

THE PROSPECTS FOR GLOBAL FINANCIAL STABILITY

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FAILURE OF FINANCIAL INSTITUTIONS

- ▣ September 15, 2008 Lehman declared bankruptcy and the most severe events of the financial crisis began. Today the US economy has still not fully recovered.
- ▣ Should we rescue such firms? Should we have rescued Lehman?
- ▣ The U.S. had arranged an orderly rescue of Fannie Mae and Freddie Mac the week before and then saved AIG, Merrill Lynch, Citigroup, Bank of America, Morgan Stanley, and Goldman Sachs. Washington Mutual and Wachovia failed in the following days and weeks

WHY?

- ▣ If firms count on being rescued, they will take on too much risk.
- ▣ But, if we don't rescue important firms, then the economy may suffer.
- ▣ Is there another choice?

SYSTEMIC RISK

- ▣ Banks and other financial institutions take risks by borrowing money and investing it in loans and mortgages.
- ▣ Do they have an adequate capital cushion?
- ▣ The economy cannot function without financial institutions, so if they collectively take on too much risk, then the real economy is also at risk.
- ▣ Economists call this an externality and give it a name **SYSTEMIC RISK**.



TWO KINDS OF RISK

- ▣ INDIVIDUAL RISK
- ▣ SYSTEMIC RISK



GOAL OF REGULATION

SENSIBLE POLICY:
PREVENTION RATHER
THAN RESCUE



DEFINITION

- ▣ How much capital would a financial institution need to raise in order to function normally if we have another financial crisis?
- ▣ We call this SRISK.
- ▣ Principle investigators: Viral Acharya, Matt Richardson and me at the Volatility Institute at NYU's Stern School. Collaboration with HEC Lausanne and the Institute for Global Finance at University of New South Wales. Contributions by Christian Brownlees, Rob Capellini, Diane Perriet, Emil Siriwardane.
- ▣ References: Acharya, Pedersen, Phillipon, Richardson "Measuring Systemic Risk (2010); Acharya, Engle, Richardson "Capital Shortfall, A New Approach to Ranking and Regulating Systemic Risks, AEAPP (2012), Brownlees and Engle, "Volatilities, Correlations and Tails for Systemic Risk Measurement", 2010

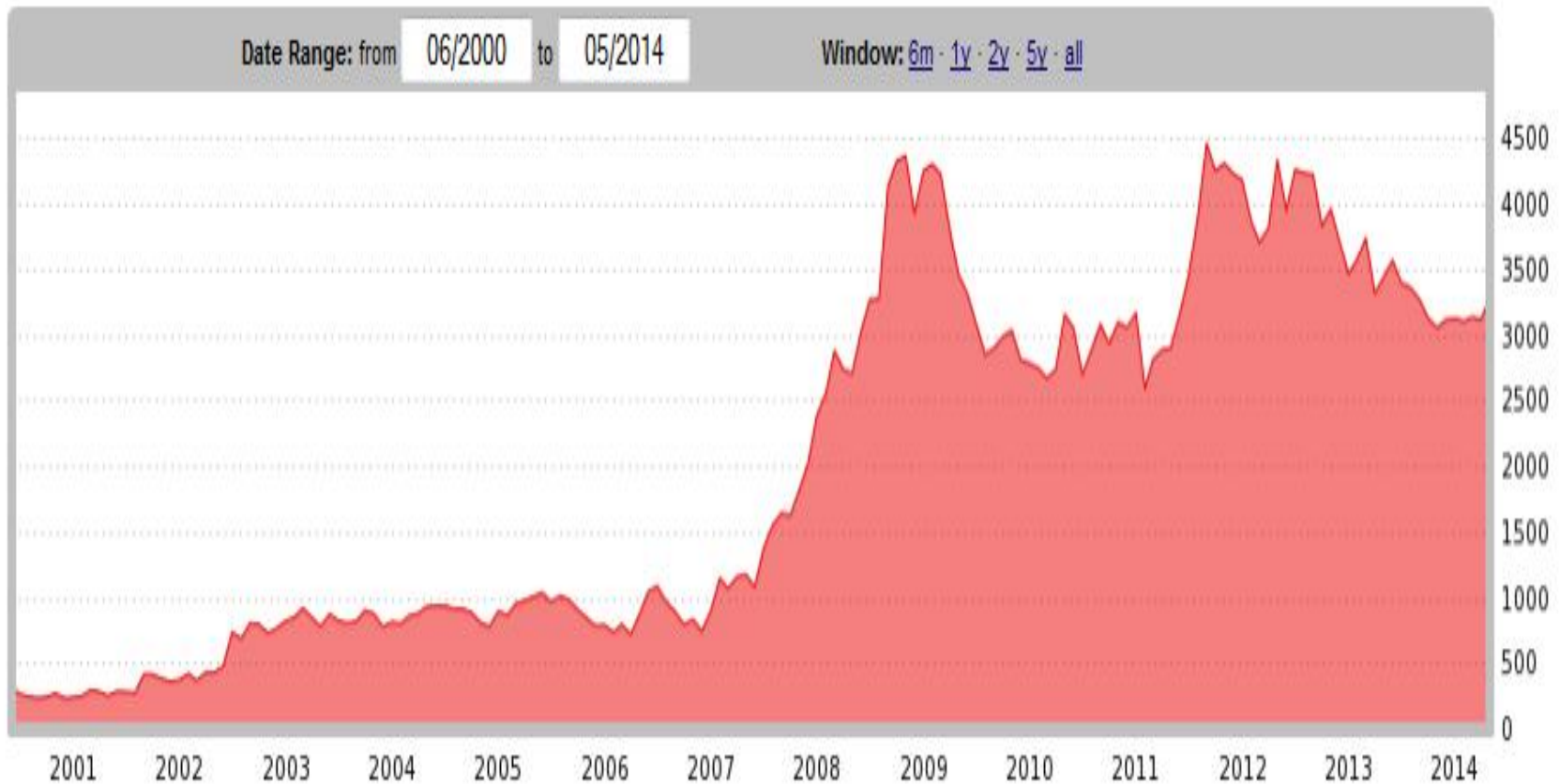
SRISK MEASURES SYSTEMIC RISK

- ▣ Regulators and Risk managers regularly examine the risk of institutions with STRESS TESTS.
- ▣ This is a type of stress test but is done with publicly available information using statistics based on the ARCH model.
- ▣ We do this every week and publish it on
- ▣ VLAB.STERN.NYU.EDU
- ▣ This measures systemic risk because in a crisis firms cannot easily raise capital and turn to taxpayers.

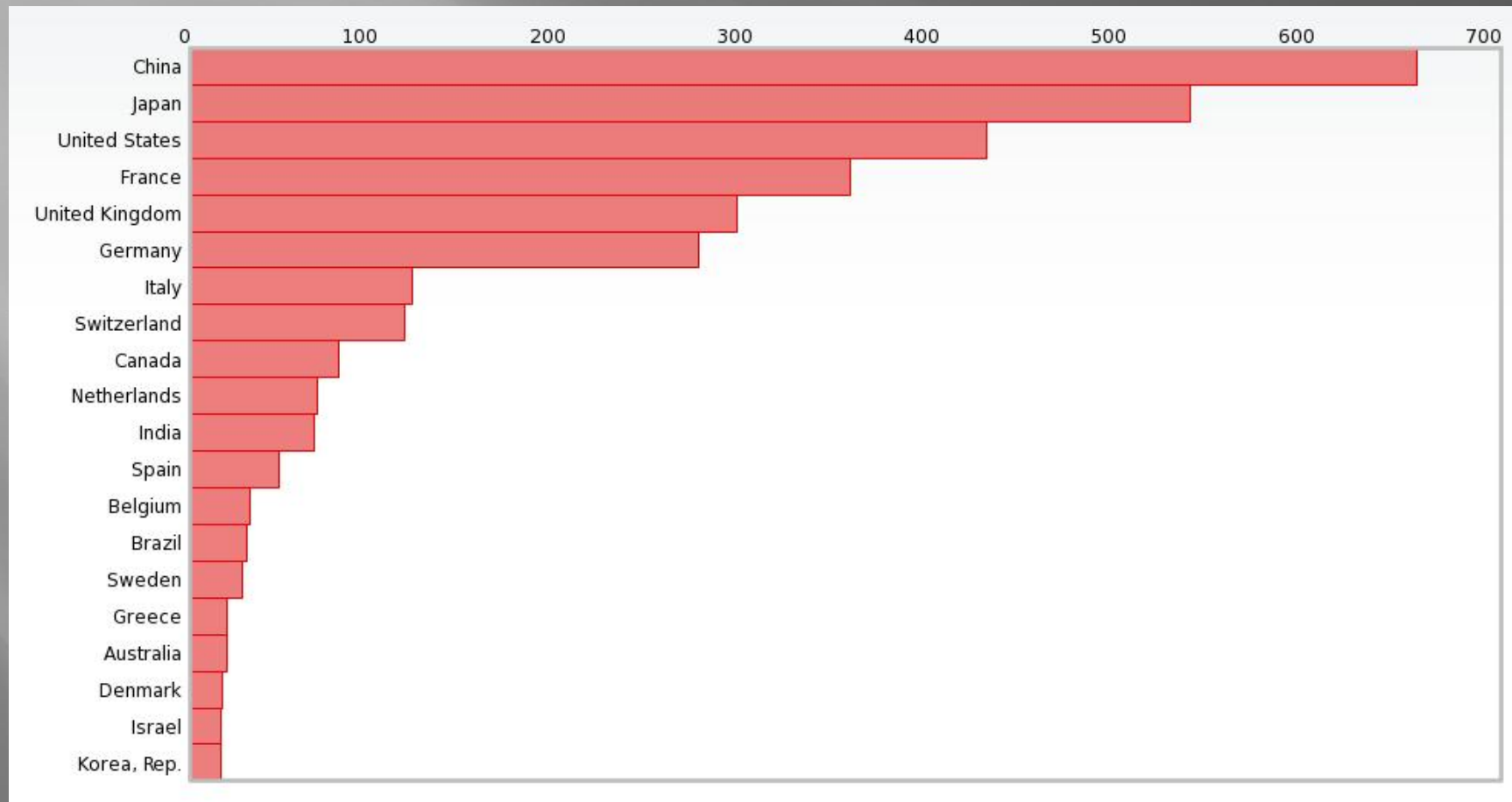
GLOBAL SYSTEMIC RISK

GLOBAL SRISK SINCE 2000

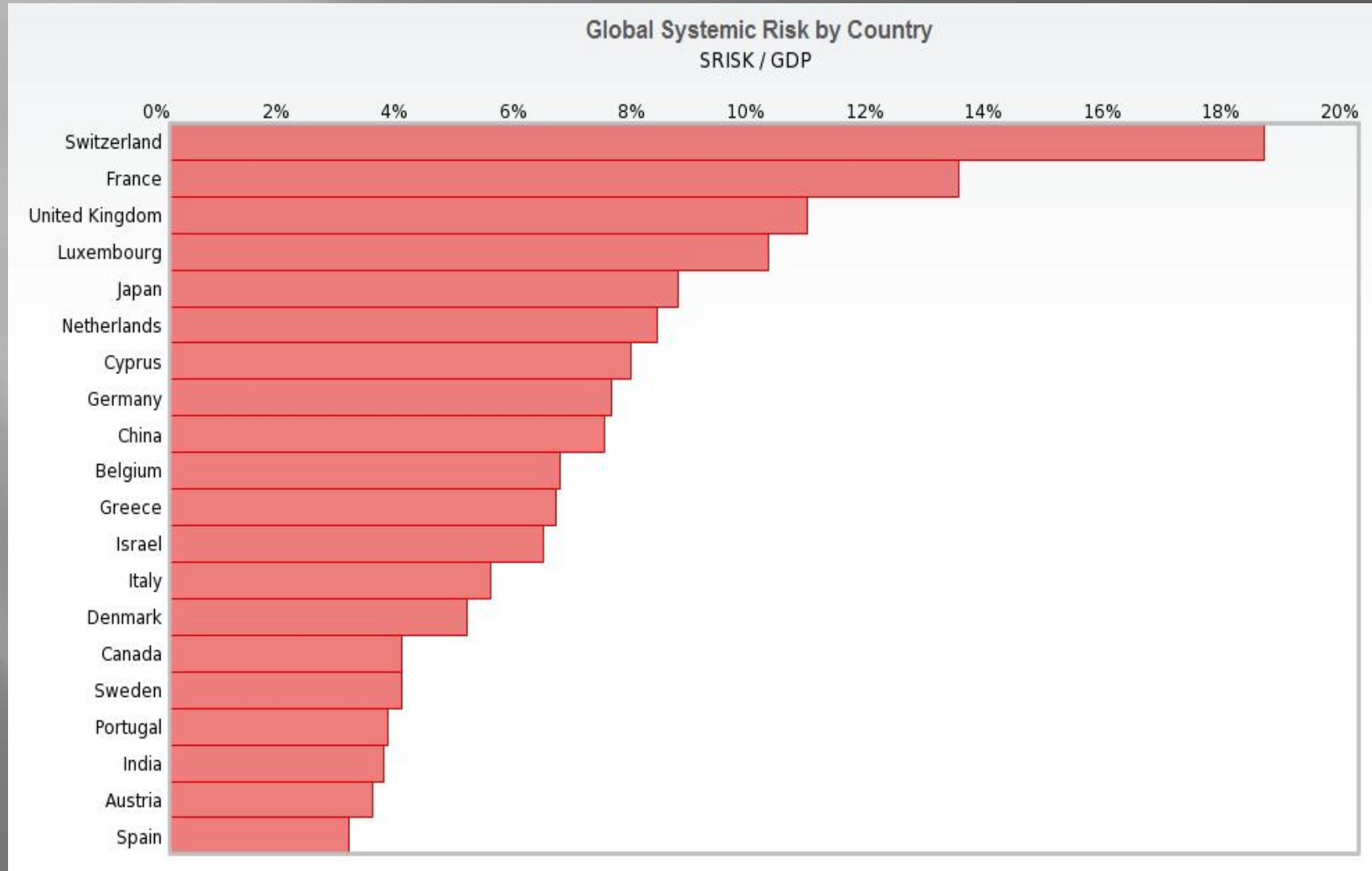
Risk Analysis Overview - World Financials Total SRISK (US\$ billion)



WHERE IS THE RISK *today*?

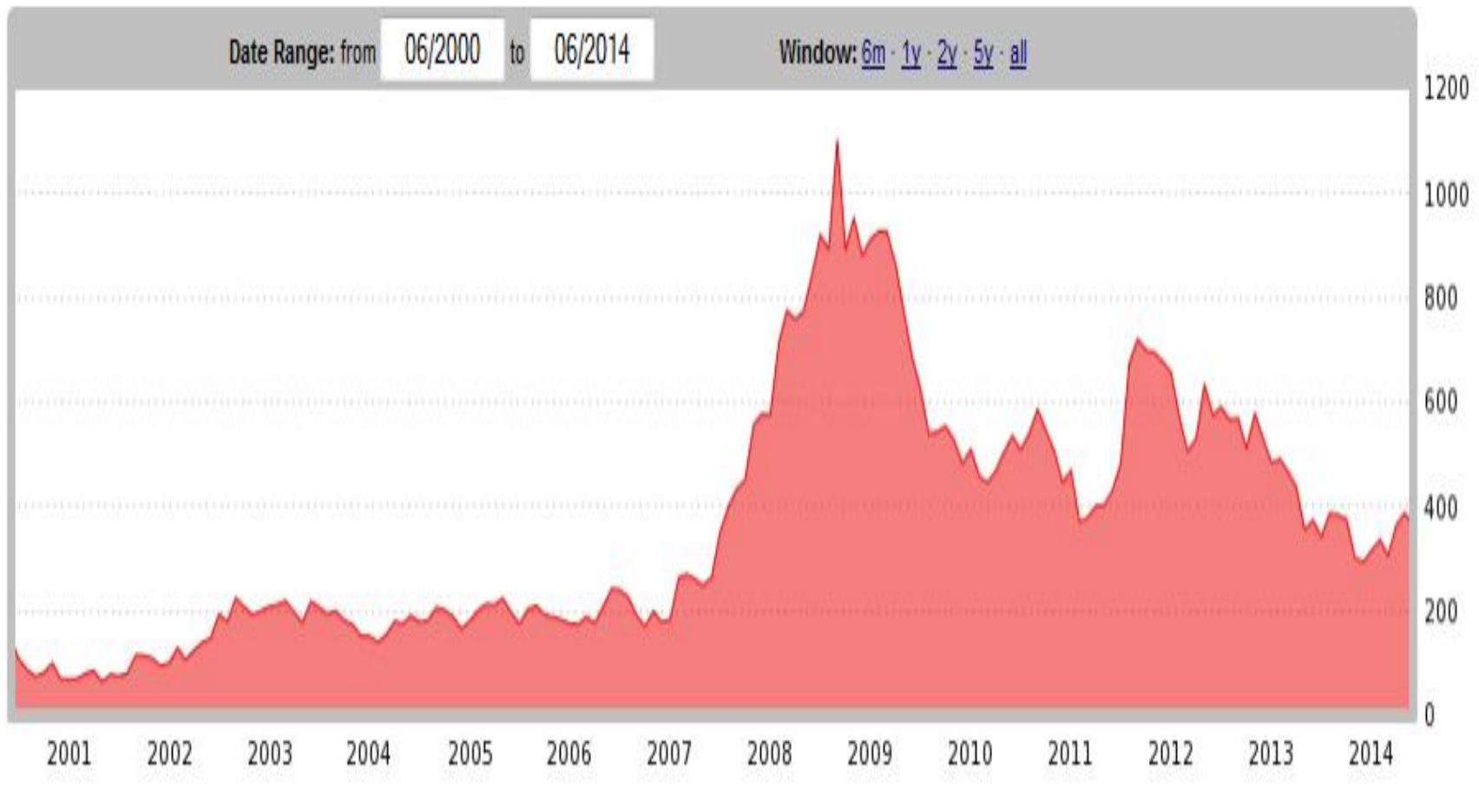


SRISK / GDP



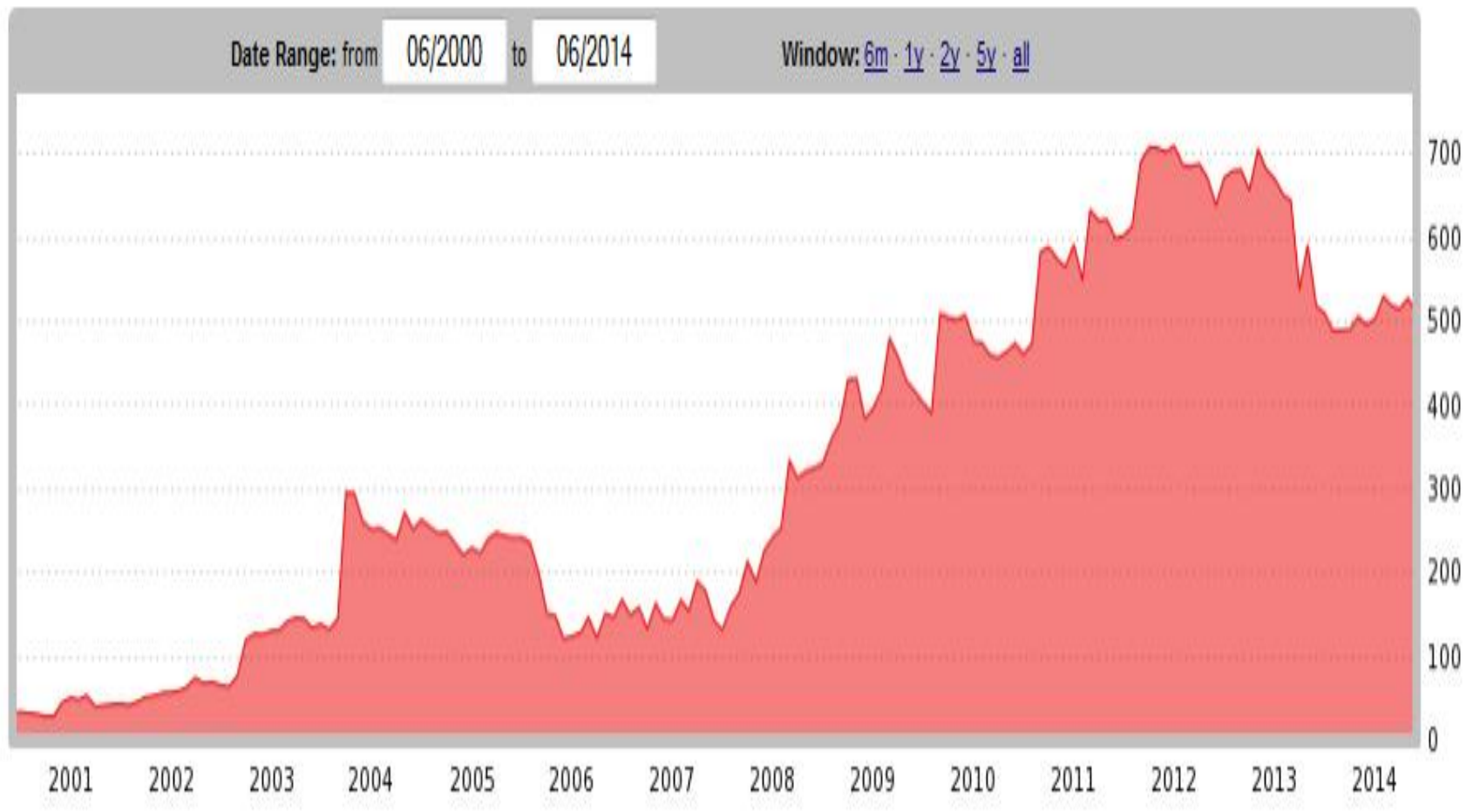
US SINCE 2000

Risk Analysis Overview - United States Financials Total SRISK (US\$ billion)



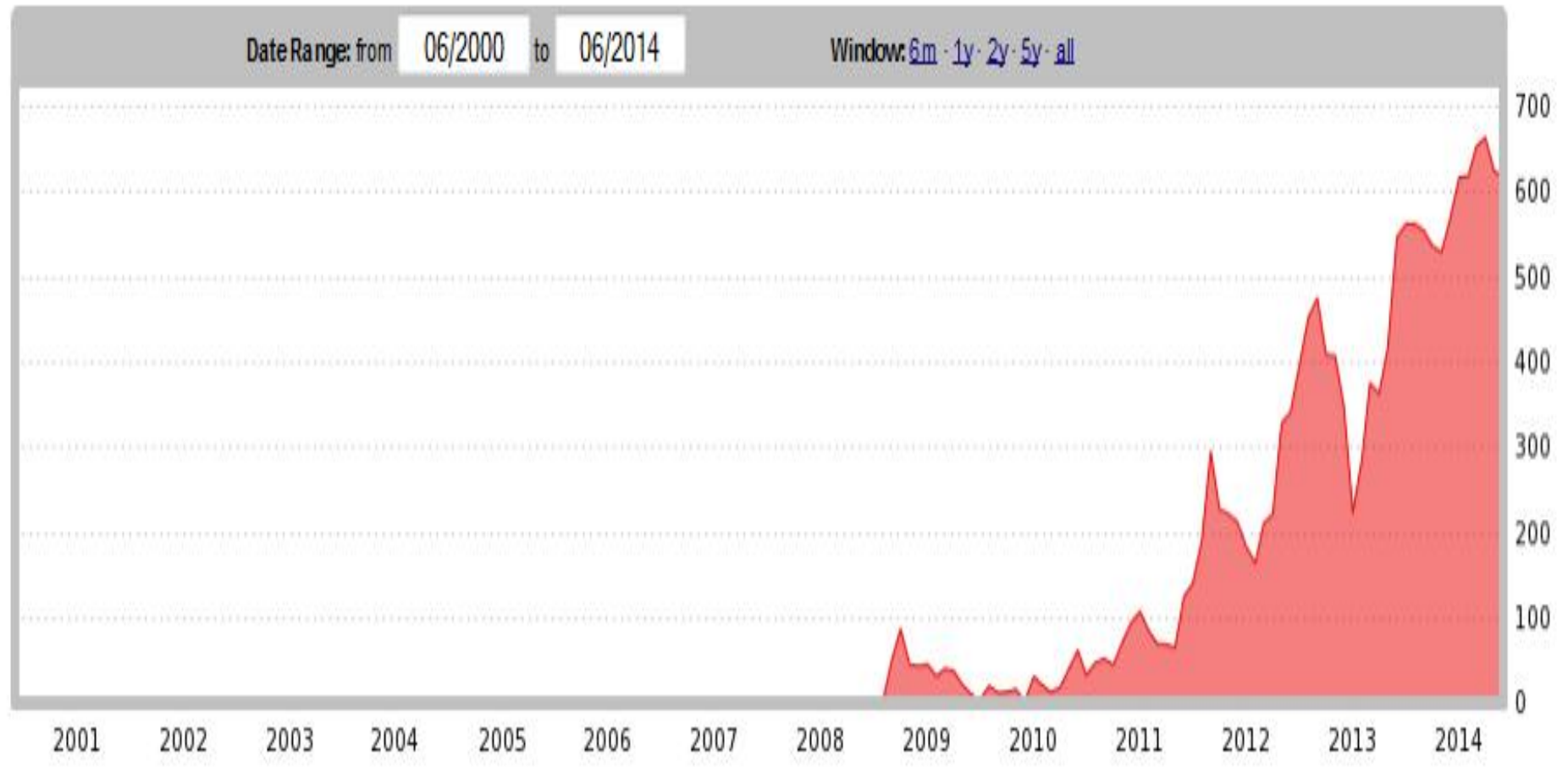
JAPAN

Risk Analysis Overview - Japan Financials Total SRISK (US\$ billion)



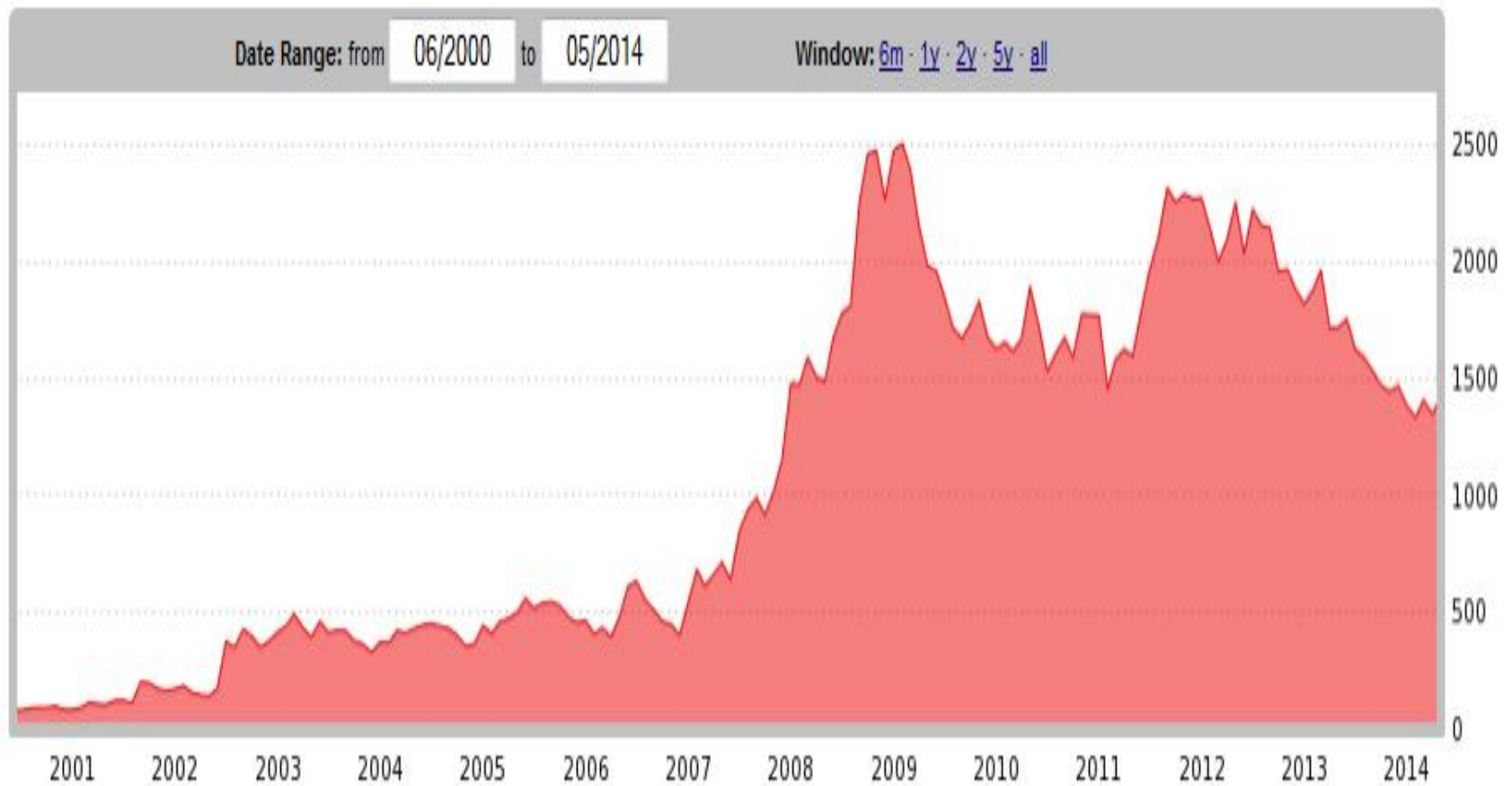
CHINA

Risk Analysis Overview - China Financials Total SRISK (US\$ billion)



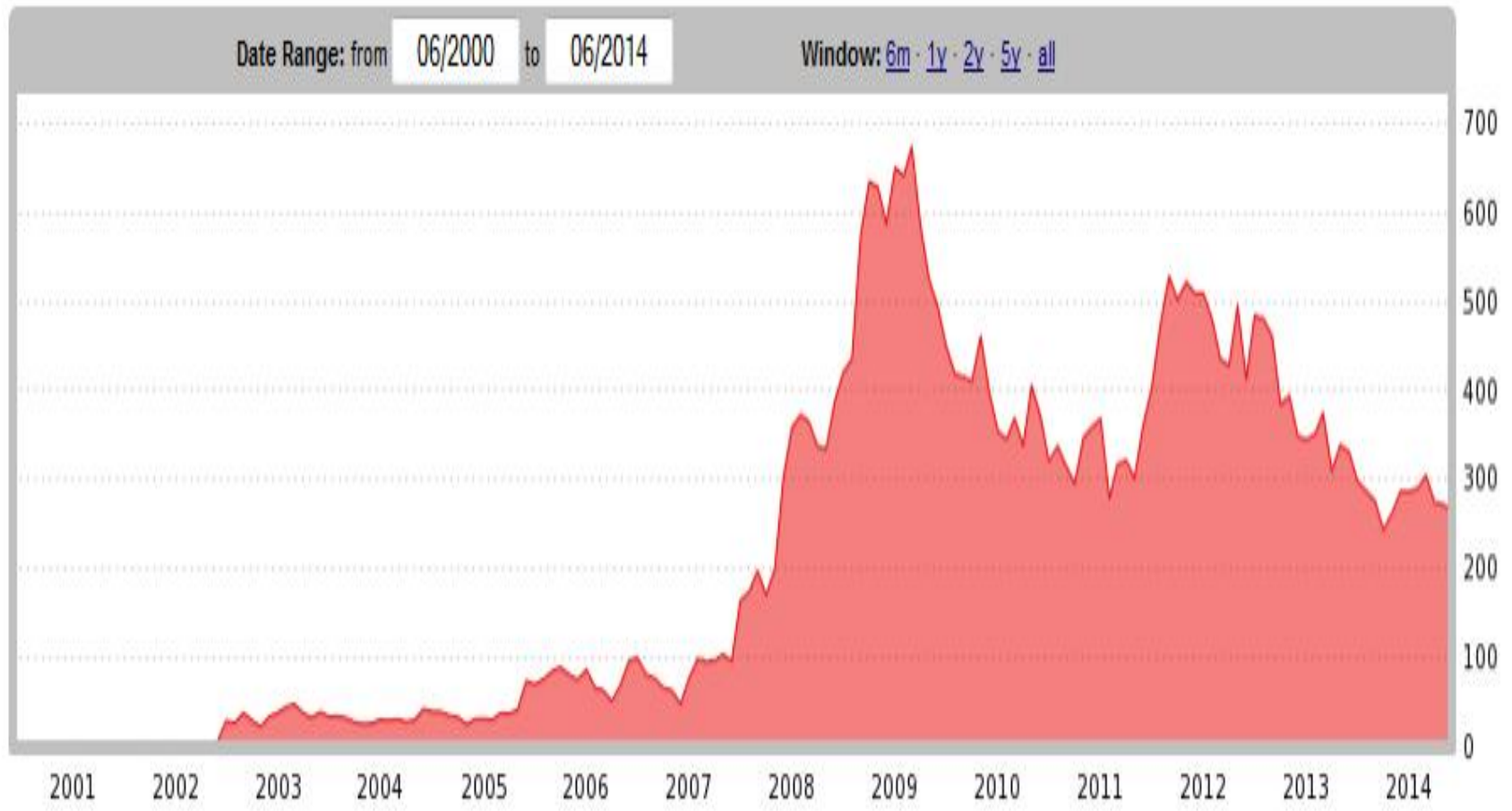
EUROPE SINCE 2000

Risk Analysis Overview - Europe Financials Total SRISK (US\$ billion)



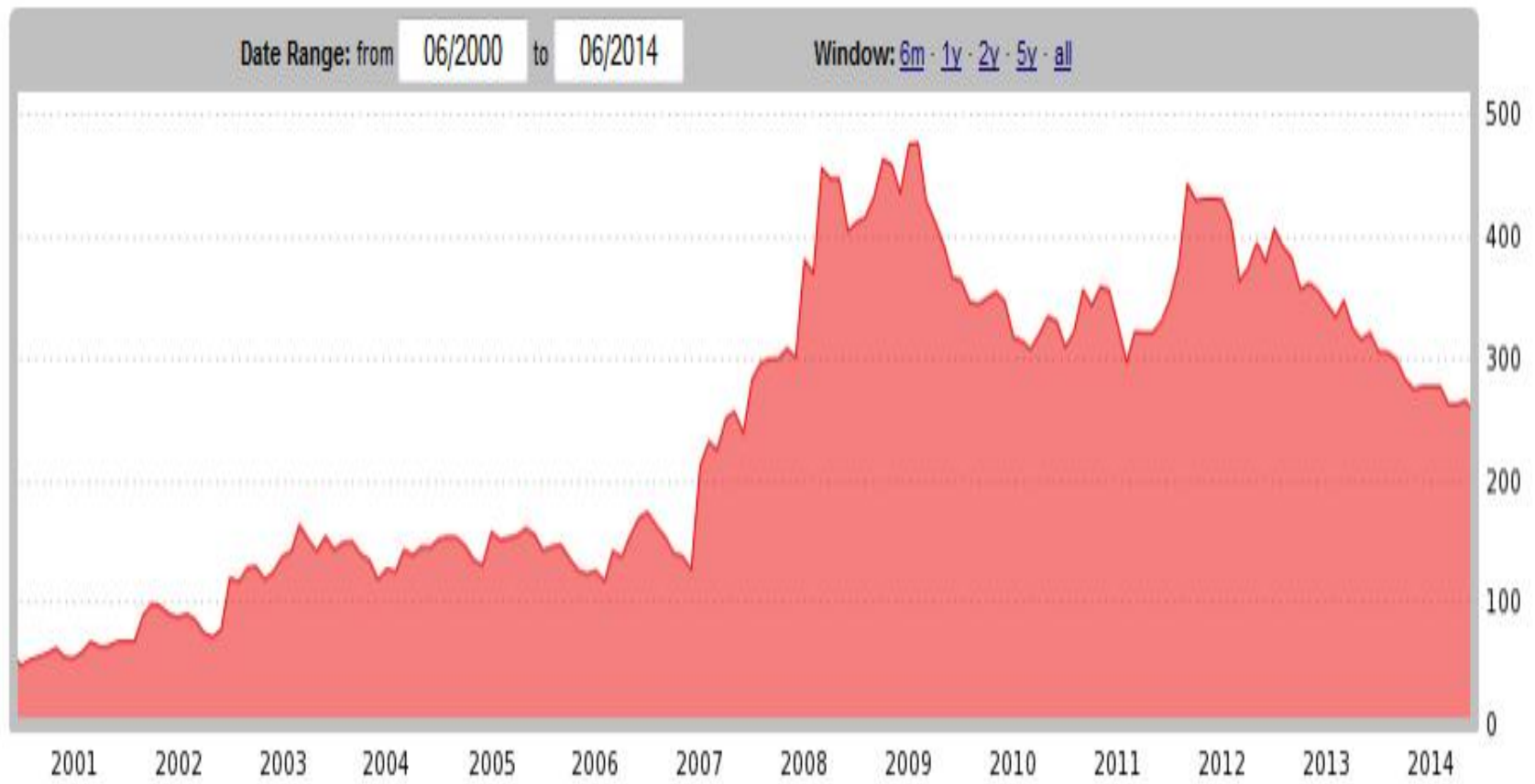
U.K.

Risk Analysis Overview - United Kingdom Financials Total SRISK (US\$ billion)



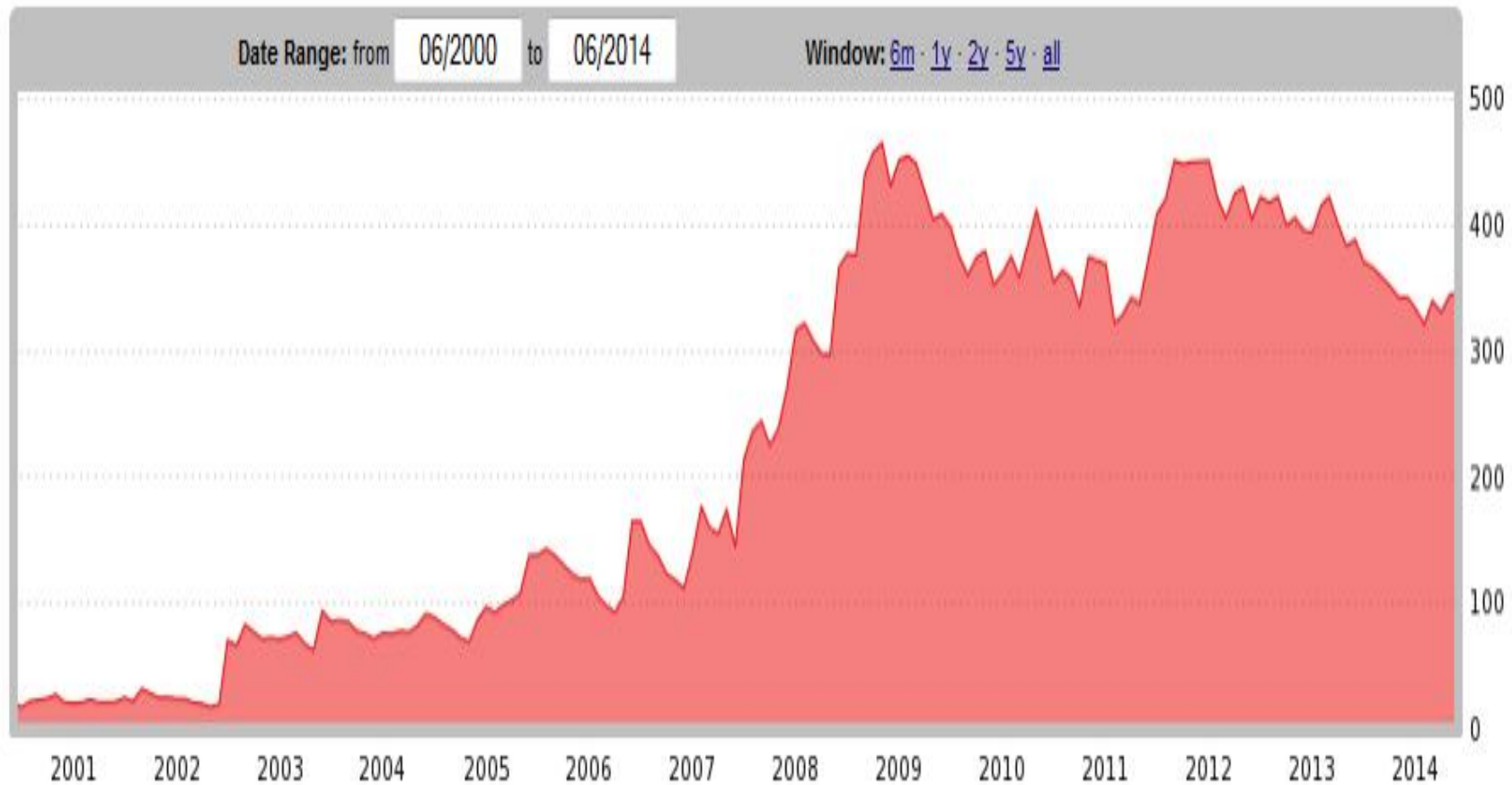
GERMANY

Risk Analysis Overview - Germany Financials Total SRISK (US\$ billion)



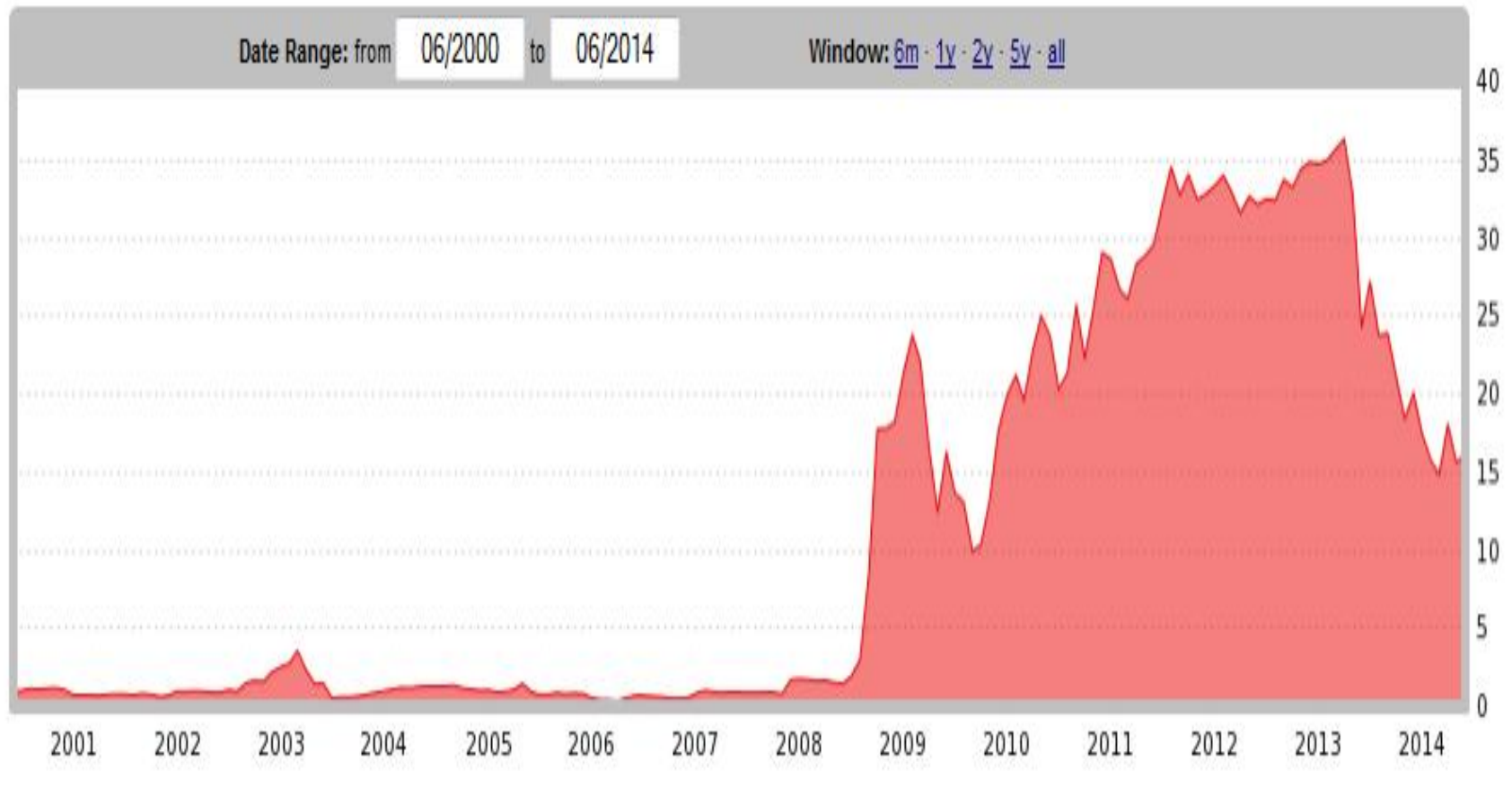
FRANCE

Risk Analysis Overview - France Financials Total SRISK (US\$ billion)



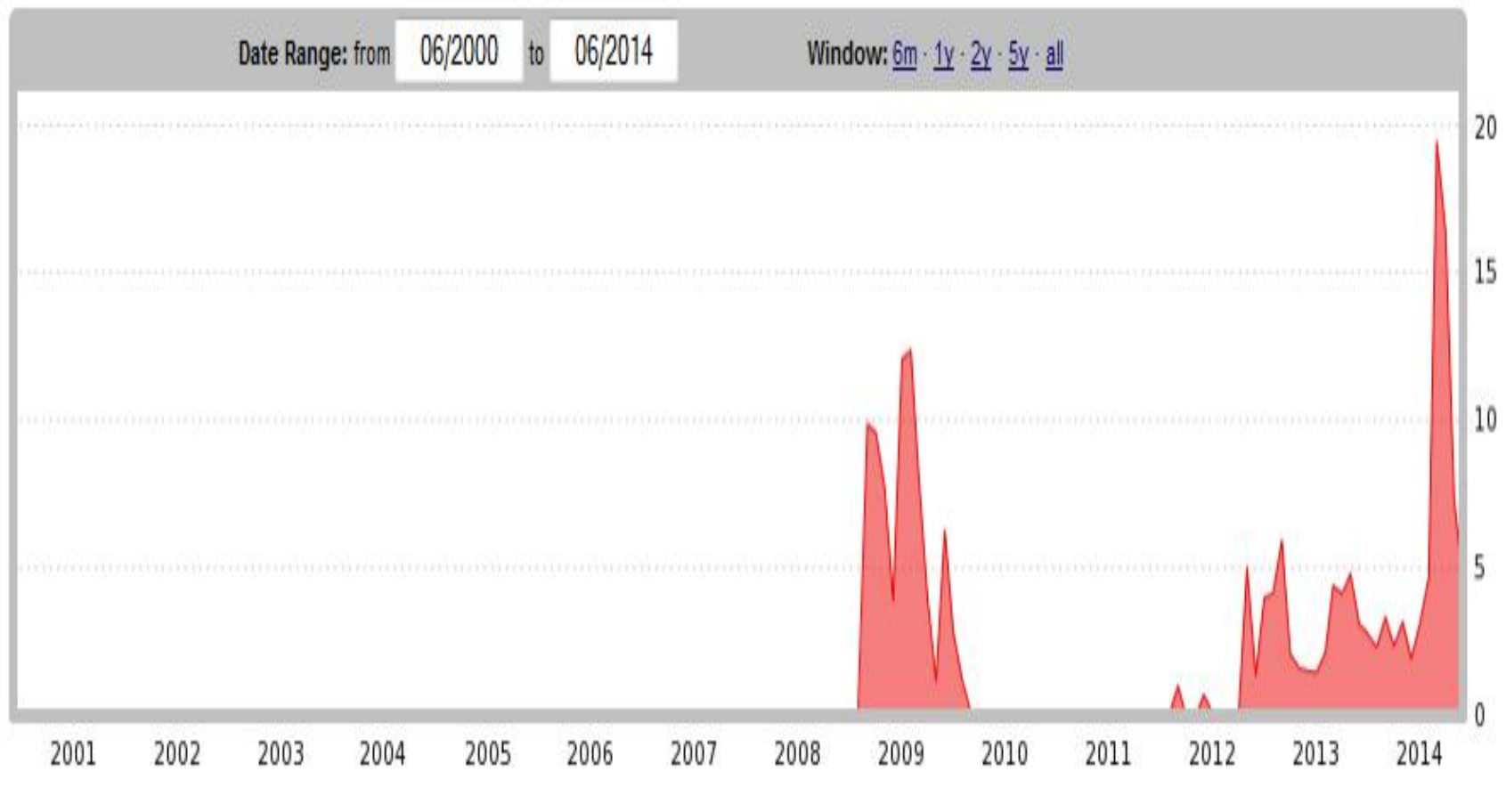
GREECE

Risk Analysis Overview - Greece Financials Total SRISK (US\$ billion)



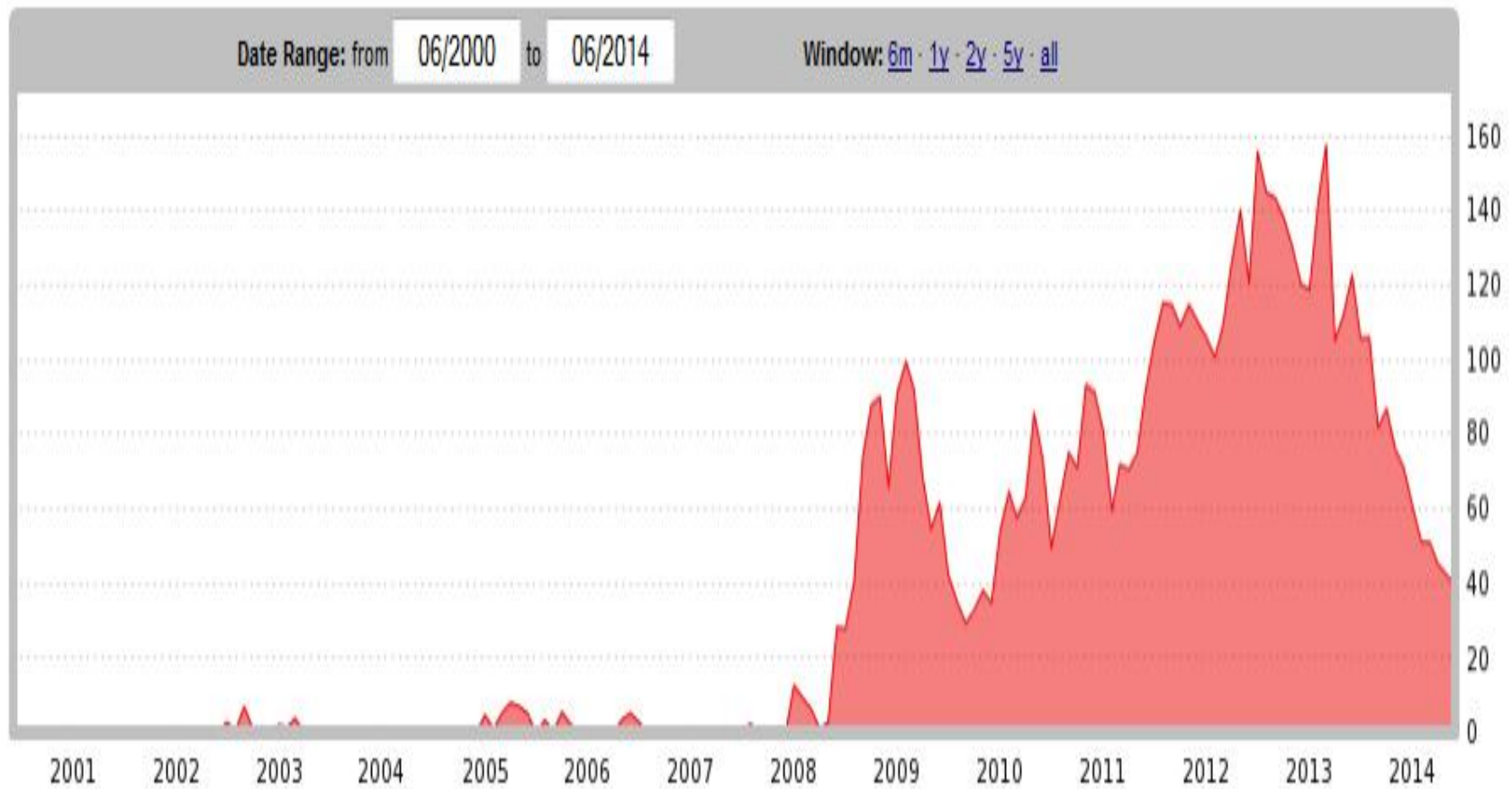
RUSSIA

Risk Analysis Overview - Russian Federation Financials Total SRISK (US\$ billion)



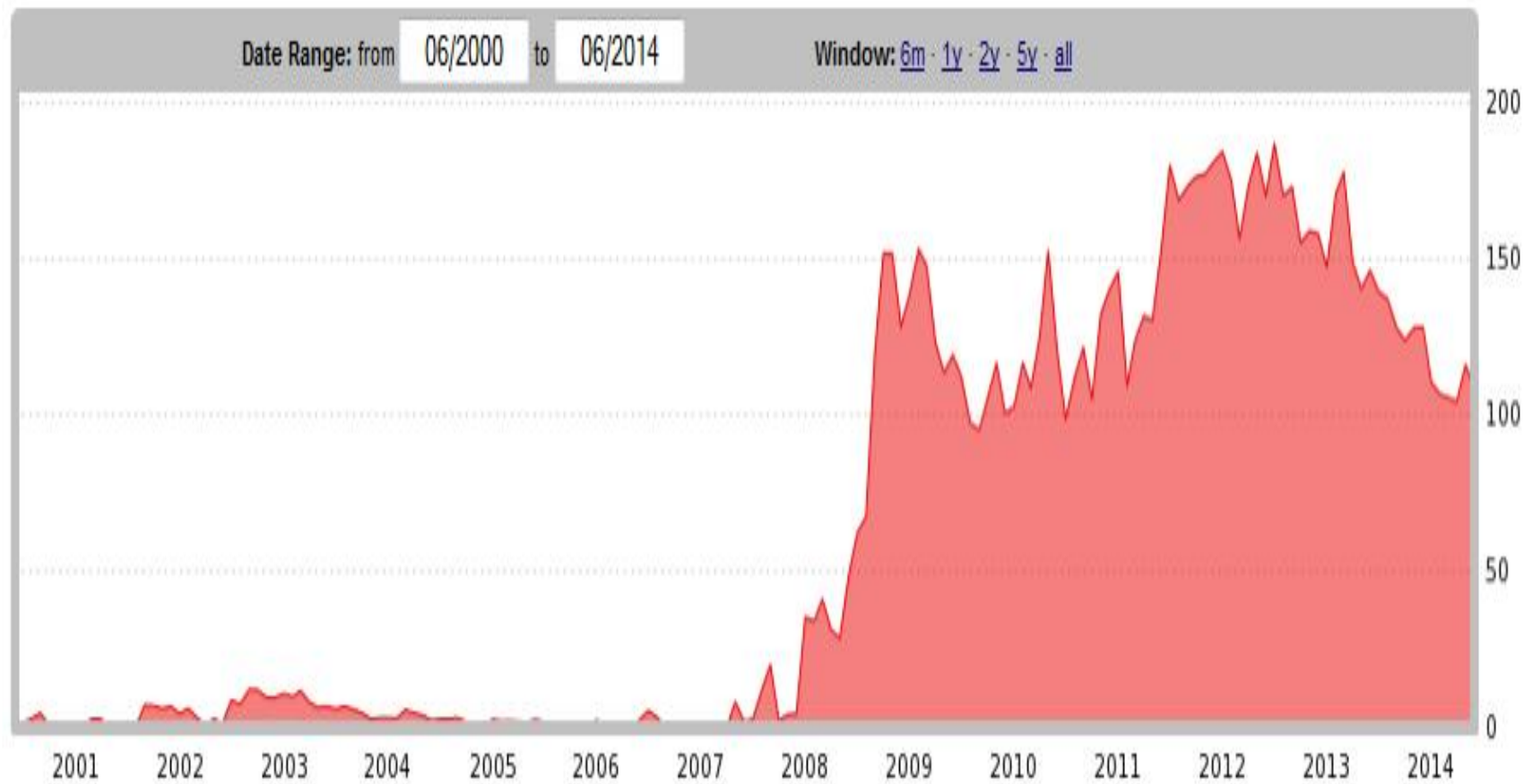
SPAIN

Risk Analysis Overview - Spain Financials Total SRISK (US\$ billion)

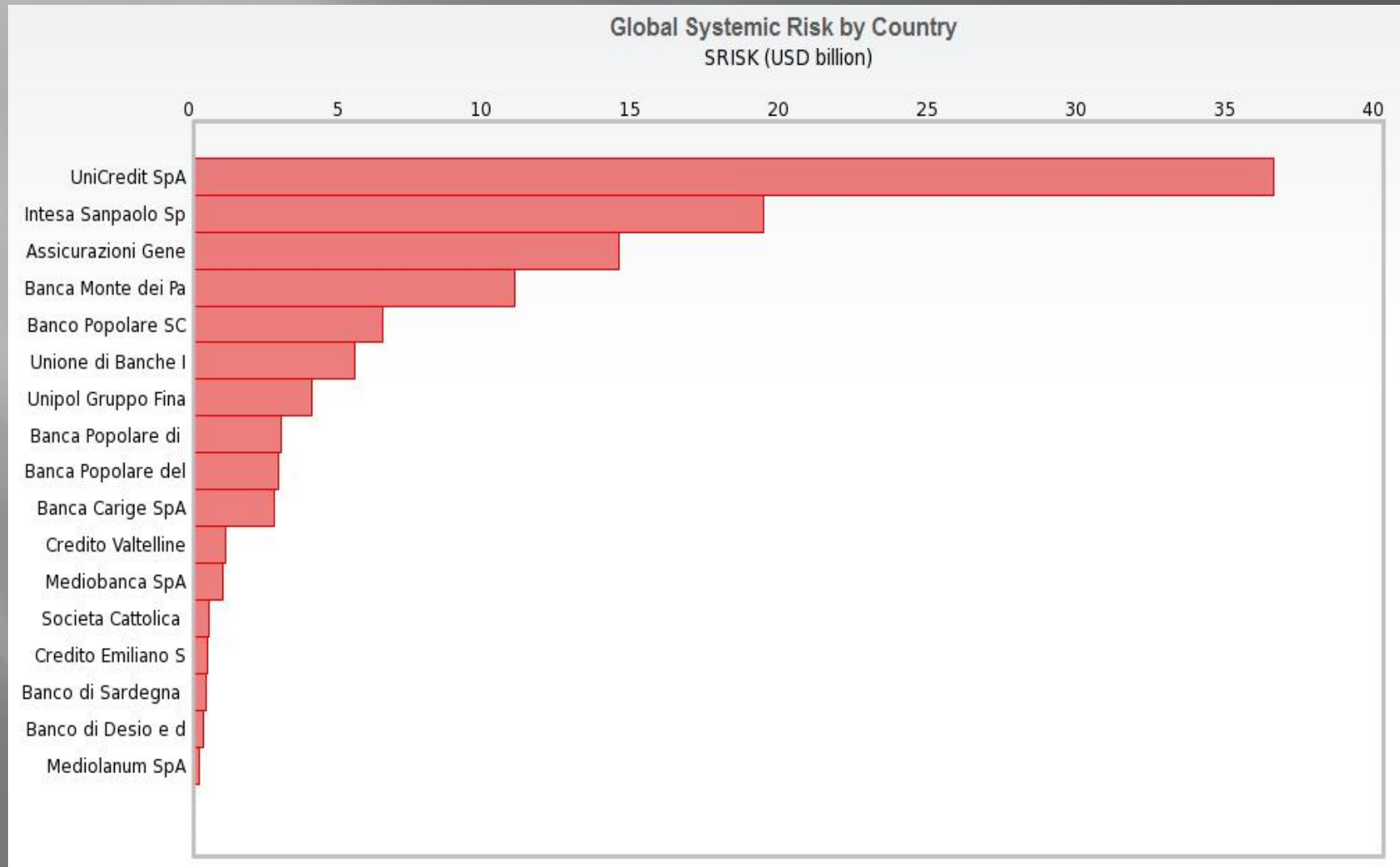


ITALY

Risk Analysis Overview - Italy Financials Total SRISK (US\$ billion)



WHERE IS THE ITALIAN SRISK?



FIRM DETAILS

Systemic Risk Rankings for 2014-06-13 View changes

<u>Institution</u>	<u>SRISK%</u>	<u>RNK</u> ▲	<u>SRISK (\$ m)</u>	<u>MES</u>	<u>Beta</u>	<u>Cor</u>	<u>Vol</u>	<u>Lvg</u>
<u>UniCredit SpA</u>	33.48	1	36,309	4.18	1.75	0.47	28.6	21.54
<u>Intesa Sanpaolo SpA</u>	17.65	2	19,140	4.13	1.73	0.44	33.5	15.49
<u>Assicurazioni Generali SpA</u>	13.15	3	14,264	2.93	1.20	0.49	17.9	18.60
<u>Banca Monte dei Paschi di Siena SpA</u>	9.94	4	10,785	6.12	2.56	0.24	141.8	22.25
<u>Banco Popolare SC</u>	5.85	5	6,341	5.08	2.20	0.41	46.3	24.57
<u>Unione di Banche Italiane SCpA</u>	4.97	6	5,387	5.34	2.19	0.42	41.7	18.87
<u>Unipol Gruppo Finanziario SpA</u>	3.64	7	3,946	3.33	1.40	0.26	40.0	27.83
<u>Banca Popolare dell'Emilia Romagna SC</u>	2.62	8	2,837	5.23	2.17	0.33	35.5	21.31
<u>Banca Carige SpA</u>	2.47	9	2,677	5.30	2.22	0.17	65.9	48.72
<u>Banca Popolare di Milano Scarl</u>	1.46	10	1,588	4.07	1.70	0.32	41.9	16.41

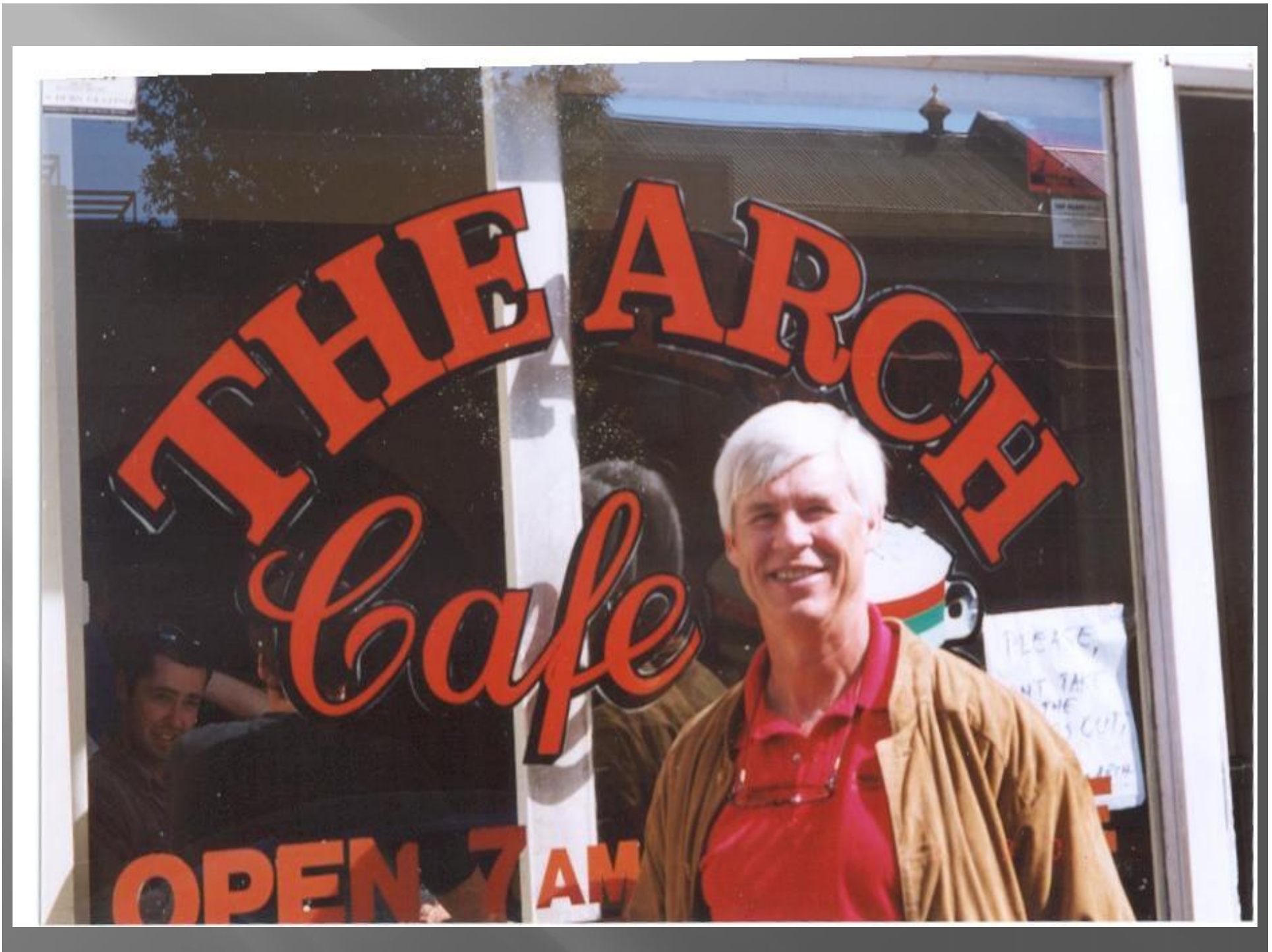
CHANGES

Systemic Risk Rankings for 2014-06-13 View changes since: 2012-01-31

<u>Institution</u>	<u>SRISK (t)</u> ▼	<u>SRISK (t - 1)</u>	<u>Δ SRISK</u>	<u>Δ(DEBT)</u>	<u>Δ(EQUITY)</u>	<u>Δ(RISK)</u>
<u>UniCredit SpA</u>	36,308.6	64,733.1	-28,424.4	-7,985.2	-6,741.8	-13,697.5
<u>Intesa Sanpaolo SpA</u>	19,140.3	34,323.8	-15,183.6	-1,127.9	-9,580.9	-4,474.8
<u>Assicurazioni Generali SpA</u>	14,263.9	20,489.5	-6,225.6	3,532.3	-5,013.1	-4,744.8
<u>Banca Monte dei Paschi di Siena SpA</u>	10,785.5	16,451.5	-5,666.0	-2,852.5	-2,351.4	-462.1
<u>Banco Popolare SC</u>	6,340.7	8,443.0	-2,102.3	-255.5	-1,422.3	-424.4
<u>Unione di Banche Italiane SCpA</u>	5,387.0	7,908.7	-2,521.6	-457.8	-1,404.6	-659.2
<u>Unipol Gruppo Finanziario SpA</u>	3,945.6	3,727.8	217.8	2,191.9	-1,258.3	-715.8
<u>Banca Popolare dell'Emilia Romagna SC</u>	2,837.4	3,020.1	-182.7	89.5	-532.5	260.3
<u>Banca Carige SpA</u>	2,676.5	1,389.9	1,286.6	164.6	944.8	177.2
<u>Banca Popolare di Sondrio SCARL</u>	1,337.5	936.4	401.1	390.7	-4.9	15.2

THE PROSPECTS FOR GLOBAL FINANCIAL STABILITY

- ▣ The US financial sector is much less systemic than it has been for seven years. However, it is not back to the pre-crisis level.
- ▣ Europe is improving but is still much more systemic than before the two financial crises.
- ▣ Banking union with ECB regulation is important improvement. We await the AQR results.
- ▣ Asia and in particular China have a deteriorating financial sector. They are watching this closely and proposing many reforms but the task is huge.



WHAT ARE THE PROSPECTS FOR THE US ECONOMY?

- ▣ Growth is moderate but improving
- ▣ Jobs are gradually returning but wages are not increasing.
- ▣ The stock market has enjoyed a five year boom.
- ▣ The housing market has been recovering but at the moment appears to have stalled.
- ▣ The financial sector is shedding jobs. Health is adding them.
- ▣ A stagnant Europe and slowing China will not be able to contribute to our growth.
- ▣ Prospects are for a continuation of slow growth.