

Basel II and the Procyclicality Problem

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The primary goal of capital adequacy regulation is to create stability in the international financial system. It prevents excessive risk taking by forcing banks to hold capital reserves based on the riskiness of their portfolios. This helps protect the interests of depositors and “prevent systemic instabilities arising from large-scale banking failures” (von Thadden 2004, 90). The first attempt at international capital regulation was the 1988 Basel Accord. Beginning as an agreement between Basel Committee member countries to set capital requirements for international banks, Basel I has been implemented in over 100 countries (Jackson 2001). With the dramatic changes and increased complexity of the financial system, however, Basel I is now outdated. Recognizing this, the Basel Committee proposed a new Accord in 2001. Basel II, a much more complicated regulatory framework, seeks to address the shortcomings of its predecessor by making capital requirements more risk-sensitive. As the new accord is still in the implementation process in many countries, its actual impact is yet to be seen. A great amount of literature, however, has attempted to predict its effect on the international financial system. While capital adequacy regulation is supposed to create financial stability, there is no consensus that Basel II will indeed achieve this goal. Many critics of Basel II claim that procyclicality will exacerbate the business cycle and cause financial instability. This essay will discuss the procyclicality issue and evaluate its potential effect on both the success of Basel II and its goal of financial stability. I will also look at factors that have the potential to mitigate and exacerbate the problems of procyclicality. A careful analysis of this issue will help predict the future success or failure of Basel II and shed light on how regulation can be improved.

Basel I was implemented in response to a general decline in the amount of capital held by banks. The Accord imposed a minimum ratio of capital to risk-weighted assets of 8 percent for internationally active banks. Under Basel I, assets were assigned a weighting (0, 20, 50, or 100 percent) depending on which of the four basic risk categories they belonged to (Tanaka 2003). This regulatory scheme was far too simple, however, as it did not differentiate between borrowers in the same risk category. This invited regulatory capital arbitrage, where banks could increase the risk in their portfolios without changing the capital ratio (as long as assets were in the same risk category). As a result, the ratio did not reflect accurately the riskiness of a bank’s portfolio, and the effects of regulation were dampened. Basel II aims to solve this problem by making capital requirements more risk-sensitive. According to Jokivuolle and Kauko (2001, 19), “more risk-sensitive capital requirements are designed to enhance banking stability which in principle should also stabilize economic fluctuations.” Under Basel II, the weighting is determined by both the risk category and the individual riskiness of an asset (Tanaka 2003). Thus risk weights on assets are allowed to change over time, along with the capital charge against them. Despite its perceived benefits, the dynamic nature of the new capital requirements could lead also to unexpected instability in the financial system. The resulting volatility and cyclicity of capital could have major effects on the macroeconomy.

The major issue raised by critics of Basel II is procyclicality. Risk is highly correlated with the business cycle, so risk weights on assets will be correlated as well (Illing and Paulin 2004). During an economic downturn, the quantity of risk-weighted assets will rise, causing the capital ratio to fall. To keep their ratios above the 8 percent minimum requirement, banks will have to increase capital or reduce quantity of risk-weighted assets. As it is difficult to raise capital in the short term (especially during a recession), banks will either reduce lending or substitute for less risky assets. As pointed out by Tanaka (2003, 222), “several empirical papers report evidence from different countries that banks subjected to capital adequacy requirement curtail their lending in response to a negative shock to their regulatory capital.” If many banks reduce lending at the same time, the supply of loans will decrease. When companies are unable to find other sources of financing, a drop in investment will occur and output will decrease. The minimum capital requirement can thus exacerbate a recession. The opposite effect will occur during an economic boom: the quantity of risk-weighted assets will fall and the capital ratio will increase, causing banks to be more able to increase lending (Illing and Paulin 2004). In both cases, the minimum capital requirements set forth by Basel II cause an amplification of the business cycle. Procyclicality leads to stronger economic booms and deeper recessions. Unfortunately, this financial instability is exactly the opposite of what the new Accord is supposed to achieve.

Amplification of the business cycle is not the only byproduct of procyclicality. Capital adequacy requirements can also weaken the effects of monetary policy (Tanaka 2003). During a recession, expansionary monetary policy is often used to stimulate the economy. This is only effective, however, if banks are able to increase their lending. As explained above, capital adequacy requirements will force banks to decrease lending during an economic downturn. Procyclicality means that banks will not be able to increase their lending, causing expansionary monetary policy to be ineffective. This limits the central bank’s ability to control the economy and creates further financial instability. The procyclicality caused by more risk-sensitive capital requirements is clearly a problem for regulators. The extent to which it will create systemic instability will be determined partially by how banks measure riskiness of assets.

Basel II allows banks to measure credit risk with either the *new standardized approach* or the *internal rating based (IRB)* approach. For banks using the standardized approach, risk weights will be based on ratings provided by external credit assessment institutions (see Figure 1 for a matrix of risk weights). Under the internal ratings based approach, banks will use their own models to evaluate the riskiness of their assets, subject to the approval of regulators (Tanaka 2003). Each method could have a different impact on the procyclicality problem and general financial stability.

Use of the new standardized approach will have both positive and negative effects on stability. On one hand, ratings provided by external institutions are much less risk-sensitive than internal ratings, implying that risk weights will be much less volatile and the procyclicality problem will not be as severe. Furthermore, most credit rating institutions use a through-the-cycle method of risk evaluation, taking business cycles into

account. Under this method, borrowers are only downgraded during a recession if the impact on the borrower is worse than expected (Tanaka 2003). This method makes more stable risk weights over time, thus dampening the effects of procyclicality. On the other hand, there are some disadvantages to the new standardized approach. When seeking credit ratings, companies may be tempted to shop around for institutions that give the highest rating in order to lower their borrowing costs. This rate shopping could cause institutions to drive up their ratings and underestimate risk (Tanaka 2003). Such behaviour would limit the reliability of risk weights and undermine the effectiveness of capital requirements.

Use of the internal rating based approach also has its advantages and disadvantages. One of the distinguishing features of the IRB approach is its high sensitivity to risk. While this feature has some benefits, it makes risk weights much more volatile. This volatility makes capital ratios unstable and exacerbates the problem of procyclicality. In addition, banks often use point-in-time ratings rather than the through-the-cycle method (Tanaka 2003). This means that the business cycle is not taken into account when determining risk, increasing the variability of credit ratings. Procyclicality is much more dramatic under the IRB approach, causing further instability in the financial system.

Although procyclicality is clearly a severe problem, some factors may mitigate its effects. Buffer capital, capital held by banks above the 8 percent minimum, could limit the impact of procyclicality. If banks hold more capital than is required of them, an economic slowdown will not create an immediate need to balance the ratio as discussed above. Lending will not have to be reduced and the banking sector will not exacerbate the slowdown. Whether or not banks have an incentive to hold this extra capital is an important question. If the costs of falling below the 8 percent minimum are substantial, banks will be more likely to hold buffer capital to avoid these costs.

The potential problems created by procyclicality are major. Capital adequacy requirements will likely force banks to reduce lending during an economic downturn, which will further slow down the economy. The increased risk sensitivity proposed by Basel II makes this problem even more likely. This exacerbation of the business cycle undoubtedly will create instability in the financial system. The extent to which procyclicality will be a problem remains to be seen. Much of its impact depends on how the Basel Committee's recommendations are implemented by regulators and followed by banks. But it is clear that procyclicality has the potential to eliminate the majority of the stability gains that Basel II seeks to achieve.

References

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Appendix

Figure 1 – Risk weights under the new standardized approach (percentage)

	AAA to AA-	A+ to A-	BBB+ to BBB-	BB+ to BB-	B+ to B-	Below B-	Unrated
Sovereigns	0	20	50	100	100	150	100
Banks 1	20	50	100	100	100	150	100
Banks 2							
< 3 months	20	20	20	50	50	150	20
> 3 months	20	50	50	100	100	150	50
Corporates	20	50	100	100	150	150	100

Source: Jackson (2001).