

Banks are the problem, just not in the way you think

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The problem is not that commercial banks are poor or inefficient investors but the opposite, they are too good, because the fact that they lend rather than own assets outright means that high leverage was and will continue to be endemic in the economy.

It was the severe externalities or social costs of endemic leverage that actually caused the damage during the GFC, and all previous debt-driven crises, through:

- the accumulated inefficiencies of agency conflict between debt holders and residual equity owners,
- the extreme pro-cyclicality of leveraged equity returns,
- the false precision and unrealistic expectations associated with fixed debt claims against uncertain payoff streams,
- the complexity and opacity arising from the transformation of real asset payoffs into a myriad of competing fixed and residual claims, and
- ultimately, the massive destruction of confidence and wealth from default and bankruptcy.

When I say that commercial banks were too good, it is not through any superior personal qualities of bankers. Rather it is that they have inherent and systematic advantages as investors in assets relative to non-banks.

First, the defining role of commercial banks is as deposit-takers, for which they have special status granted and certified by the state. This confers a substantial advantage in the availability and cost of their funding relative to non-banks.

Second, because of the size that goes with the status of authorized deposit-taking institution, commercial banks are also the largest and of necessity the most diversified investors in any market in which they operate. This diversification is enforced by internal and regulatory constraint on concentrations of exposure, in particular the prescription of fixed lending limits. Through the IRB approaches mandated under Basel II, the Basel Committee explicitly, and reasonably in my opinion, treats banks as fully diversified, and the capital requirement is calibrated to absorb systematic losses only. The fresh debate about capital regulation today is not whether banks are diversified, but the extent of systematic risk to which they are exposed.

Not having to price for diversifiable risk and enjoying privileged access to state certified (and implicitly guaranteed) deposit funding would not be of

merely marginal advantage for an investor. Commercial banks, who have these advantages, should completely dominate all other classes of financial investor in fair competition to own assets.

That they do not is because they do not compete for the ownership of assets. They invest in debt and not equity. There are a number of possible reasons for this.

Investment in assets through illiquid and passive equity interests would clearly expose a bank to mismatches between the liquidity of its investment and its obligations under its liabilities, primarily interest payments. An enforceable debt claim is superior in this respect, and the requirement for a borrower to repay and match the timing of the lender's own costs of funding is a fundamental structural feature of bank lending.

That a borrower is obliged to repay debt principal according to a schedule has a different motivation, given that a bank as a going concern must assume that its funding base is permanent. Repayment obligations reflect either the expected amortisation of the assets of the borrowing firm or, to the extent that they precede that, provide a mechanism for the lender to exert some control over the assets and mitigate the agency cost of equity control.

Investment by the bank in assets through controlling equity interests would, however, be far superior to any form of debt in matching funding and mitigating duration mismatch. The bank's claim would be effectively on demand; as controlling owner it would be free to realize as much liquidity as the asset could generate at any time it required. The potential benefits for asset/liability management (ALM) alone, in addition to the opportunity cost of not doing so, demands an explanation as to why banks do not pursue investment in this form.

I think there are two.

First, any insiders or experts needed to manage the assets, and on whom the assumed payoffs depend, may demand a controlling equity interest as a condition and as compensation for doing so. Related to this is that insiders may have an informational advantage or much greater risk tolerance in relation to that asset which overcomes their disadvantages relative to banks as pure financial investors.

Second, banks are, or believe they are, prohibited from doing so.

I would argue that the social contract under which banks are granted their preferred status has an effective caveat. Banks are to be the direct channel for monetary policy in the economy. This requires that they invest in real assets through fixed claims, namely debt. This means they cannot compete directly with non-banks, their "customers", for who is reserved the equity, and the legal ownership and control, of real assets.

Irrespective of the reasons, we readily observe that banks do overwhelmingly limit themselves to investment in the form of debt claims. The problem this

causes for the economy is that markets will still have their way. If hyper-competitive commercial banks cannot or will not invest in equity, then the market will ensure that equity gives way to the instrument through which they can invest, debt. The result is as we have observed. Leverage is constrained only by banks' own desire to maintain the social contract and progressive "taxes" on leverage, namely the internalized, as distinguished from externalized, share of agency and bankruptcy costs.

Furthermore, the problem is exacerbated, not mitigated, by efficiency in asset markets and competitiveness in banking markets. In the most transparent and competitive markets for assets the maximization of leverage is always observed to be the key determinant of bid price and success. We need only consider the private equity, property, project and structured finance markets as evidence.

My hypothesis is not mere argument, although it provides a real explanation for the ubiquitous observation that "debt is cheap". I believe it is supported empirically by observing an equity premium in the cost of capital of individual assets.

Take a partially leveraged asset. Now assume that it is re-leveraged, so the original equity investment is replaced with debt and repaid in full as a special dividend. In this hypothetical scenario there would remain pinpoint equity bearing no risk but a claim on the residual payoffs after debt service. If the fixed claims of debt in this fully-leveraged scenario, determined as the minimum required by the bank's standard pricing model, would be less than the highest value in the distribution of the firm's payoffs, then there would be an expected windfall payoff to equity. This would represent the equity premium implicit in the price of the actual, partially levered firm.

Another way of expressing this is that the equity premium is the discount on the price paid for the asset that is attributable to the presence of non-bank equity in the capital structure.

Is there an equity premium? My own experience as a banker and my analysis of transactions, particularly in the highly competitive and highly leveraged project finance and private equity markets, shows a clear equity premium in most leveraged transactions. I urge others to conduct their own analysis, but the presence of an equity premium would also explain why, almost universally, it is equity holders who pursue higher leverage and banks that constrain it in competitive markets for assets. Maximizing leverage and minimizing equity and thus the equity premium allows a higher price to be bid by the combined bank and equity holder team. This is the opposite to what would be expected if observed levels of leverage represented an equilibrium at which cost of capital was minimized.

So I suggest that the equity premium persists, and is not competed away, because asset prices are set in a two-tiered market. Banks compete amongst themselves for the debt component on the basis of price and how close to full leverage they are willing to go. Non-banks compete among themselves for the residual equity piece allowed them by the banks, and for which they receive

the equity premium to meet their relatively higher return requirements.

And so high leverage, and the damaging externalities that result, will remain a feature of our economy.

The Trouble with Equity

William Wild¹

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On the evidence of its current consultation paper² the Basel Committee is clearly committed to approaches requiring banks to hold more capital, and hold that capital in what it sees as the highest quality form; common equity. The first is incontrovertible; the second, far from it.

The ranking of equity at the top of the capital-quality hierarchy is based on the simplest of premises; equity holders have no fixed claim to the bank's assets. Equity is, in the strict legal sense, available to absorb bank losses ahead of lower quality forms of capital, which do grant fixed claims and so the ability to force the bank into default and, ultimately, failure.

Equity, however, is much more than just an absorber of losses in this limited sense. It also represents the unconstrained, asymmetrical return to a bank's owners and is the real source (through the impact on retained earnings) of discretionary compensation to its employees. And it will also, if confirmed as the cornerstone of capital regulation, remain an un-substitutable input into the bank's output of loans and other risk products.

The trouble with equity as the primary form of regulatory capital is that these other aspects directly oppose both the regulatory objective of maintaining high levels of bank capital and the social objective of ensuring that the markets for bank loans and credit are complete, so that individuals and firms can always acquire them at a price.

While equity grants no fixed claim, it represents the ultimate discretionary claim to the bank's assets. In their recent paper³, Andrew Haldane and Piergiorgio Alessandri clearly restate the incentives for the equity holders of limited liability banks to minimize the amount of undistributed equity relative to assets and risk. The incentive of bank management to maximize risk and discretionary compensation is obvious. Banks' success in doing so is confirmed by the clearest of historical trends in bank equity ratios

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² "Strengthening the resilience of the banking sector".

<http://www.bis.org/publ/bcbs164.htm>

³ "Banking on the State". <http://www.bis.org/review/r091111e.pdf>

and risk and, during the GFC, their extreme resistance to injections of new equity or the reduction of discretionary compensation until after state safety nets had been well and truly utilized.

That regulators were massively out-gunned in the battles over bank equity levels was recognized long before the GFC that was their ultimate result. The term Regulatory Arbitrage is a far from new one, and not as a description of theoretical possibility but of actual and widespread practice. The Basel Committee now proposes to redress the regulators' disadvantage by adding fixed leverage limits to the existing minimum risk-weighted capital requirements, but Haldane and Alessandri note that US banks, already subject to simple leverage constraints, simply optimized by increasing their risk rather than the relative quantity of their assets.

Perhaps the best lesson for regulators is not to try harder in battles they are always destined to lose, but to avoid those battles altogether. In finance we are fortunate in that we don't have to co-opt an existing, imperfect instrument into a new role but can create (or, for regulators, define and let the market create) new forms based on our specific requirements. Given a blank sheet, what characteristics should a purely regulatory capital instrument have?

1. The principal amount (representing the regulatory capital) must be permanently available to absorb bank losses. Not only must there be no fixed claim on the principal, there must be no discretionary right of the bank to repay or redeem it.
2. The principal amount must absorb the bank's losses prior to any bank default, and while the bank is still a going concern, not utilizing a state safety net.
3. It must have no counter-party risk. The initial principal amount must be fully funded up-front and thereafter invested by the bank only in risk-free assets.
4. The only fixed claim it grants may be to the net income from investment of the balance of its principal in risk-free assets. Otherwise, all compensation to the holder of the instrument must be up-front and net of the initial principal amount.

It is not hard to conceive of such an instrument; it could take, for example, the form of an event-linked perpetual note or a cash-collateralized CDS-style swap with up-front premium. Irrespective of form, there is no doubt that the required up-front premium or discount would be substantial. The perpetual instrument would provide, at best, an ongoing risk free rate of return but with clearly

material levels of risk. To bemoan this high cost is, however, to miss the point. The highest quality form of regulatory capital will be expensive, given what it is required to do. As has been amply demonstrated, cheaper forms of regulatory capital are simply poorer at performing the function.

Who should pay this cost is straightforward. The passing through of a Capital Charge to borrowers and other users of bank risk products is extremely well established. The difference between the proposed instrument and equity, as regulatory capital, is that its cost will be explicitly and transparently priced in a market (the CDS market is great precedent for what would evolve). On the other hand, implying a cost for its existing equity has always been the weakest of links in bank loan and risk product pricing models, and an ongoing source of opacity and inefficiency in those markets.

Another potential objection can also be disposed of. The up-front cost of the instrument will reflect its perpetual character, whereas the initial bank borrower (for example) who pays the cost, through a capital charge, may only benefit for the relatively short tenor of its loan. Yet to object on this basis would be like saying that the cost of a tunnel is untenable because the first driver through could not afford to pay it. A unit of regulatory capital should be seen as part of the permanent infrastructure of bank lending and risk production, with its up-front cost amortized and charged to the succession of customers who use it, over a long useful life.

My final argument is one alluded to earlier. As losses reduce its capital base towards or below minimum required levels, a bank can take one of two general approaches; replenish the capital base or reduce the required level of capital by reducing its risk exposure. The tendency of banks to adopt the second, called Pro-cyclicality, has long been recognized as a consequence of capital regulation and is exacerbated by the use of equity, with its multiple competing aspects, as capital.

At a practical level, banks and equity markets are just not set up to allow multiple issuances of relatively small parcels of new bank equity. I know this from direct experience, because it was an idea I floated unsuccessfully in the syndicated and project-finance loan markets in late 2008. The consequence is that, where equity is the primary form of regulatory capital, borrowers and other seekers of bank credit products are at times unable to pay the bank to put in place the capital infrastructure it needs to provide them with those products; there is simply no price for the products and the market is incomplete.

By contrast, a bank should be perfectly willing to buy the proposed purely regulatory capital instrument on a transactional basis, where it has a client that is willing to pay it to do so. While it is inconceivable that a bank board would ever delegate authority to a business unit or even credit committee to issue new equity, it is the daily business of bank business units to buy (in this case) and sell multiple, smaller quantities of instruments providing what is effectively pure risk protection.

The trouble with asking bank equity to perform the crucial role of regulatory capital is that it turns it into a jack-of-all-trades, master of none. We can do much better.

Regulatory Capital Swap

Description and Rationale

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1. Many banks today face reduced competition in their markets but cannot fully exploit the lucrative lending opportunities available because of the need to protect their capital ratios without diluting shareholders. This not only represents significant opportunity cost but retards their ability to build capital organically through the profits that would be generated. The Regulatory Capital Swap product could help break banks out of this pro-cyclical trap.

2. In essence it would provide a bank with a source of entirely non-dilutive and self-funding new private capital, that would be available in perpetuity to provide the regulatory capital backing for new lending in addition to that backed by its shareholder's capital. This new, private capital would, if approved by the bank's regulator, also be the strongest form of regulatory capital, superior in this respect even to common equity. Using this product would therefore represent a pro-active and innovative response by banks to the industry-wide capital adequacy issues raised by the current crisis.

4. The proposed product is simple and transparent. A Shareholder or other stakeholder in a firm (the "Provider") would provide the bank with an amount equal to the regulatory capital requirement on all or part of a loan. The capital would come to the bank in the form of cash collateral for the Provider's obligations under a new type of swap, a Regulatory Capital Swap (the "Swap"). In exchange, the bank would provide that loan to the firm. The ongoing obligation of the Provider under a Swap would be to pay a proportion of any amount by which losses declared by the bank, in any financial year, exceeded its Reserves in that year. As such the Provider would be directly replacing, with its obligations secured by cash collateral, losses by the bank beyond a critical point at which its ability to continue as a going concern would otherwise be seriously impaired. In return, the bank would pay an annual return equal to the one-year risk-free rate on the balance of the Swap collateral, which it could fully fund by investing that collateral in zero-weighted government bonds.

5. Parties may be incentivized to provide this capital to the bank in the current environment if the firms in which they have stakes would not otherwise receive loans in the amounts they require. The cost of providing the capital may be more than offset by the costs of their firms being forced to forego new projects or being unable to meet their existing financial obligations, leading to default or even firm failure. This primary incentive may be enhanced by a further economic incentive, as the capital charge built into the loan's interest margin could be rebated by the bank to the Provider.

6. There may be demand for this structure in the limited recourse financing of Special Purpose Entities ("SPEs"), as in Project or Acquisition finance, or the financing of operating subsidiaries of the bank's corporate clients or firms owned by its private clients. Providing the bank with the capital would be merely incremental to a shareholder's existing

obligation to fund equity into its SPE or subsidiary or firm, and serve the same purpose in enabling the maximum amount of stand-alone financing to be raised.

7. Today there are numerous examples of otherwise creditworthy projects and acquisitions that can proceed only if a stakeholder fills a funding gap left by the decline in loan market capacity. For example, the UK government has established an £8bln fund to co-lend (alongside banks) to private infrastructure project financings, and the EIB and EBRD are co-lending many billions of € to enable important European projects to go ahead. Governments and multilateral institutions would obviously prefer a commercial solution that does not require them to replace bank lenders. Banks will be under pressure to support important projects with loans in significant amounts. The proposed structure would enable project sponsors, states or multilateral institutions to leverage a small investment in providing the capital into a larger loan from the bank to the project¹, and conversely enable the bank to make that loan without reducing its capital ratio.

8. In the pure corporate market, many otherwise creditworthy firms may face difficulty in rolling-over their maturing loans due to a reduction in, or withdrawal of, the commitments of their existing banks. To avoid default these firms may be forced to sell assets into a very poor market or ask their stakeholders to make up the funding gap themselves with direct investment. The proposed product could be attractive because it could help these stakeholders to close the funding gap with a small fraction of the direct investment otherwise required on their part.

9. The economic value to the bank of loans made under the structure would be insensitive to any increase, during the life of those loans, in the RoE demanded by its shareholders for risking their capital. The cost associated with any increase in the bank's risk or the market risk premium would instead be borne by the Providers through a decline in the MTM value of the Swap. This is a very significant achievement because it has not previously proved possible to develop a structure that passes through or avoids the economic cost of holding legacy loan assets resulting from increases in a bank's equity risk premium.

¹ For example, a project costing €500mln that could be acceptably financed on an 80:20 debt:equity ratio might only be able to secure €300mln in loans from the bank market, rather than the €400mln targeted, because of bank capital constraints. As such, a sponsor or other stakeholder would need to co-lend the €100mln shortfall to enable the project to proceed, which would be significant given that the total equity investment in the project is only €100mln. Using the Capital Swap, however, the bank might be willing to lend the additional €100mln in exchange for the project sponsors providing, say, €8mln regulatory capital, only marginally increasing the sponsor's cash investment into the project from €100mln to €108mln.

Even if the Provider in this example wrote the value of the Swap down to zero, this would represent an effective increase in the project costs of only 1.6% flat, or an increase in the cost of the senior financing of only 2% flat. Even this would be reduced to the extent any value was realized for the Swap in a sale, or shown on the Provider's books (noting that some Providers may not even mark it to market). The amount in any event should not be unbearable given the potential variability in other project costs or market exposures (fx, inflation, raw materials, finance costs) that may have already been, or could still be, borne by its stakeholders or counterparties.

10. Sourcing new capital to support new loans is also important in a wider context. The current crisis has shown there is always a risk that the capital built up in an economic up-cycle, no matter how conservative in amount, may prove insufficient in a subsequent down-cycle to maintain market confidence in the bank and allow it to fulfil its vital role as a channel of credit at the level required to support the wider economy. Use of this product, which directly addresses the issues of capital adequacy and pro-cyclicality, may help the bank to resist the imposition of further intrusive and inappropriate capital regulation or state direction.

11. The bank's regulator should, in any event, be notified and explicit acknowledgement sought that the balance of the Liability for the collateral received under the Swap can be counted as Tier 1 regulatory capital. It seems to satisfy all the criteria and should actually be higher quality regulatory capital than the bank's common equity. Its sole and explicit purpose would be to absorb bank losses, it would not share in the bank's profits, could not be redeemed or repaid², offers the investor no voting rights or other ownership interest, and the bank's payment obligations associated with it would be fully funded outside of the bank's other operations. The important point for any regulator is that the bank's management would have neither the ability nor the inclination to manage the Swap collateral in any way contrary to its role as pure regulatory capital.

12. Of course capital is not the only constraint on the amount a bank can lend in any individual transaction. Assuming that funding can be secured at some price, and the funding costs can be passed fully through to the borrower, loan amounts would still be limited by the bank's credit risk caps. The product is designed to allow the bank to lend up to those caps. The credit risk of a loan under this structure would be assessed and approved, and the loan managed during its life, in the same way as any normal loan. No new resources should need to be allocated or processes developed by the bank in this respect. There should, moreover, be no difference in the credit risk of a loan made under this structure compared with the same loan made in the usual way, as the capital would be provided by an independent entity as a condition precedent to the loan availability. Concern that a borrower may upstream funds to a Provider to fund the capital is no different to any concern about distributions from the Borrower, which should always be considered in the bank's credit assessment as standard practice and, if necessary, prohibited through the covenant and security package on the loan. Standard credit practice would also ensure that Providers were not granted credit by the bank to fund the collateral, in the same way that the bank would not grant funding to any firm to purchase its equity or other security issued by it.

16. An important difference from the usual loan approval process for the bank is that shareholder's capital would not be utilized and there would be no basis for calculating RAROC or RoE on that part of the loan backed by the new capital. The economic criteria for loan approval should, therefore, be its simple profitability as assessed by traditional RoA criteria. Nor, for the same reason, should the loan count against the bank's risk-weighted asset caps.

² As the contingent payment obligation of the Provider under the Swap is in perpetuity, the collateral would be retained by the bank in perpetuity. In a winding up of the bank, however, the Provider should have a claim for the unutilized balance of the collateral.