Preface

In the aftermath of the Great Recession and the financial crisis that caused it, we need to construct the right regulatory framework for US and international banks. The crisis revealed woefully inadequate bank capital reserves for dealing with shocks, especially in the less regulated and supervised investment banking sector, and rectifying this weakness has been central to international reform efforts. Basel III, adopted in 2010, has substantially increased the amount of equity capital banks must hold, especially banks large enough to qualify as global systemically important banks (G-SIBs). In this book, Senior Fellow William Cline asks whether this aspect of reform has gone far enough. Cline works from first principles to identify the optimal level of equity capital for banks, given the real world trade-off between greater safety and sacrifice of potential output (because higher lending costs could curb new investment). He concludes that the Basel III capital requirements are insufficient and should be increased by about one-third to arrive at this optimal level—which he argues is the right balance for banks and the economy.

Some other leading experts insist that the new capital requirements for banks should be increased by several-fold rather than by a substantial but limited fraction. In part, they base their recommendation on a theoretical argument by Nobel economists Franco Modigliani and Merton Miller, who suggest that increasing capital has little or no cost. The Modigliani-Miller (M&M) theorem says raising the proportion of a company's financing from expensive equity capital, and reducing the proportion from cheaper debt, will not affect the company's average cost of capital: Modigliani-Miller asserts investors will reward the firm with a lower unit cost of equity due to a reduction in risk from lower leverage. If this theorem breaks down in practice, however, requiring banks to hold far higher equity capital would push up their average cost of capital and consequently their lending rates. The result would be to reduce new investment by firms and thereby reduce the future stock of capital and output capacity of the economy. In chapter 3, Cline tests the Modigliani-Miller theorem for US banks and finds that only about one-half of the M&M offset attains in practice, so additional equity capital is not costless to the banks or the economy.

In chapter 4, Cline goes on to examine the costs and benefits of additional bank capital given the practical limits of Modigliani-Miller. He first calculates damages from past banking crises to estimate the economy-wide benefits from reducing the chances of a crisis. He estimates that the typical total cost of a banking crisis, including long-term effects, amounts to about two-thirds of one year's GDP. He similarly estimates that in the past three decades the risk of occurrence of a banking crisis in the advanced industrial economies has been about 2½ percent annually. He then uses estimates compiled by international regulators to measure the responsiveness of this crisis probability to the level of bank capital.

On the cost side, with his estimate of the M&M offset in hand, Cline calculates the additional cost to banks, and thus to corporate borrowers, that are imposed by successively higher levels of bank equity capital. He estimates that an increase in equity capital of 1 percent of total bank assets reduces the long-term level of GDP by 0.15 percent. In his analysis, the optimal capital ratio occurs where the marginal benefits to the economy from crisis avoidance are just equal to the marginal cost to the economy from output sacrificed because of lesser capital stock formation. His calculations place the optimal ratio at 7 to 8 percent of total assets, corresponding to 12 to 14 percent of risk-weighted assets. Cline's theoretically grounded findings turn out by independent means to be at the same levels as the median results for 16 other leading studies. Basel III capital requirements for the large banks, however, are slightly less than 10 percent of risk-weighted assets, so still too low.

The Institute has a long history of undertaking relevant policy studies on bank regulation as well as on financial stability more broadly. These studies include Cline's own books, *International Debt: Systemic Risk and Policy Response* (1984), *International Debt Reexamined* (1995), and *Financial Globalization, Economic Growth, and the Crisis of 2007-09* (2010); and Morris Goldstein's 1997 book *The Case for an International Banking Standard*, 1998 book *The Asian Financial Crisis: Causes, Cures, and Systemic Implications*, and 2017 book *Banking's Final Exam: Stress Testing and Bank-Capital Reform*. Other recent works include *Responding to Financial Crisis: Lessons from Asia Then, the*

United States and Europe Now (2013) edited by Adam Posen and Changyong Rhee, *From Stress to Growth: Strengthening Asia's Financial Systems in a Post-Crisis World* (2015) edited by Marcus Noland and Donghyun Park, and a number of shorter studies by Anna Gelpern, Simon Johnson, Adam Posen, Edwin Truman, and Nicolas Véron on financial stability and bank reform in the European Union and the United States.

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Adam S. Posen
President
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