"Thank you, Mr. Chairman and members of the Subcommittee. Along with my colleagues at the Stern School of Business at New York University, I have co-edited two books on the financial crisis. I have also co-authored research papers that help understand how the financial sector escalated its leverage before the crisis and what can be done about it in future. Much of what I say today is based on this research.

1. We seem to witness, on a somewhat regular basis, episodes in which financial intermediaries are all over-extending credit and are themselves funded with excess leverage. When the economic cycle turns downward, they fail in a wholesale manner, requiring massive government interventions. While leverage has its bright side in expanding finance for households and the real economy, its dark side is precisely this boom and bust cycle. Unfortunately, this dark side has become enduring. With each cycle comes in place more government intervention and guarantees of financial sector’s debt, some explicit (such as deposit insurance) and others implicit (such as “too big to fail” and “too systemic to fail”). The result is that financial firms find it cheap to borrow and pursue returns without sufficient regard for risks.

2. One of the most salient such episode was the period since 2004 during which the financial sector in the United States, and in many parts of the Western world, grew its balance-sheet at an unprecedented speed and did so mainly through leverage.
3. There were three primary failures that led to this escalation of leverage:

(i) access to government guarantees that were not paid for, especially for the commercial banks and government-sponsored enterprises;

(ii) ineffective enforcement that allowed bank regulation to be “arbitraged”, that is, circumvented, by a sophisticated financial sector; and,

(iii) in case of investment banks and the insurance sector, simply poor design of regulation.

The end effect of these failures was that large and complex financial institutions – 10 of which owned over 50% of financial sector’s assets – operated at historically high leverage, in some cases reaching 25:1, or in other words, 24 dollars of leverage on a 25 dollar balance-sheet.

4. Much of this leverage was undertaken in the “shadow banking world”, the less-regulated (or un-regulated) part of the financial sector. This part of the financial sector consists of off-balance sheet entities that are connected to, but do not appear on, bank balance sheets; borrowing and lending between financial firms including through “repos” or repurchase agreements; and, the over-the-counter derivatives. Much of this leverage was also short-term in nature, to be rolled over each night or week, and yet it funded long-term and illiquid assets such as sub-prime loans.

This exposed the financial system to great risk from a secular economic downturn. And, because the leverage was highly opaque, when financial firms failed, uncertainty about how losses would transmit to others paralyzed the system. In the end, the government and the Federal Reserve ended up bearing much of the losses.

5. What can be done to deal better with this boom and bust cycle of leverage in the financial sector? In interest of time, I will focus only on those regulatory options that directly deal with leverage in good times.
6. *First, current capital regulation does not take account of the leverage structure of a financial firm’s balance sheet.* This major shortcoming should be addressed, for instance, by imposing a tax on leverage; or better – by introducing upper limits on leverage (e.g., 15:1 or 18:1) as employed successfully in other countries such as Canada; or better still – by embedding leverage information in supervisory tests to assess whether banks can withstand extreme losses.

7. *Second, the regulation of the “shadow banking world” needs to be brought in line with the on-balance sheet regulation of financial firms.* Any attempt to regulate leverage that ignores the shadow banking world would only lead to further growth in off-balance sheet forms of leverage. In addition, greater transparency of the shadow banking world needs to be legislated so that regulators and market participants have timely and accurate information to understand, and if needed, restrict and discipline, the leverage of financial firms.

8. *And last, but not the least, the government should plan for a graceful exit from the large number of guarantees provided to the financial sector, not just as part of the rescue package in 2008 but from well before.* In particular, reform of the financial sector should also include reform of the government-sponsored enterprises. The GSE mandate should be restricted right away to the original one of guaranteeing only the highest-quality mortgages.