into a fixed number of shares if the issuer's share price has fallen below some critical level. That critical level is half of the issue date share price, and the fixed number of shares means that the holder gets an increasingly smaller value of shares as the share price falls further below the critical level.

In practice, financial engineers can assess the effect of these risks on the fair pricing (ie the appropriate yield which should be offered) of such securities, and also some of the other risks. For example, the issuer will typically have an option to redeem the securities at par value a couple of years prior to the mandatory conversion date. This option can be valued as also can be the effect of the securities having non-cumulative distributions.

Adding to the complexity of the securities, even without the bail-in conditions, is the fact that the cash distribution rate specified is typically of the form  $(\text{BBSW} + \text{margin})(1-t)$  where BBSW is a market indicator rate,  $t$  is the corporate tax rate, and the margin is a figure specified in the prospectus. This formula reflects the fact that franking credits are attached and effectively means that, for Australian resident investors, the distribution is equivalent to receiving an unfranked cash distribution equal to  $(\text{BBSW} + \text{margin})$  on which investors would pay tax at their marginal tax rate.

Again, the effect of the franking credit adjustment on fair pricing can be readily assessed and explained to retail investors. However, once the bail-in conditions are added, the waters become very muddied!

Assessing the impact of the bail-in conditions is extremely complicated because they involve substantial uncertainty over and above the type of stochastic risks that financial engineers typically model and work with. The uncertainty involved is that it is not feasible to realistically estimate either the probability of bail-in occurring at some future date nor the consequences of a bail-in on the value of the investor's position.

Assessing the probability of bail-in is stymied by the specification of the bail-in triggers. One such trigger is that bail-in occurs if the bank's CET1 ratio (common equity as a ratio to risk weighted assets) falls below 5.125 per cent. Because this involves accounting variables rather than market values it is not amenable to the usual stochastic modelling techniques of

**Financial Policy Brief 2016-03: Bail-in Securities: Is the Game Worth the Candle?**

financial engineers, and banks generally report their CET1 ratio only quarterly (with a lag) at best. Moreover, bank management can take actions to change the ratio (such as by raising new equity or altering risk weighted assets) if the CET1 ratio is approaching the trigger value, and there is little in the way of theory or evidence to provide guidance on likely actions.

The second trigger creates even greater problems. That trigger is a declaration by APRA that the bank is at a point of non-viability and thus requires an injection of equity or write down of liabilities. Exactly what this means is far from clear, and APRA has given no guidance on what situation would be likely to lead it to make such a declaration. And “pulling the trigger” is likely to cause market confidence reactions (such as a “run” of uninsured depositors which could cause the death of the bank), even though the objective is to ensure an orderly resolution which enables the bank’s essential operations to continue or be transferred to another entity. Consequently, the will of the politicians of the day to endorse such a declaration, probably necessitating introduction of a government guarantee over uninsured deposits (and also imposing losses on retail investors such as self managed super funds), rather than use some alternative “bail-out” option (such as an assisted merger with a healthy institution), also comes into play.

Adding further complexity is the lack of clarity on likely losses if bail-in occurs. The conversion formula involves receipt of a specified value of shares equal to the security’s par value (\$100), subject to a maximum number of shares being received. In this case that maximum is based on 20 per cent of the issue date share price, and is thus more than in the case of mandatory conversion as discussed earlier. In principle, financial engineers can deal with that complexity, but here again practical issues create additional uncertainty.

The first of these practical complexities is that the value of shares received is calculated on the average share price over the five days prior to the announcement and implementation of the conversion. It is extremely unlikely that such an announcement would not have a significant negative effect on the bank share price, such that the actual market value of shares received is well below the value specified in the conversion formula. (A \$100 bail-in security would, for example, convert into 5 shares if the average price prior to the announcement had been \$20. But any recipient then trying to sell the shares would likely find that the market price would be well below \$20). As earlier, there is little or nothing in the way of theory or experience to assess how much that fall in market value would be. The second complexity is that the trigger event may lead to conversion of particular securities involving some or all (or perhaps even none) of an investor’s holdings. Two factors cause this further uncertainty. First, the amount of “bail-in” securities to be converted is, in many cases, not well specified. Rather some unknown amount must be converted to restore “viability”. Second, the bank is able at future dates to issue further bail-in securities which may rank equally or below those subscribed to the investor, reducing the need for, or amount of, bail-in of that investor’s securities. This also makes it impossible to specify with any degree of confidence what the effect of a trigger event would be on the value of the investor’s position. (Both the value of shares received would be less than the face value of the securities converted, and the market price of any remaining holdings of bail-in securities could be expected to fall).

## Is the Game Worth the Candle?

Australia and other countries have (courtesy of the Basel bank capital standard setters) entered into a major experiment involving regulatory inducements for banks to issue extremely complex, hard (possibly impossible) to value bail-in securities. Banks prefer to meet regulatory capital requirements by issuing such securities rather than by issuing more equity, because they perceive it as a cheaper form of funding. (That remains the case even though the margin above the BBSW on such securities has climbed from less than 2 per cent in mid 2014 to near 5 per cent currently).

There is something paradoxical in regulatory requirements inducing banks to issue extremely complex and difficult to value securities – particularly when a large part of the target market is retail investors. Their ability to assess the likely future outcomes (uncertainty/risk) and determine a fair return is undoubtedly questionable. Even if “sophisticated” investors ultimately determine market prices to give, for their circumstances, a “fair” return, retail investors may remain unaware of what risks they are taking on.

That cost might be socially justifiable if the benefit was that the existence of bail-in securities would either enable orderly resolution of troubled banks or strengthen market discipline and reduce the risk of banks becoming troubled. The latter (market discipline) effect requires that market prices of bail-in securities provide signals of impending trouble at the bank – but if the securities are virtually impossible to properly value that would seem to be a forlorn hope. (Increasing likelihood of a bail-in might encourage bank management to take remedial actions, but this is not obviously a different or superior type of incentive effect to increased likelihood of breaching an equity capital requirement).

Likewise, the chances that a bail-in will, on its own, facilitate orderly resolution appear very slim. Yes, the bank will be recapitalised by the bail-in, but will depositors or other creditors feel confident that there is no other bad news yet to be revealed? A “run” is highly likely. To prevent that, and to enable an orderly resolution, it would seem likely that a government guarantee of uninsured depositors and other creditors would be required. Of course, if the bail-in has adequately recapitalised the bank, the taxpayer may not suffer any eventual cost from provision of that guarantee. But the guarantee still has to be unwound at some time, perhaps when a takeover by another bank can be arranged.

## Conclusion

Reliance on bail-in securities as part of bank capital regulation is an experiment. It is an alternative to requiring higher equity capital. It may work to facilitate orderly resolution of troubled banks, but there is no certainty that it will. What is certain is that should bank failure and bail-in occur, some part of the losses will fall on holders of bail-in securities – who, because of the complexity and problems in valuing bail-in securities, may not have received adequate compensation for bearing that potential risk. It must be asked: why should regulation promote the growth of such complex financial “quasi-equity” instruments, rather than simply requiring higher levels of equity capitalisation of banks?

**ATTACHMENT 1: ASX Listed Financial Institution Hybrids**

ASX Code	Issue Date	Coupon	Issue amount	Tax Credits
ANZPC	29/09/2011	BBSW+3.1	1.34	y
WBCPC	23/03/2012	BBSW+3.25	1.19	y
IAGPC	1/05/2012	BBSW3+4	0.38	y
CBAPC	17/10/2012	BBSW+3.8	2.00	y
BENPD	1/11/2012	BBSW+5	0.27	y
SUNPC	7/11/2012	BBSW+4.65	0.56	y
BOQPD	24/12/2012	BBSW+5.1	0.30	y
WBCPD	8/03/2013	BBSW+3.2	1.38	y
NABPA	21/03/2013	BBSW+3.2	1.51	y
SUNPD	23/05/2013	BBSW+2.85	0.77	n
MQGPA	11/06/2013	BBSW+4	0.60	y (40%)
ANZPD	8/08/2013	BBSW+3.4	1.12	y
WBCHB	22/08/2013	BBSW+2.30	0.93	n
AMPHA	18/12/2013	BBSW3+2.65	0.33	n?
NABPB	18/12/2013	BBSW+3.25	1.72	y
ANZPE	1/04/2014	BBSW+3.25	1.61	y
SUNPE	9/05/2014	BBSW+3.4	0.40	y
WBCPE	23/06/2014	BBSW+3.05	1.31	y
CGFPA	1/10/2014	BBSW3+3.4	0.34	y (70%)
CBAPD	2/10/2014	BBSW+2.8	3.00	y
MBLPA	8/10/2014	BBSW+3.3	0.43	y (40%)
BENPE	10/10/2014	BBSW+3.2	0.25	y
ANZPF	6/03/2015	BBSW+3.6	0.97	y
NABPC	26/03/2015	BBSW+3.5	1.34	y
BENPF	15/06/2015	BBSW6+4.00	0.28	y
WBCPF	8/09/2015	BBSW+4	1.32	y
AMPPA	30/11/2015	BBSW+5.1	0.27	y (80%)
MQGPB	21/12/2015	BBSW+5.15	0.53	y (40%)
CBAPC	30/3/2016	BBSW+5.2	1.45	y
WBCPG	30/6/2016	BBSW+4.9	1.45	Y
ANZPG	27/9/2016*	BBSW+4.7	1.30	y

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*This Financial Policy Brief was prepared by **Professor Kevin Davis**, Research Director at the Australian Centre for Financial Studies.*

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