United States House of Representatives

Subcommittee on Capital Markets, Insurance, and Government Sponsored Enterprises

Credit Default Swaps on Government Debt:
Potential Implications of the Greek Debt Crisis

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Good morning Chairman Kanjorski, Ranking Member Garrett, and all members of the subcommittee. I am pleased to respond to your request to discuss credit default swaps on government debt, and the implications in particular for the Greek debt crisis and the Eurozone.

A credit default swap, or "CDS," is a derivative security. The buyer of protection pays an annual fee to the seller of protection, referencing a particular borrower such as Greece, and an amount of the borrower's debt. For example, if the agreed CDS rate is 5% and the amount of referenced debt is \$100 million, then the annual protection fee is \$5 million. In the event that the named borrower, say Greece, defaults on its debt, the seller of protection then gives the buyer of protection the difference between the referenced amount of debt and the market value of the defaulted debt. For

example, if the referenced \$100 million in debt defaults and as a result has a market value of only \$30 million, then the buyer of protection would collect \$70 million from the seller of protection. Credit default swaps are traded in the over-the-counter market.

As you know, some have raised concerns that speculation with credit default swaps is responsible for raising the borrowing costs of Greece, California, and other issuers of government debt. There is no evidence of this, and there is good reason to believe that this is not the case. The net amounts of credit default swaps referencing these issuers is a small fraction of the amounts of their debt outstanding. Even if all of the CDS trading is purely speculative, there is just not enough of it to move the needle very much. Indeed, from research I am doing with Professor Zhipeng Zhang of Boston College, there is no significant empirical relationship between the amounts of credit default swaps held on these issuers and their borrowing costs. (Our preliminary empirical results are summarized in figures presented at the end of my written testimony.) The borrowing costs of these issuers, like those of most other issuers, are largely determined by the market's perception of their ability to pay back their debt, and the willingness of the market to bear the risk of default. If bond issuers have a lot of debt relative to their resources for paying down the debt, then investors demand a high interest rate in compensation for bearing the risk of default. Bond investors have recently demanded a high interest rate from Greece because Greece has a fiscal deficit of 13.6% of its

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GDP, according to Eurostat data,[1] and has relatively little ability to repay its debt without assistance. It is hard to imagine how CDS speculators were responsible for Greece's decision to borrow more money than it could pay back.

If an investor who has bought protection on $100 million of Greek sovereign bonds decides to reduce its position to $30 million, it would enter a new offsetting credit default swap, to *sell* protection on $70 million of Greek sovereign bonds. The net position of the investor is then $30 million. Since November 2008, the DTCC has published the market aggregate of the net positions of CDS investors. Figure 1 shows these aggregate-market net CDS positions for five Eurozone countries whose indebtedness has been of concern: Italy, Spain, Portugal, Greece, and Ireland. Although these aggregate CDS positions have grown somewhat over the past eighteen months, the growth has not been especially volatile. Figure 2 shows, however, that the CDS rate for Greece has grown markedly in the past six months, in light of revelations about the true indebtedness of Greece, which had been obscured by reporting problems. The change in the CDS rate on Greek sovereign debt has served to alert investors that Greece may indeed have solvency concerns. Those CDS investors who first speculated that Greece had borrowed more than it could repay seem to have profited from this forecast. The recent decision of Greece to request special financing from Eurozone countries and the IMF

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[1]Eurostat has indicated the possibility of additional upward revisions of this estimate due to concerns over data quality.

was prompted by its difficulty in paying its debt. This external support for Greece does not, however, imply that Greece will avoid default. The CDS rate for Greece, a close proxy of its excess borrowing costs over those of Germany, has reached around 10% during the past few days.

Financial research has shown that sudden surges in demand for financial instruments, such as CDS, could temporarily raise the price of that instrument, if the surges in demand are large enough. Figure 4 shows that weekly increases in the net demand for CDS on Greece are relatively benign. Figure 5 shows that net CDS positions on Greece and other fiscally weak Eurozone sovereigns make up relatively small fractions of their outstanding debt. In any case, Professor Zhang and I have found no statistically significant relationship between weekly changes in net CDS positions and weekly changes in the CDS rates of Greece, Italy, Ireland, Portugal, or Spain. That is probably evident from the figures shown. (There is also no such relationship between changes in gross CDS positions and changes in the CDS rates of these countries.) Were such a statistical relationship to exist, it could reflect the increasing demands of hedgers for protection in the CDS market as the credit quality of the borrower deteriorates. Figure 10 shows that there is no relationship between aggregate net demand for CDS positions referencing California and the CDS rate for California.

The debt crisis faced by Greece has profound implications for other Eurozone countries. Eurozone governments issue debt in a common currency. If one of them is unable to pay its own debts, other Eurozone countries have an

incentive to come to the rescue in order to protect the stability of the Euro, on which they commonly depend. In the long run, however, there can be an erosion of the incentives of fiscally stronger Eurozone countries to support fiscally weaker Eurozone countries. Economists call this a "free-rider" problem. Each time a Eurozone country spends more than it can pay back, the fabric of the Eurozone is weakened. This is important to the United States because the stability of the Euro contributes to global economic growth and stability.

Regulations that severely restrict speculation in credit default swap markets could have the unintended consequences of reducing market liquidity, which raises trading execution costs for investors who are not speculating, and lowers the quality of information provided by credit default swap rates regarding the credit qualities of bond issuers. Regulations that severely restrict speculation in credit default swap markets could, as a result, increase sovereign borrowing costs somewhat. In any case, speculation could continue via short-selling of the underlying sovereign bonds, to the extent that the bond market is liquid.

Proposed reforms of the over-the-counter markets for credit default swaps and other derivatives will improve the safety and soundness of these markets. Data repositories will eventually give regulators the opportunity to police those who would manipulate these markets, or would take positions whose risks are too large with respect to the capital backing them. Central clearing, if done effectively, will also bring needed stability to this market. Transac-

tions price reporting will add additional transparency and improve market efficiency.[2]

Thankyou for the opportunity to present my views. I would be happy to address any of your questions.

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[2]See "Policy Perspectives on OTC Derivatives Market Infrastructure," by Darrell Duffie, Ada Li, and Theo Lubke, Federal Reserve Bank of New York Staff Report Number 424, Revised March 2010.
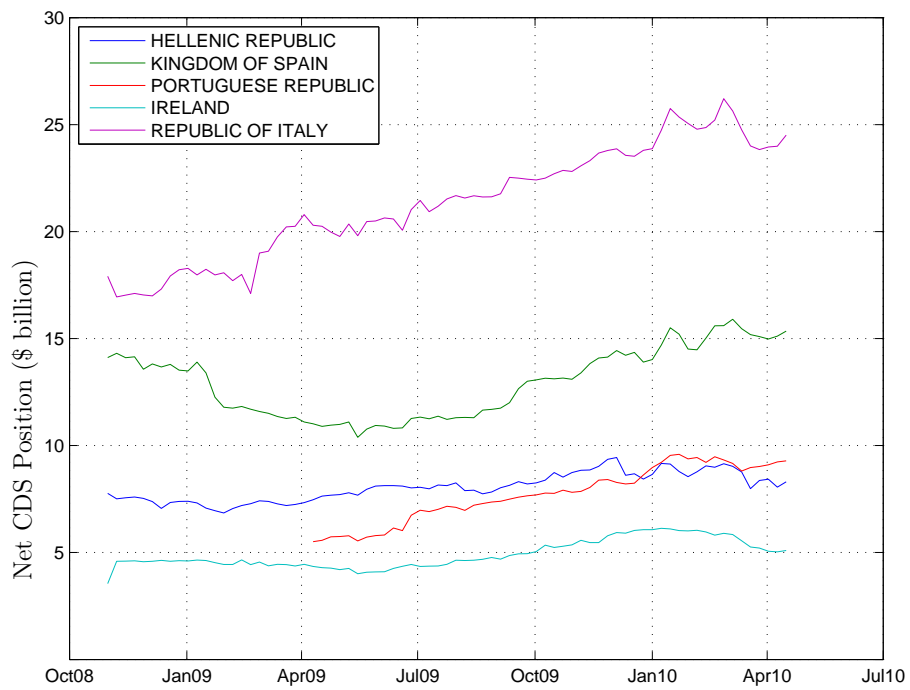
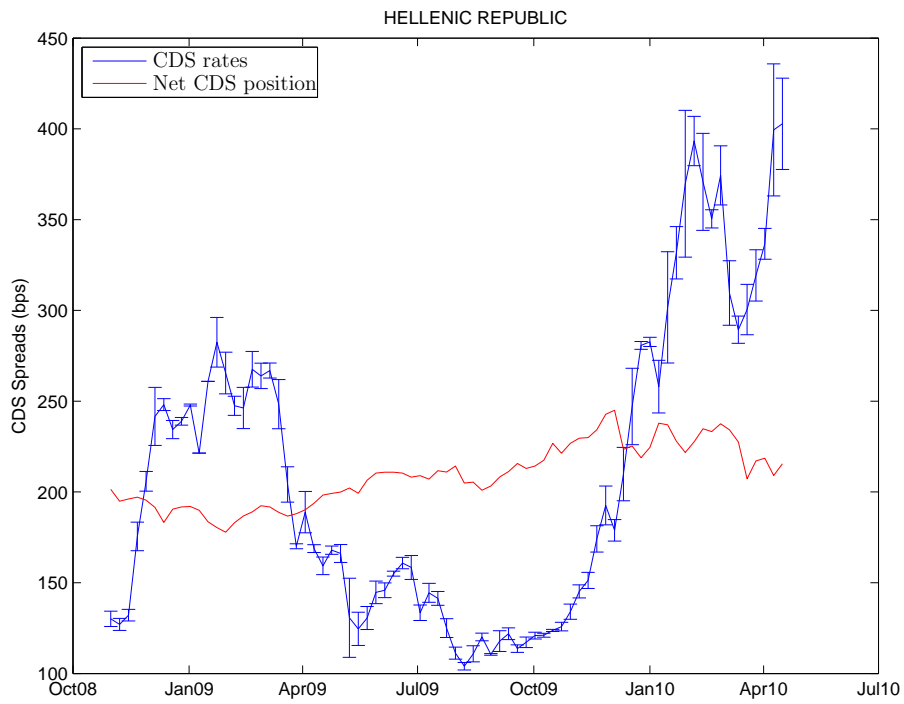Figure 1: Aggregate net outstanding CDS positions referencing Greece, Spain, Portugal, and Ireland.

Figure 2: Aggregate net CDS positions on Greece (DTCC data), and the 5-year CDS rate on Greek sovereign debt (Bloomberg data).
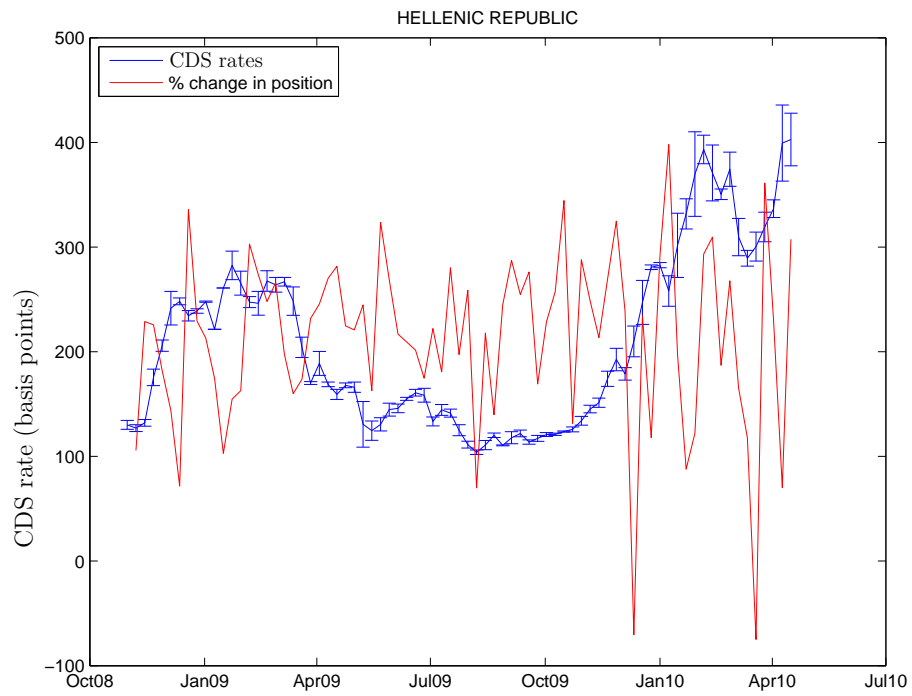
Figure 3: Percentage weekly changes in net CDS positions for Greece (DTCC data) and the 5-year CDS rate for Greece (Bloomberg data).
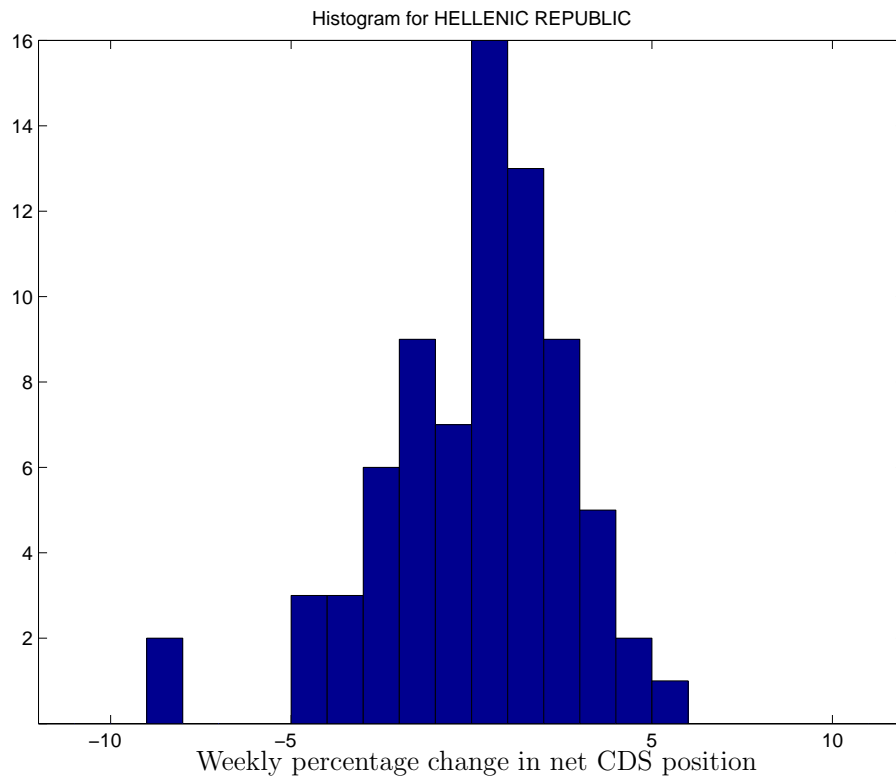
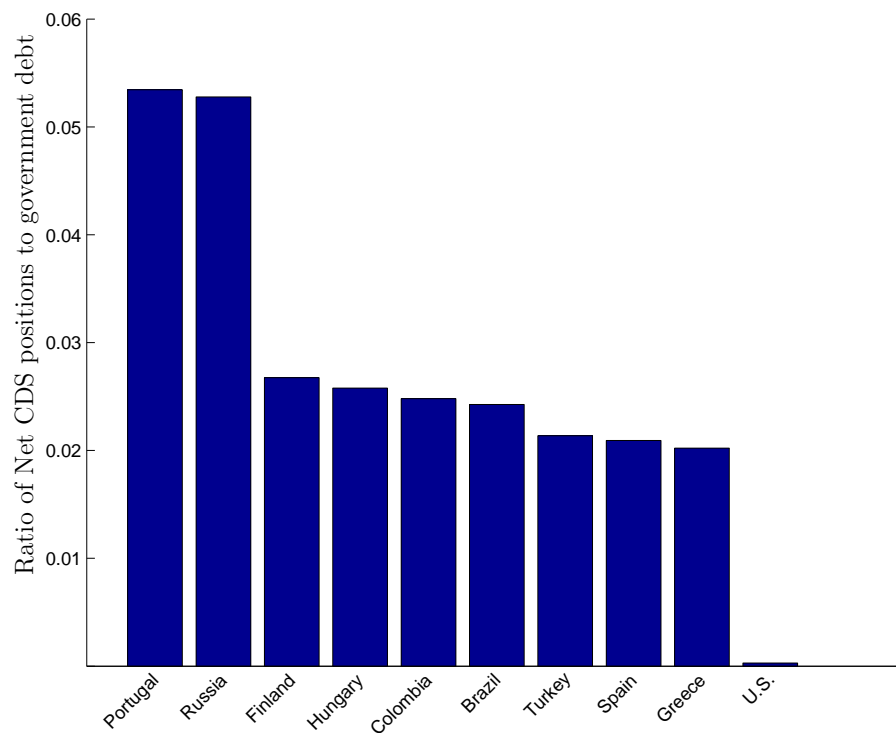Figure 4: A histogram of percentage weekly changes in aggregate net CDS positions on Greece, November 2008 to present.

Figure 5: The ratio of aggregate net CDS positions (DTCC data) to national debt outstanding (Bloomberg data).
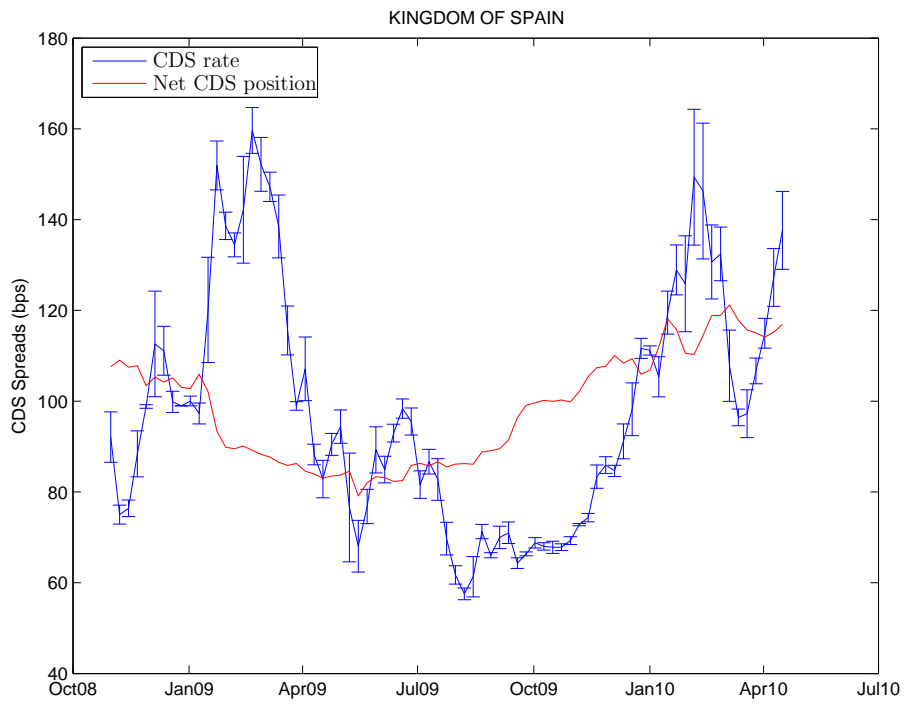
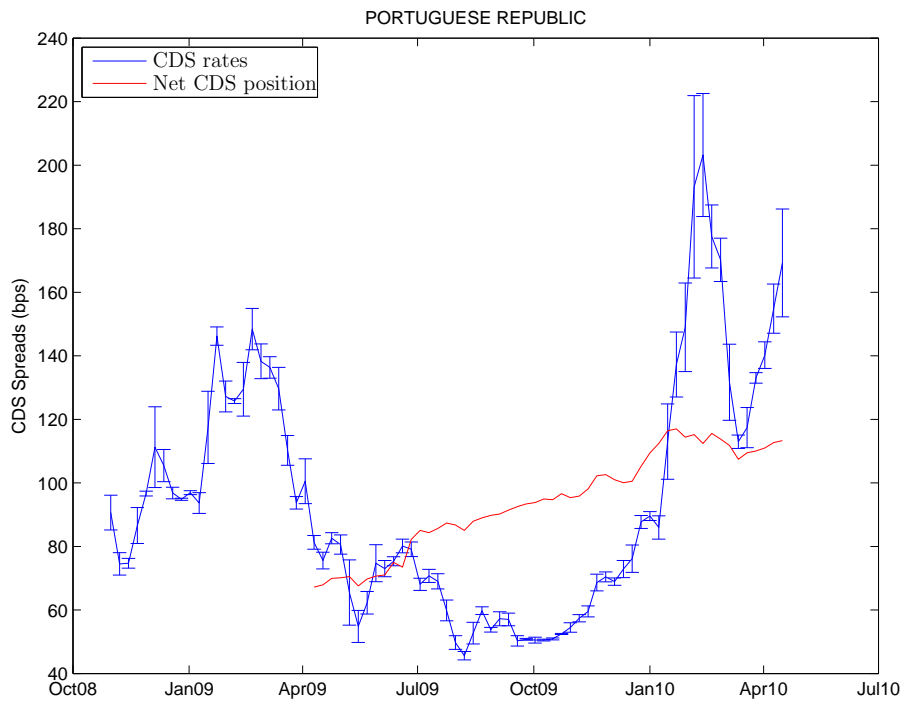Figure 6: Spain: Credit default swap rates (Bloomberg data) and aggregate net CDS positions (DTCC data).

Figure 7: Portugal: Credit default swap rates (Bloomberg data) and aggregate net CDS positions (DTCC data).
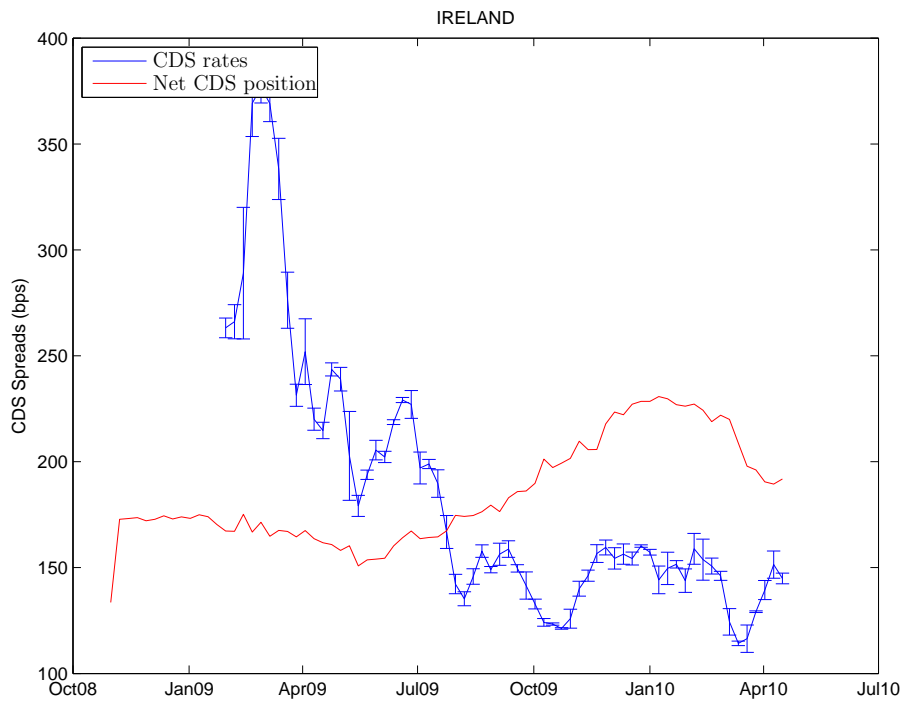
Figure 8: Ireland: Credit default swap rates (Bloomberg data) and aggregate net CDS positions (DTCC data).
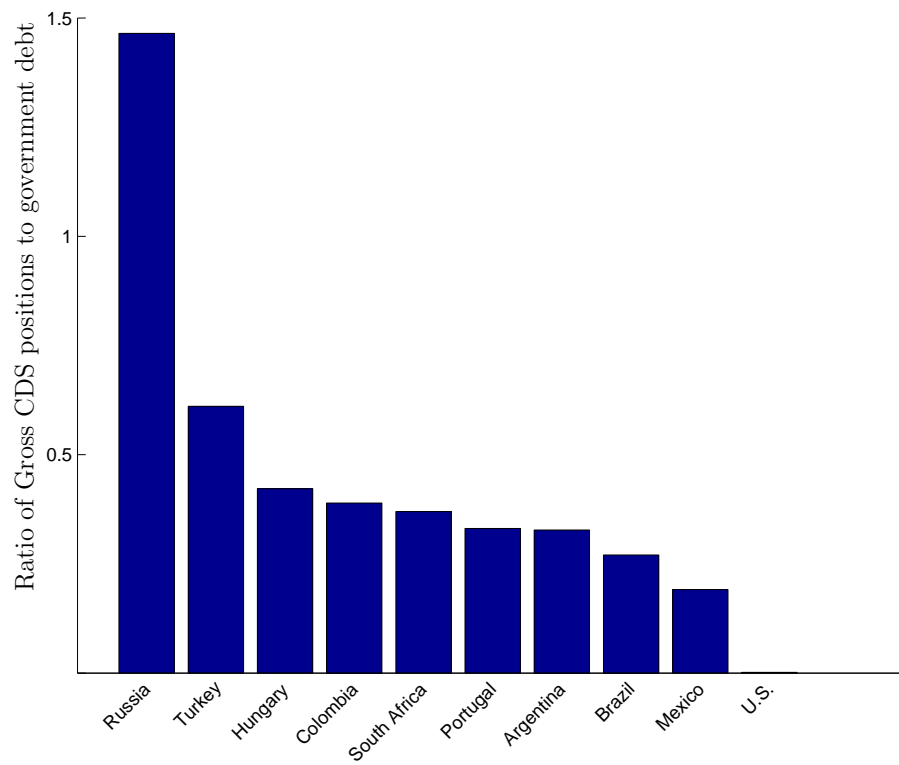
Figure 9: The ratio of aggregate gross CDS positions (DTCC data) to debt outstanding (Bloomberg data)
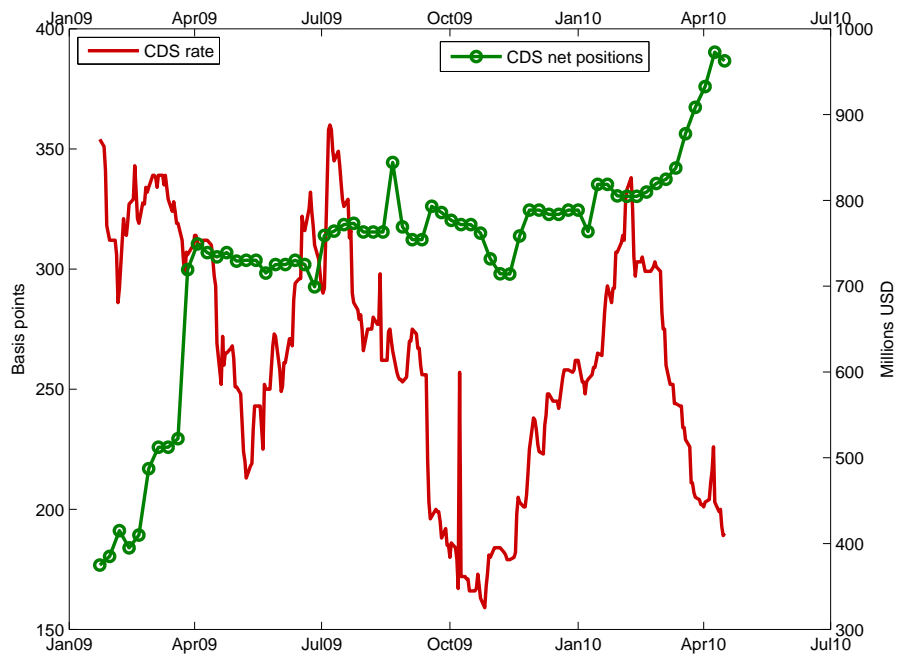
Figure 10: California: Aggregate net CDS positions (DTCC data) and CDS rates (Bloomberg data).