A Few Observations on Professor Stein's Remarks Last Week at the Brookings Institution

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On a Brookings Institution webinar last week, Harvard Professor Jeremy Stein called for a ban on dividend payments by all banks, large and small, irrespective of each bank's current capitalization and future prospects. Going further, he argued that all banks should be required to raise new capital immediately. He based these recommendations on the results of a simple, theoretical model; anecdotes about the 2007-09 crisis and experiences in other countries; and statistical projections of banks' future capital levels if conditions get much worse.

In this note, we argue that Professor Stein’s recommendations for banks to ban all dividends and share repurchases and to raise new equity are incorrect. First, the theoretical model is too simplified to be a reliable guide for major policy changes. Second, we discuss how anecdotes regarding the ban on dividends during the 2007-09 crisis and in other jurisdictions during the current crisis are incorrectly interpreted. Lastly, we show that the “more adverse” scenario used in the “table-top COVID Stress Test” – which assumes the unemployment rate reaches 28 percent later this year – is implausible and therefore does not constitute strong evidence to support the recommendations.

THE MODEL

In the webinar, Professor Stein presented the policy recommendations from a simultaneously released Brookings working paper that he coauthored with Harvard Professors Samuel Hanson and Adi Sunderam, and the doctoral student Michael Blank. The paper states that “…regulators should simultaneously require banks to raise new dollars of equity and relax capital ratio requirements following an adverse shock.” (p.10). In the paper, the authors indicate that they reach this conclusion using a conceptual framework “…drawing heavily on Greenwood et al (2017)…”. Greenwood et al (2017) was authored by Hanson, Stein, and Sunderam as well as Harvard Professor Robin Greenwood and was presented at the Brookings Institution in September 2017.

The model results supporting Professor Stein's recommendation are in Greenwood et al (2017). The model presented in that paper consists of two parties (1) a single bank (representing all banks) that chooses quantities of different types of lending and its level of capital and (2) a social planner who seeks to maximize the social value of lending less the social costs of bank equity and bank failures. The authors indicate that the social costs of equity arise because higher equity means lower short-term bank debt and deposits, which businesses and households value they provide valuable monetary services.

The authors use the model primarily to demonstrate that under certain conditions, a single, well-chosen capital requirement is superior to multiple requirements, but near the end of the paper, they evaluate the implications of the model for the optimal regulatory response to an adverse shock, such as the current pandemic. Under the assumptions of the model, the bank always chooses to lend the full amount allowed given regulatory requirements and its level of capital, and the authors assume the social planner can pick those requirements and the dollar amount of the bank's capital, so the bank's views on the matter can be
(and largely are) ignored. Not surprisingly, when bank capital is depleted by an adverse shock, in order to avoid a sharp drop in lending the social planner reduces capital requirements and forces the bank to raise new equity and stop paying dividends.

Economists use models to think through problems and communicate with each other but generally do not argue for material policy changes based on a single and simple model alone. In this instance, the conclusion that banks should stop paying dividends and share buybacks, as well as raise new equity, overturns the entire logic behind the countercyclical elements of the international regulatory regime developed over the past decade. Thus, it is important to consider what the model does not include (in addition to an empirical basis): most importantly the model excludes, (1) a regulatory regime that forces banks to reduce equity distributions when they move below buffers set above minimum regulatory capital requirements; (2) the social costs of all banks simultaneously issuing a large amount of equity after experiencing a negative shock; (3) changes in investors’ perceptions of the value of banks’ equity in reaction to a policy of always banning dividends and forcing new equity issuance in bad times, even when banks are in compliance with all existing regulatory capital requirements; and (4) banks changing their behavior in reaction to the new policy of forcing them to issue equity and stop paying dividends in bad times.

Bank capital regulations are inherently procyclical. Capital requirements and stress tests are designed to put an upper limit on the probability of bank failure. Because banks' profitability and loan portfolios tend to be stronger in good times and weaker in bad times, without countercyclical elements, capital requirements and stress tests get tighter in bad times and easier in good times, amplifying booms and busts. For these reasons, the Basel III capital framework includes a capital conservation buffer (CCB) of 250 basis points (soon to be replaced in the United States by a stress capital buffer at least as large for every covered bank) that banks are intended to draw down to support lending in bad times, while still remaining above minimum capital requirements. The Basel framework also includes a countercyclical capital buffer (CCyB) that can be raised and lowered to reduce countercyclicality, and a global systemically important bank (GSIB) capital buffer that applies to the largest banks that is added to the CCB and CCyB to determine the total amount of the buffer that can be drawn down by the bank in bad times. In addition, the Federal Reserve's stress test scenarios automatically assume the unemployment rate increases by more in good times and less in bad times.

Despite these and other elements of the capital regime, the general consensus is that capital regulations remain procyclical in part because banks do not wish to incur the reputational costs and other restrictions (including dividend restrictions) that come with drawing down a capital buffer. Examples include the model-based risk weights used by the largest banks to calculate capital requirements for credit and market risk, which are prone to increases when financial markets become more volatile or the creditworthiness of banks’ counterparties deteriorate, the current expected credit loss (CECL) accounting standard – which despite the temporary capital relief remains procyclical – and, to be credible, stress tests must be based on an economic scenario that is at least somewhat more severe than the baseline outlook.

All those pro-cyclical problems go away, however, if one simply assumes, as the Stein et al. model does, that there are no social costs or economic consequences for making banks raise more capital immediately whenever capital is depleted by unforeseen widespread losses.¹ Those struggling over the past decade to develop mechanisms to reduce procyclicality have instead been focused on encouraging banks to build up capital in good times, not bad times, when it is less costly for banks to do so (see Yang and Tsatsaronis, 2012). Moreover, one of the first principles of finance is that investors value most highly assets that pay off when times are lean, not when times are fat, so investors would seem likely to find bank stocks less valuable

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¹ Indeed, in the limit, banks would not need to hold more than a sliver of capital because they could sell equity immediately whenever encountering a loss.
if they knew dividends would always be cut in bad times, raising banks’ cost of capital permanently.\(^2\) As assumed and shown in the entire economic literature on optimal capital regulation, facing a higher cost of capital, banks would reduce lending. Although Professor Stein proposes that all banks, irrespective of their capital positions, be required to stop paying dividends and issue new equity when there is a bad shock, any bank falsely thinking that it might get out of these costly consequences by maintaining capital levels far above requirements would treat the new rules like any increase in capital requirements—by lending even less.

**ANECDOTES AND OTHER COUNTRIES’ EXPERIENCE**

Frequently, economic models are used to support a conclusion already reached through experience, judgment, anecdote, and intuition. Blank et al (2020), for instance, argue that an important lesson from the 2007-09 financial crisis was that banks should be forced to raise capital in response to a negative shock. Specifically, they note that the crisis began in August 2007 and intensified in March 2008 and argued that “With the benefit of hindsight, it seems clear that the GFC would have been less severe if regulators had acted earlier, by clamping down on payouts and compelling more common equity issuance.”\(^3\)

However, not only was the financial crisis largely unforeseen in its entirety, it included false dawns followed by extraordinary intensifications. The events between August 2007 and March 2008 were, by themselves, the worst financial crisis since the Great Depression, but they seem mild in retrospect viewed through the devastation caused by the Lehman failure and the Reserve Fund breaking the buck. “With the benefit of hindsight” it would have been even better if banks had raised capital in the first half of 2007, but that doesn’t provide helpful guidance for public policy unfolding in real-time. Without the benefit of hindsight, we do not know now whether we are currently in April 2008, with the worst of the pandemic crisis still to come, or April 2009, with the crisis largely behind us and recovery beginning.\(^4\)

In Greenwood et al (2017), the professors also invoke the Supervisory Capital Assessment Program (SCAP), the stress-test conducted by the Fed in early 2009, as an illustration of a successful policy of forcing banks to raise equity and stop paying dividends in the wake in of a severe negative shock.

Our model suggests that in the wake of a large negative shock to the banking system, the optimal response involves both (i) allowing required capital ratios to decline temporarily and (ii) compelling banks to cut their payouts and issue new external equity. The latter of these is particularly important, and indeed was one of the central design features of the 2009 SCAP. It is therefore crucial that the CCAR process and infrastructure be designed in such a way as not to devolve solely into an appendage to capital ratio regulation in normal times, but rather also stand ready to implement a SCAP-like recapitalization of the industry when the time comes. (p. 522)

However, in the discussion of the paper at the Brookings Institution, Philip Swagel, who was Assistant Secretary of the Treasury for Economic Policy during the financial crisis and whose plan to recapitalize the financial system became the basis of the Troubled Asset Relief Program (TARP), pointed out that banks that received TARP funds were *not* required to stop paying dividends and that doing so would have been detrimental:

\(^2\) While we are aware of the financial theorem that dividend policy is irrelevant to equity valuation, we assume its violation is a given in the case of a policy discussion about whether dividends should be allowed or banned.

\(^3\) See, Blank et al (2020) p.4.

\(^4\) As we demonstrated in our analysis of the new Current Expected Credit Losses (CECL) standard for treating loan losses in Covas and Nelson (2018), judgments on cyclicality based on assumptions of perfect foresight can be, and have subsequently proven to be, spectacularly wrong.
Swagel agreed with the authors that the stress tests had been valuable, but thought the paper missed the point of why the initial test in 2009 was so successful in a way that made the episode less instructive for their purpose. The situation in 2009 was that capital raising by banks stopped as policymakers discussed in public whether large institutions should be nationalized. The first stress test results in May 2009 provided an “all clear” signal that it was safe to invest in the industry again. That is, the stress tests offset a policy error. In the other direction, the ex post criticism that policymakers during the crisis should have required firms to stop paying dividends to shareholders is incomplete. (The Troubled Asset Relief Program did not freeze dividend payouts, but only prohibited increases in dividends.) Had dividends been frozen, it could actually have made it harder for firms to raise new capital—dividends were a key component of crucial capital raises, such as Warren Buffett’s September 2008 investment in Goldman Sachs. [need a full cite in footnote] (pp. 560-561).

Blank et al. (2020) also note that supervisors may have been slow in preventing capital distributions during the 2007-09 financial crisis because “…in periods of rapid change, regulatory ratios based on backward-looking accounting values can be particularly misleading…” However, in response to that concern, the Financial Accounting Standards Board has completely changed how banks account for loan losses, requiring banks to take reserves for projected lifetime losses on each loan based on the current economic outlook. The CECL accounting standard for treating loan losses replaced the incurred loss methodology on January 1, 2020 and as a result banks increased their allowance for credit losses $67 billion, and more than half was in response to the worsened economic outlook.

In Professor Stein’s remarks last week, he also cited the fact that the United Kingdom and the European Union have made banks stop paying dividends as supporting his advocacy for a similar dividend ban in the United States. The comparison is not particularly relevant, however, when one considers that large U.S. banks have all ceased their share repurchase program. As noted by Greg Baer, CEO of the Bank Policy Institute, in the Financial Times: “While US banks in 2019 accomplished approximately 73 percent of capital distributions through share repurchases and only 27 percent through dividends, European banks distributed 4 percent through buybacks and 96 percent through dividends.” Moreover, the European experience may be more a cautionary tale than an example to be emulated. As Baer goes on to observe, “The UK’s Prudential Regulation Authority announced its dividend ban on March 31, which increased the combined book value of UK banks by about £8bn. But at the opening of markets the following day, the market value of the relevant UK banks fell by £35bn, or £43bn including the lost dividends, despite broader equity markets being generally flat.”

**TABLE-TOP COVID STRESS TESTS**

Professor Stein and coauthors also argue that banks need to suspend dividends and raise new equity based on the results of a “table-top COVID stress test.” The test projects the capital levels of banks under different scenarios for the future path of the economy. Under their “more adverse” scenario, several banks, including five of eight GSIBs, representing about 78 percent of bank assets, would have had a common equity tier 1 ratio moving below their minimum requirement (defined as 4.5 percent plus any applicable GSIB surcharge) at some point over the 9-quarter stress planning horizon.⁵

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⁵ Under the Fed’s regulatory framework, the GSIB capital surcharges are not minimum requirements but part of banks’ buffers over minimum capital requirements. On March 17, 2020, the three banking agencies issued a joint release that states: “These capital and liquidity buffers were designed to provide banking organizations with the means to support the economy in adverse situations and allow banking organizations to continue to serve households and businesses. The agencies support banking organizations that choose to use their capital and liquidity buffers to lend and undertake other supportive actions in a safe and sound manner.”

The “more adverse” scenario used for the projection assumes the unemployment rate will equal 26 percent in the second quarter of 2020 (it averaged 14 percent in April and May), followed by a further increase to 28 percent in the third quarter and back to 26 percent at the end of 2020. The other components of the scenario follow a path consistent with the assumed path of the unemployment rate. This scenario has an extremely low probability of occurring. For example, the scenario is considerably more severe than the worst projection for the unemployment rate of the more than 40 economists whose projections are reported by the Survey of Professional Forecasters. In the most recent release of the survey on May 15, 2020, the most pessimistic projection for the unemployment rate includes a sharp increase to 20.6 percent in the second quarter of 2020, rising further to 25 percent in the third quarter and ending at 20 percent at the end of 2020.

Two weeks ago, we conducted a similar table-top stress test (available here) using a set of models similar to those used by Blank et al (2020). For the macroeconomic scenario, we picked the most severe economic scenario designed by Moody’s Analytics. This scenario is designed so that there is only a 4-percent probability that the actual path for the economy will be worse. The scenario assumes a sharp increase in the unemployment rate to 20.5 percent in the second quarter of 2020, with the unemployment rate equal to 12 percent at the end of 2020. We found that 5 of 18 banks (accounting for 42 percent of bank assets) would move below their regulatory capital buffer requirements; however, so long as those banks maintained a suspension of share buybacks, none would come near their minimum common equity tier 1 capital requirement of 4.5 percent. Our results are broadly similar to the results of the “less adverse” scenario in Blank et al (2020).

These results show that the judgment about whether banks need to suspend all dividend distributions and raise new equity hinges importantly on the severity of the assumed stress scenario. As noted above, the standard view to prevent procyclical capital requirements is that in normal times the choice of the stress scenario should represent a low-probability tail event, but when the economy is in a recession the stress scenario should be closer to a “fair representation of reality” (Greenwood et al, 2017). For example, the severely adverse scenario in the SCAP had the unemployment rate peaking at 10.3 percent, only 50 basis points above the baseline outlook at the time and 30 basis points above the peak actual level. The “more adverse” scenario used by Blank et al (2020) has the unemployment rate peaking at 28 percent, more than 10 percentage points higher than the peak unemployment rate in recent consensus forecasts. By contrast, Moody’s Analytics most severe scenario has the unemployment rate peaking at 21 percent and includes a more reasonable, albeit still severe, deterioration of current economic conditions.

**CONCLUSION**

Professor Stein’s webinar presentation and Blank et al (2020) are both thoughtful and provocative analyses of the banks’ resilience to the COVID-19 crisis and the appropriate regulatory response. While the presentation and paper include serveral policy recommendations, several of which we agree with, we focus in this blog post specifically on their recommendation that all banks of all sizes, irrespective of their current capital condition or outlook, be restricted from paying dividends and be made to issue equity. As we discuss, a general policy banning dividends and forcing equity issuance whenever there is a serious adverse shock to the economy would make it more costly for banks to raise capital, reducing the supply of bank credit in good times and bad. Moreover, when we project bank capital levels using essentially the same models as Blank et

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6 The Fed’s description of the SCAP at the time states “...the more adverse alternative is not, and is not intended to be, a “worst case” scenario. To be most useful, stress tests should reflect conditions that are severe but plausible.” “The Supervisory Capital Assessment Program: Design and Implementation,” Board of Governors of the Federal Reserve System, April 24, 2009, p.5.
al. but with a severe but plausible scenario, we find that no bank would need to stop paying dividends to stay above regulatory minimums.

To be clear, we fully support restricting the dividend payments of any bank whose capital level or stress test results indicate such an action is required by regulation. We also understand the desire to avoid one of the critical supervisory mistakes of the past crisis – allowing some banks to continue to make capital distributions even after it was clear they were in trouble. However, the entire post-crisis regulatory framework has been designed to prevent that from occurring. And, contrary to Professor Stein, we observe recent economic developments and banks’ resilience as vindicating, rather than suggesting a need to revamp, the post-crisis regulatory regime. Unlike the 2007-09 crisis, in large part because of the post-crisis regulatory reforms banks have doubled their capital levels and quintupled their liquid assets. As a result, banks were able to almost immediately extend nearly $800 billion in credit to nonfinancial businesses and households in the first quarter, long before the Fed ramped up its emergency lending, without experiencing liquidity or counterparty credit concerns. Banks have been the heroes, not the villains, of the story.

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