Loans with no Margin Call – the Guarantor Value Approach

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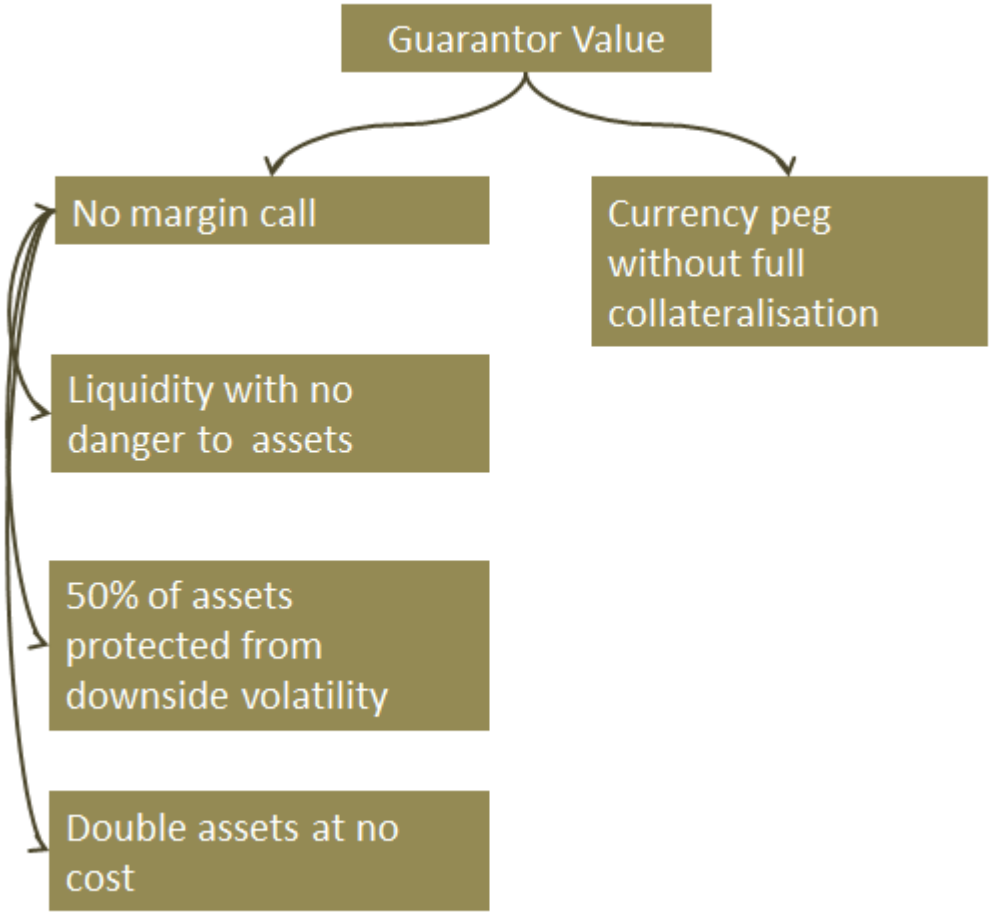


The goosie protocol enables lenders to make loans without requiring a margin call. For borrowers this unlocks a host of benefits which include:

- elimination of the risk of having a call liquidate their collateral at a low point in its value;

- protection of 50% of their assets from downside volatility, in effect risk free investing;

- the ability to double their assets at no further cost.

These benefits derive from the ability of a lender to secure a loan based on *guarantor value* rather than require full collateralisation of the loan at all times. Subject to the rules of the goosie club guarantor value can be used by traditional and De-Fi lenders to grow their loan books. The approach also serves as the basis of the goosie app that enables men and women to self-loan against a range of crypto assets. Within the app guarantor value is further used to peg the goosie coin to the US dollar without the need for full collateralisation (see the appendix below).

So what is guarantor value and how does it work?

Most lenders require their loans to be fully backed by collateral. If the value of the collateral looks as if it may fall below the value of the loan there is a margin call. The borrower must either post more collateral or have their collateral liquidated to pay back the loan. The downside for the borrower is the risk that their collateral is liquidated at a low point in its value and they are forced to take a loss. This risk means borrowers are likely to have strong appetite for loans with no margin call. But is this even possible?

No margin call is a key feature of the goosie protocol. It works like this:

Imagine you run out of gas. Walking to the gas station you realise you have left your wallet in the car. Rather than go back you ask the station attendant if he would hold your phone to cover the cost of the gas until you return with your wallet. He agrees and fills a can with gas. You get back to your car, drive the station, pay for the gas and pick up your phone.

What has just happened?

You received a loan of gas by providing a guarantee, in this case your phone. Importantly the phone is of no value to the station attendant because it is locked. The reason your phone works as a guarantee is that the attendant knows *it is valuable to you and you want it back*.

Notice there is no assessment of the market value of the phone relative to the gas in the can. The attendant is confident in repayment not because of the dollar value of the phone but because the phone is valuable to you.

In olden days a noble would send their son to the king's court as a guarantee of the noble's good behaviour. The process was the same. The son was of little value to the king but meant a lot to the father. In both these examples, the guarantee works, not because of any agreed value of the collateral posted, but because *it has value to the guarantor*.

Guarantor Value

So there are two ways to secure a loan. The traditional approach requires collateral greater the value of the loan at all times. With this approach a lender must insist on a margin call so that their capital is protected if the value of the collateral looks like it may fall below the loan's value.

The second approach relies not on the market value of the collateral, but the value placed on the collateral by the guarantor. In the above examples the market value of the collateral, the phone or the son, is irrelevant. What matters is the confidence the parties have that the collateral *is valuable enough to the guarantor for them to want it back*. In other words they can be expected to want to pay back the loan.

This guarantor value approach requires no margin call. Instead the key question for the lender is how to assess whether the collateral being offered is valuable enough to the guarantor for them to want it back.

Table 1 Two methods of providing a loan with or without the need for a margin call

100% collateral	Guarantor value
Secured by assets with a value > 100% value of loan.	Secured by assets valuable enough to the guarantor for them to want them back.
Margin call if assets approach the minimum of 100% value of loan.	No margin call required.
Requires on-going monitoring of collateral value.	No monitoring of collateral value required.

What constitutes Guarantor Value?

One form of collateral a guarantor will want back are assets they *believe will increase in value*. If the man or woman believes the value of the collateral they post will rise over the medium to long term then the lender can be confident they will want to repay the loan and have the collateral returned to them. As a general rule, if the guarantor has bought the collateral as an investment there is an underlying belief that the investment will appreciate and they can be expected to want to get their collateral back.

Examples of such appreciating collateral could include the S&P 500, a house price index and leading crypto currencies.

Objections to Guarantor Value

Every lending approach has limitations. Objections to loans based on guarantor value include the following.

The lender does not control the term of the loan.

True. A guarantor value loan works best if it is revolving (perpetual).[1] In other words, the borrower decides when to repay the loan. Most investments have lows as well as highs. When the borrower can decide when to repay they will avoid repayments when the value of their collateral is low. On the other hand they have strong incentive to clear the loan when their collateral reaches new highs because the increase in value means they can take out a bigger loan. This is also to the advantage of the lender whose loan book increases with the rise in the value of the collateral.

The loan is not secured if the value of the collateral falls.

False. This is only true under the full collateralisation model. A loan secured by guarantor value remains secure as long as the guarantor (borrower) remains confident current market conditions are temporary and their collateral will continue to rise in value. Importantly this confidence is likely to remain even during major market events.

For example since 2000 the S&P 500 has lost close to 50% of its value three times. These events are unlikely to affect a person's confidence in their investment for the medium and long term. Hence even in severe market conditions they can be expected to pay back their loan.

On the other hand major market events have profound implications for lenders and borrowers using the full collateralisation approach. Falling collateral values trigger margin calls. Collateral is sold. Borrowers suffer losses. Lenders experience shrinking loan books and bad debts.

In other words guarantor value is a potentially more robust lending method during bear market conditions for both the lender and the borrower.

The loan is at risk if the collateral becomes worthless to the guarantor.

True. If the guarantor no longer believes the collateral will increase in value it no longer provides incentive for the loan to be repaid. The lender now has an unsecured loan on its books. However the question is *under what conditions would a guarantor's collateral become worthless to them*? The above S&P500 example suggests it would take more than a major market event. In other words, lenders are likely to face losses from plummeting collateral values and bad loans from the full-collateralisation approach long before loans based on guarantor value become a concern.

[1] Interest and fees for a guarantor value loan are likely to be charged separate from the loan itself because of its perpetual nature..

Removing the risk of a margin call results in rampant speculation.

True but easily controlled. For example, if a borrower receives a loan for 100% of the value of collateral posted, there is no reason why they do not use the loan to purchase more collateral. The new collateral is used for another loan and the process continues ad-infinitum.

With traditional loans increased leverage comes with increased risk of a margin call as changes to the price of the collateral are amplified. With the guarantor value approach there is no such check.

The solution is to limit the size of the loan to a percentage of collateral posted. The goosie protocol works with a fixed 54% loan to collateral ratio. 50% of the loan goes to the borrower. 4% goes in fees.

With a loan of 50% of the value of their collateral a borrower is limited to doubling the assets used as collateral. They do this by using their loan to purchase more assets. Excluding changes in asset prices and transaction costs their new purchase will be half the amount of the original collateral posted. If they do this eight times, each time purchasing and posting half the previous amount of collateral, they will end up with twice the collateral they started with.

Table 2 Borrowers can double their assets by using their loan to buy more eight times.

asset total	new loan value
1.00	
1.50	50%
1.75	25%
1.88	13%
1.94	6%
1.97	3%
1.98	2%
1.99	1%
2.00	0%

This ability of the borrower to double their assets using a guarantor value loan is a significant benefit of the approach. It also aids the lender by increasing the size of their loan book.

50% of assets risk free

Another significant benefit for the borrower of guarantor value loans is that they protect 50% of the collateral from downside volatility. Because they receive a loan to 50% of the value of their collateral, excluding any interest payments, they have effectively locked in the purchase price of this portion of their asset.

For example, a borrower buys $100 worth of Bitcoin. Using the guarantor value approach and the goosie loan to collateral ratio of 54%, they receive $50 worth of loan with the remaining $4 going in fees. If the Bitcoin price of drops 80% so that their collateral is now only worth $20 they still have the $50 loan. Only half their Bitcoin has taken the hit while the value of the other half remains unchanged by adverse market conditions.

With the collateralised approach this scenario is not possible. The falling value of collateral triggers a margin call. Instead of protecting against downside volatility the borrower feels the full force of the price fall as their collateral is liquidated.

Summary

A key feature of the goosie protocol is its ability to provide no margin call on loans. This is possible using the guarantor value approach where the collateral is valuable enough to the guarantor (borrower) for them to want their collateral back. Collateral is returned to them by repaying the loan. As long as they want their collateral back the loan is secure irrespective of the collateral's market value at any given time.

An obvious way to determine guarantor value is to use collateral the guarantor believes will appreciate in value.

Appendix: Maintaining a currency peg

Subject to goosie club rules traditional and De-Fi lenders can provide loans using guarantor value. However the goosie app also uses guarantor value to peg the goosie coin used to provide loans with the US dollar. Again this takes place without the need for full collateralisation of the coin at all times.

Traditional currencies require full collateralisation to maintain a peg. Without full collateralisation they are open to speculative attack where the currency is shorted until the issuer runs out of resources to support the peg. The recent collapse of the crypto stablecoin Terra/Luna is such an example.

With guarantor value, the value of collateral reserves is not the issue. What matters in maintaining the peg is confidence the guarantor issued with the currency wants their collateral back.

Using the goosie coin with its dollar peg as an example the process works like this:

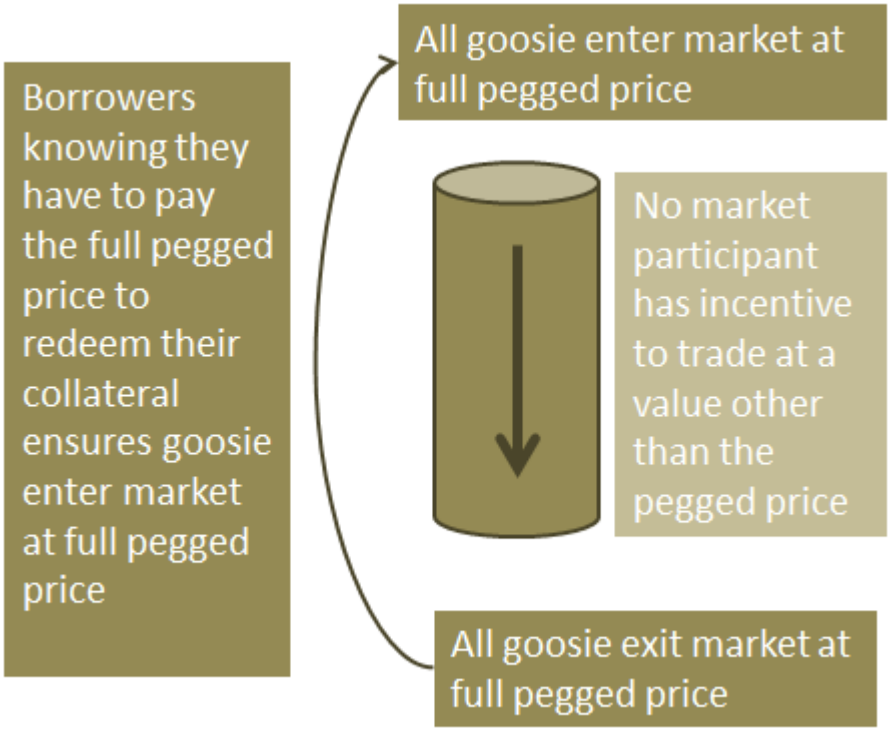
- A borrower deposits $100 worth of bitcoin for which the lender provides $54 worth of goosie. $50 is for the borrower. $4 is withheld as fees.
- A condition of the loan is that repayment is also made in goosie at the full loan value. For example, at the time of repayment if goosie are trading at 94 cents instead of the full dollar value the borrower needs to repay $54/0.94 = $57.44 worth of goosie.
- The knowledge they need to pay back the full pegged value of the loan gives incentive to borrowers to only spend their goosie at the full pegged value. To do otherwise is in effect a self-imposed penalty on their collateral. For example, if the borrower sells their 50 goosie at 80 cents to the dollar, netting $40 worth of goods, because they have to pay back $50 worth of goosie (excluding fees) the process of devaluation has cost them $50 - $40 = $10.
- All goosie therefore enter circulation at the full pegged price.

- Having entered circulation at the full pegged price it is in no-one's interest to transact at below this price.
- Third parties have confidence in the peg because they know borrowers want their collateral back and therefore will not let goosie enter the market below the pegged value.

In reality in the zero-interest, self-loan environment of the goosie Dapp men and women are both the lender and borrower. The two roles have been separated in the above example for the sake of clarity.

The guarantor process of maintaining a peg can be viewed as a funnel: because borrowers know they need to redeem their goosie at full value to get their collateral back, all goosie enter the market at the pegged price.

Table 3 Like a funnel goosie enter the market at the full pegged price because borrowers know they have to pay this price to redeem their collateral. Once in the market at the pegged price it is in no-one's interest to trade at a price below or above the peg.



Objections to using Guarantor Value to maintain a peg

If collateral posted no longer has value to the guarantor some goosie in circulation no longer have collateral backing them.

True. The goosie app is designed to work in the crypto currency environment so that it is highly likely that some coins posted as collateral will fail in this emerging market. Failures are reduced by the protocol only accepting coins approved by the goosie club. Yet collateral failures can still be

expected. This means some borrowers will never repay their goosie loans. However this does not affect the goosie peg to the US dollar. The reason is that coin failures do not affect the *behaviour* of the majority of borrowers who still want to have their collateral back. This means that new goosie still enter the market at the full peg price. Consequently it is in no one's interest to trade at any value other than this price.

Summary

Guarantor value enables a currency to maintain a peg without the need for full collateralisation at all times. This means the value of collateral can fall but the currency remains stable. The approach provides the same benefits as guarantor value loans denominated in other currencies, namely, risk free investing for 50% of collateral posted and the ability to double assets at no extra cost.

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