

## THE EMERGENCE OF SYSTEMIC FINANCIAL RISK

# FROM STRUCTURAL ADJUSTMENT (BACK) TO VULNERABILITY REDUCTION

BY ONUR OZGÖDE

**FROM THE EARLY 1980S**, national financial systems began to play an increasingly important role in the creation and distribution of wealth in modern capitalist economies. This structural transformation was celebrated by macroeconomists and policymakers, known as monetarists and neo-liberals, as a crucial step toward achieving sustainable and long-term economic growth, free of periodic recessionary disruptions due to cyclical adjustments in the structure of the economy. While this reform strategy proved to be successful in terms of minimizing both the frequency and the disruptive effects of recessions, it has brought into being a pathology of its own in the form of systemic financial crises.<sup>1</sup> At this juncture, financial catastrophes manifested themselves as the most serious threat not only to financial and macro-economic stability, but to socio-economic prosperity as well. In response to this new governmental problem, systemic risk emerged as the key governmental concept that animated recent regulatory initiatives to prevent and mitigate such catastrophes in the future.

The term systemic risk was coined at the onset of the Latin American debt crisis of the early 1980s by William Cline, an international economist who was a senior fellow at the Institute for International Economics at the time. The Institute, now the Peterson Institute for International Economics, was founded in 1981.<sup>2</sup> Circa 1979-80, Fred Bergsten, then the Assistant Treasury Secretary for International Affairs in the Carter

administration, developed the initial blueprints of the Institute in response to a call from the German Marshall Fund (GMF). Bergsten, who had been a collaborator of Cline's at the Brookings Institution in the mid-1970s, had coordinated American foreign economic policy as Henry Kissinger's assistant for international economic affairs at the National Security Council (NSC). By the end of the decade, he had established himself as a leading policymaker with an expertise in international economics. After securing a \$4 million grant from GMF (more than half of GMF's total budget) with the support of George Schultz, Nixon's Treasury Secretary who would soon become the Secretary of State under Reagan, Bergsten became the Institute's first and only director.<sup>3</sup>

The inception of the idea of founding the Institute can be traced back to an academic article co-authored by Bergsten and Cline in 1976. In this piece, entitled "Increasing International Economic Interdependence," the authors warned that growing interdependence between national economies was making them more vul-

nerable to external events such as oil, food and raw materials price shocks. Because such irregular disturbances were having increasingly destabilizing effects on economies, they called for macroeconomic models that would incorporate the foreign sector in more meaningful and detailed ways (Bergsten and Cline 1976). Indeed, American political and economic power was confronted in this decade with extraordinary and unforeseeable challenges. The collapse of the

Bretton Woods fixed exchange rate system in 1971 turned out to be a major destabilizing force on the global monetary system and was followed by repeated and sharp declines in the value

of the dollar throughout the 1970s. The emergence of OPEC in 1965 and the following two oil shocks, the first in 1973 and the second in 1979, demonstrated the vulnerability of the US economy to energy shocks. In light of these events, the Institute's main agenda was to shape policymaking on international economic issues that affected US foreign policy and the economy. The Latin American debt crisis, in this context, was

## Fred Bergsten

Ph.D. in Economics 1969  
Fletcher School of  
Law & Diplomacy, Tufts University

### Position at the Petersen Institute:

- Founding Director (1981- )

### Trajectory Leading to the Institute:

- Assistant to Henry Kissinger, National Security Council, (1969-71)
- Senior Fellow, Brookings Institution (1972-76)
- Assistant Treasury Secretary for International Affairs, (1977-81)
- Undersecretary of Treasury for Monetary Affairs (1980-81)

**Other positions held while at the Institute:** unknown



<sup>1</sup> Former Chairman of the Federal Reserve Board Allan Greenspan's arguments in favor of financial deregulation and increased financial flexibility was probably one of the best exemplars of this position. See (Subcommittee on Telecommunications and Finance of the Committee on Energy and Commerce 1994; Greenspan 2005).

<sup>2</sup> According to its website, Peterson Institute tied as the top think tank in the world in 2008 in a survey of more than 5,000 similar institutions in the world (<http://www.iie.com/institute/aboutiiecCfm>).

<sup>3</sup> Other actors crucial in this process were his two close friends: New York Fed President Anthony Solomon and the Chairman and CEO of Lehman Brothers Peter Peterson. While Peterson, who had worked with Bergsten in the White House as an assistant to Nixon on international economic affairs, became the founding President of the Board of Directors, Solomon assumed the chairmanship of the Board's Executive Committee. Richard Cooper, a former NSC consultant and the Undersecretary of State for Economic Affairs in the Carter administration, was chosen to direct the Advisory Committee. See the biographies of actors on the Institute's website ([www.iie.com](http://www.iie.com)) and Fred Bergsten's 25th anniversary celebration essay (Bergsten 2006).

the Institute's first major opportunity to interject itself in a critical policy discussion in Washington (Bergsten 2006).

Cline's interest in sovereign debt was born out of his dissertation research on economic development in Brazil in the late 1960s.<sup>4</sup> For the United States Agency for International De-

### Peter G. Peterson

MBA 1951

University of Chicago

#### Position at the Petersen Institute:

- Founding President of the Board of Directors (1981-)

#### Trajectory Leading to the Institute:

- Assistant to the President for International Economic Affairs (Nixon, 1971-72)
- Secretary of Commerce (1972-73)
- CEO and Chairman of Lehman Brothers (1973-84)

#### Other positions held while at the Institute:

- Chairman of Council on Foreign Relations (1985-2007)
- Chairman of the New York Fed's Board of Directors (2000-04)



velopment (USAID), he coauthored two papers, one in 1969 and the other in 1971, on debt servicing and rescheduling by LDCs. These reports focused on 17 countries (8 of which were Latin American), since these nations accounted for more than half of the total foreign assistance received from developed countries in the previous decade (in absolute terms) and 15 of which were among the top 20 in this category. Debt servicing problems by these countries had begun to become an increasingly common phenomenon since the mid-1950s.<sup>5</sup> USAID contracted Cline to develop a measure for the capacity of a sovereign to service international debt and thereby construct a composite early warning indicator for predicting difficulties in debt servicing. Cline



### Anthony Solomon

Ph.D. in Economics 1949

Harvard University

#### Position at the Petersen Institute:

- Chairman of the Board's Executive Committee (1981-2005)

#### Trajectory Leading to the Institute:

- Deputy Assistant Secretary of State for Latin America (Kennedy, 1963-65)
- Assistant Secretary of State for Economic Affairs (Johnson, 1965-69)
- Undersecretary of the Treasury for Monetary Affairs (Carter, 1977-80)
- President of the New York Fed (1980-85)

#### Other positions held while at the Institute: unknown

applied a statistical technique called "discriminant analysis" on historical data on instances of debt servicing delinquencies by these countries.<sup>6</sup> He used the technique to determine which macroeconomic variables, such as debt servicing ratio (the ratio of debt service to exports) and the growth rate of exports, could be considered indicators with high predictive power (Frank and

Cline 1971:329; Frank and Cline 1969).

In this line of work, Cline was not only silent on the possibility of a sovereign debt default as the outcome of debt servicing difficulties, but had also failed to consider the catastrophic and systemic effects of such an objective potentiality. Regardless of whether systemic risk was or was

not intelligible to Cline at this juncture, the reason why he did not problematize systemic risk was that the scale of debt accumulated by LDCs at the time was objectively not that great. The main obstacle ahead for the sovereigns' ability to accumulate excessive levels of debt was the structural proper-

ties of the Bretton Woods monetary system within which the debt had to be accumulated. Thanks to the strict safeguards and regulations based on the core principle of the system, namely the Gold Standard, sovereigns were forced to adjust their monetary and exchange rate policies automatically before debt accumulation reached critical levels. Because this mechanism of automatic adjustment was supposed to ensure that the overall debt level always stayed low enough so that insolvency would not

be a serious risk to the system, it was normal for Cline to consider a sovereign default virtually impossible. In this system of correlation, debt problems were framed almost always as one of (il)liquidity where the debtor would simply restructure the terms of its debt obligations through relief negotiations with the lenders. The challenge confronting policymakers, thus, was not to prevent a catastrophic default, but to ensure that such renegotiations would not become institutionalized as a commonly accepted practice inherent to the practice of acquiring sovereign international debt.

When Cline revisited the problem a decade later and introduced the term systemic risk for the first time in his 1984 book *International Debt: Systemic Risk and Policy Response*, a likely sovereign default and its potentially catastrophic

consequences for both the American and global financial systems were at the forefront of his agenda. Cline's book was an extended version of a previous paper he had published in the spring of 1982, only a few months before Mexico's call for a moratorium on its debt payments. With its curious title "External Debt: System Vulnerability and Development", this paper not only anticipated Cline's articulation of systemic risk as a formal concept in the coming years. It also marked a shift in his focus on and analysis of sovereign debt as a problem.

In the midst of the concerns over the ability of developing nations to service international debt without defaulting, Cline asked whether the global financial system would collapse "if there were a shock to the system from an interruption in the servicing of debt by developing countries." To answer this question, he first analyzed the historical aggregate trend in early warning indicators for creditworthiness and

### William R. Cline

Ph.D. in Economics 1969

Yale University

#### Position at the Petersen Institute:

- Senior Fellow (1981-)

#### Trajectory Leading to the Institute:

- Deputy Director of Development and Trade Research, Office of the Assistant Secretary for International Affairs, US Treasury (Nixon, 1971-73)
- Senior Fellow, Brookings Institution (1973-81)

#### Other positions held while at the Institute:

- Deputy Managing Director and Chief Economist, Institute for International Finance (1996-2001)



debt servicing for all non-oil developing countries, including Mexico. While there was no sign of deterioration in servicing ability at the aggregate level, the same could not be said for Brazil and Mexico, the two largest individual holders of debt that had enough accumulated debt to affect the entire system. Under the scenario of normal economic growth, sustained export-import balance and stable oil prices, Cline's model did not predict any problems. However, under two other stress scenarios in which oil prices either rose or declined, his model did forecast debt servicing ratios to increase rapidly as the export performance of both countries were highly sensitive to fluctuations in oil prices (Cline 1982: 6-7). Neither of these two scenarios was soothing.

In the late 1960s and early 1970s, Cline had conceptualized debt servicing delinquencies primarily as a problem of liquidity and consequently had deployed a kind of analysis that was backward looking and correlational in its logic. But this risk assessment technique was no longer useful in a situation where not only was the scale

4 His dissertation was on the impact of land reform on the productivity of the agricultural sector in Brazil (Cline 1969).

5 In the 1960s, 11 of these countries had experienced severe debt servicing problems 21 times, and Cline's forecasts would reveal all 17 were likely to have recurring rescheduling problems by the early 1980s.

6 Discriminant analysis was initially developed in biological and behavioral sciences, i.e. eugenics, in the 1930s for classifying a set of observed phenomena into classificatory categories based on each observation's individual characteristics. Between the 1940s and the 1960s, it was applied to consumer finance for predicting the risk of credit and financing delinquencies. It was specifically developed for predicting the occurrence of regular and frequent abnormalities that are normally distributed. Interestingly enough, Edward Altman, a contemporary of Cline who is now a pioneer in financial counterparty risk management, was utilizing this technique around the same time for measuring the risk of a firm failing, which was by nature an irregular and infrequent tail risks that are not normally distributed (Altman 1968: 591).

7 While a rise in oil prices would increase the costs of Brazilian exports, a fall would cause Mexico's oil-based export strategy to fail (Cline 1982:4).

of debt accumulated within the system much greater, but also the structural properties of the system in which debt was accumulated constituted an environment of irreducible uncertainty for the lenders. In the world of post-Bretton Woods, there were neither set limits to the accumulation of sovereign debt nor an automatic

system's resilience increased to sufficient levels so that the system was robust enough to absorb and survive such a shock.

Cline conducted vulnerability assessment based on two factors: the sheer size of debt held by the debtor countries and the exposure of commercial banks to these countries. While the nine largest US banks had an exposure of 227.7 percent of their capital to these countries in 1981, 80 percent of this exposure was to Brazil and Mexico. Thus, a default by either would wipe out one-fifth of the large banks' capital, cause major liquidity problems, and force at least some into insolvency.<sup>8</sup> Although Cline had identified bank exposure to be the source of vulnerability, a year later in his 1983 study he added bank leverage as the final factor of vulnerability.

While the size of debt and the extent of exposure put the banking system at risk, the highly leveraged structure of the American banking sector in general meant that a collapse in one part of the system would cause a contagion and severely affect the entirety of the American financial system.

In this respect, Cline's conceptualization of systemic risk can be considered to be a constitutive moment from a genealogical perspective. Admittedly, it was simply too early for Cline to be able to identify the source of vulnerability as the system's high degree of interconnectedness in addition to the degree of leveraging within the system—as it has become clear with the financial crisis of 2008-9. Yet, to his credit Cline had realized that high leverage was enough to constitute certain clusters of banks as intrinsically vulnerable nodes within the system, which meant that the vulnerability of these nodes could be realistically characterized and analyzed without any reference to a specific external event. In the case of a failure in one or two critical nodes, a series of cascading failures could unfold within the banking system and cause a disruption in the flow of credit into the real economy. While Glass-Steagall's firewalls between different parts of the financial system could prevent the contagion from spreading from the banking system into other parts of the financial system, the failure of the banking system would be enough to instigate a deep recession, if not a full-blown depression.<sup>9</sup>

When the Latin American debt crisis finally came to a conclusion by the end of the 1980s, the problem of systemic risk was no longer at the forefront of the policy discussions on how to prevent a similar crisis in the future. In its stead, an alternative set of market-based policies gained currency under the banner of "Washington consensus." At the expense of Cline's structural vulnerability approach, this alternative programme of government intervention prioritized preventing the occurrence of external shocks through structural adjustment policies. These policies blamed governments for the structural distortions and market failures in the economy and thereby placed the burden of managing financial risks squarely on the shoulders of economic actors in financial markets (Williamson 1990; Williamson et.al. 1990). The financial crisis of 2008-9, however, revealed the limits of this preventative strategy of economic government. It proved that financial shocks were unpredictable and therefore unpreventable and that an exclusive focus on structural distortions and market failure was not sufficient to prevent such a crisis. Most importantly, it demonstrated the inability of economic actors to manage systemic risks that stem from structural vulnerabilities in a system. It is, thus, critical to recognize structural



### Richard Cooper

Ph.D. in Economics 1962  
Harvard University

#### Position at the Petersen Institute:

- Chairman of the Advisory Committee (1981-)

#### Trajectory Leading to the Institute:

- Senior Staff Economist, Council of Economic Advisors (Kennedy, 1961-63)
- Harvard Economics (1965-66)
- Consultant to National Security Council (Early 1970s)
- Undersecretary of State for Economic Affairs (Carter, 1977-81)

#### Other positions held while at the Institute:

- Chairman of Boston Fed (1990-92)
- Chairman of National Intelligence Council (1995-97)

adjustment mechanism similar to the Gold Standard. Moreover, sovereign debt was mistakenly discounted as "riskless" by almost all major lender American mega-banks. The combination of these factors meant that a single instance of a debt servicing problem in one of these two countries would be enough to trigger a cascade of sovereign defaults in Latin America and undoubtedly result in bringing down a significant portion of the American banking system.

Confronted with these transformations in the nature of the problem, Cline adopted a distinct form of analysis of financial crisis that was forward looking and analytical in its logic. At the core of this analysis was an analytical technique called vulnerability assessment. Just as in an "analysis of strategic defense," this technique was deployed for assessing the effectiveness of "[a] system's defense mechanisms" against an external event that was unpredictable and unpreventable. Rather than measuring the expected increase in the marginal probability of the occurrence of an event, i.e. an instance of delinquency in debt servicing, in the form of a calculable risk, vulnerability assessment constituted the structural vulnerability accumulated within a system as an object of governmental intervention and thereby tried to measure it as a function of the system's ability to survive the impact of a shock originating from such an event. The key objective in this form of analysis, thus, was the reduction of the system's vulnerability to an external and unpreventable financial shock that was likely to be triggered by a sovereign default in Latin America. The American banking system's vulnerability had to be assessed and the

### John Williamson

Ph.D. in Economics 1963  
Princeton University

#### Position at the Petersen Institute:

- Senior Fellow (1981-)

#### Trajectory Leading to the Institute:

- Economic Consultant to the UK Treasury (1968-70)
- Advisor to the IMF (1972-74)
- Various Academic Positions (1974-81)

#### Other positions held while at the Institute:

- Chief Economist for South East Asia at the World Bank(1996-99)



vulnerability as a distinct form of economic pathology and constitute it as the object of government intervention and regulation in order to ensure the resilience of the economy and the financial system against low probability and high impact shocks. The failure to do so will only lay the groundwork for more intense and frequent systemic financial crises in the future.□

**ONUR OZGÖDE** is a PhD candidate in Sociology at Columbia University.

<sup>8</sup> The total exposure of the system was 151.1 percent in 1981. In 1977, it was 131.6 and 188.2 percent for the entire system and the largest nine banks respectively (Cline 1982: 9).

<sup>9</sup> Under normal conditions what would be considered a benign piece of bad news could trigger a panic in bond markets that the overly indebted Latin American sovereigns were dependent on for financing their debt obligations. As the panic would quickly turn into a run on both the debt and the currencies of these countries, a series of sovereign defaults would ensue (Cline 1984).