Economists in the 2008 crisis: Slow to see, fast to act

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Economists and finance scholars faced harsh criticism for failing to anticipate the 2008 financial crisis. This column presents evidence from textual analyses of 14,270 working papers published between 1999–2016 that is consistent with this criticism. However, as soon as the crisis unravelled, economists appeared to dramatically increase their efforts in studying and understanding the crisis, its causes and its consequences.

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As the 2008 Global Crisis was unfolding, the public – both general and academic – began criticising economics and finance scholars for failing to anticipate it. Bernanke (2018: 1) suggested that the full nature of the crisis was not anticipated because "… economists and policymakers significantly underestimated its ultimate impact on the real economy." Moreover, all existing models ignored the behaviour of financial intermediaries and other credit-related factors. According to Razin (2014), most theorists concede now that the pre-crisis monetarist consensus was mistaken.

Consequently, economists and policymakers began emphasizing the need to revise the models, acknowledging that the academic community was not sufficiently engaged in the study of crises, and that there was a need to refocus its attention on models that might better explain and help in coping with future crises (Gorton and Metrick 2012, Goldstein and Razin 2015). However, these calls are based on perceptions and qualitative assessments, and there is little systematic evidence on the extent to which the academic community studied crisis-related issues before and after 2008.

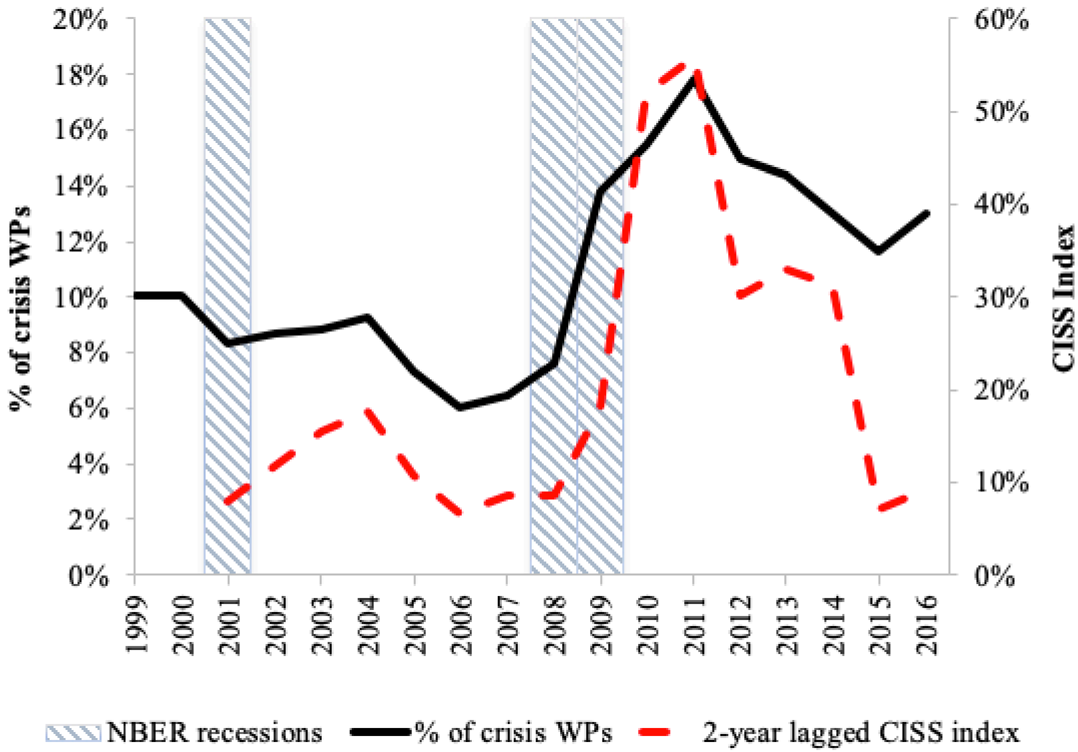
In a recent study (Levy et al. 2020), we quantify the nature and the intensity of academic efforts to study the 2008 Global Crisis, as reflected in the studies published before, during, and after the crisis. First, we assess the aggregate scholarly effort around the crisis by quantifying the intensity and the speed of the response of the scholars as the crisis was evolving. Second, we analyse the cross-field variation to assess which fields/subfields of economics and finance have led the change. Third, we assess how the focus on different crisis-related topics evolved over time, and evaluate the role of different research communities in the process.

We address these questions by analysing the texts of 14,270 National Bureau of Economic Research Working Papers (NBER WPs) published during 1999–2016. The WPs don't go through a blind review process like journal articles. They nevertheless offer several advantages: they are free from journal editorial-policy-type interventions, the WPs are published and circulated faster than journal articles, NBER affiliates form a large and diverse group of scholars and their majority is US-based, hence the WPs focus primarily on the US economy, which is where the crisis started.

Academics' interest in crisis study is countercyclical

We run several analyses. First, we look at the frequency of the term "crisis/crises" in the WPs. According to Figure 1, in 1999, 10% of the WPs mention the word "crisis/crises" in the first five paragraphs at least once. The share drops to 6%–7% for the pre-crisis years 2006–2007. In 2009, in the midst of the crisis, the share *doubles* to 13.8%, and then further increases to its peak of 17.8% in 2011. After 2011 it drops again, reaching a trough of around 12%–14% in 2015–2016, but still remains above the pre-crisis level. Next, we consider the correlation of the crisis study intensity with the Composite Indicator of Systemic Stress (CISS), where the latter captures the behaviour of 15 individual financial stress measures in the EU. As Figure 1 shows, there is a high correlation between the percentage of crisis WPs and the 2-year lagged CISS index. Thus, the academics' interest in the crisis is *countercyclical*: the sharp increase in the number of crisis WPs occurs during the period of the great recession.

Figure 1 Percentage of crisis related WPs and 2-year lagged index of Composite Indicator of Systemic Stress



The Global Crisis and the NBER research programmes

The NBER WPs are published by 20 different research programs, where each programme corresponds to a subfield of economics and/or finance. While we find that in the post-crisis period most NBER programs increase their engagement in the crisis study, it turns out that the most relevant subfields/groups behave differently than the rest. As Figure 2 shows, the International Finance and Macro programme members were engaged in crises-study before the Global Crisis, with almost 30% of their WPs mentioning the word “crisis/crises” during 1999–2007. In the post crisis period from 2008 to 2016 that share jumps further to 37%. The Monetary Economics programme had a lower engagement before the crisis, but converges to the International Finance and Macro programme in the post-crisis period.

According to Figure 3, the members of the Asset Pricing and the Corporate Finance programs barely refer to ‘crisis’ in the pre-crisis period. In 2007, only one WP out of 92 WPs that were published by the Asset Pricing program, and only four out of 86 WPs that were published by the Corporate Finance programme mention the word “crisis”. However, as the crisis develops, the efforts by these two programmemes to study crisis-related issues increase dramatically compared to the efforts of the other programmes. Indeed, the number of crisis related WPs published by the Corporate Finance programme *more than triples* and the number of crisis WPs published by the Asset Pricing programme *more than quadruples* in response to the crisis.

Figure 2 Average annual % of crisis WPs published by (a) Monetary Economics, and (b) International Finance and Macroeconomics Programs

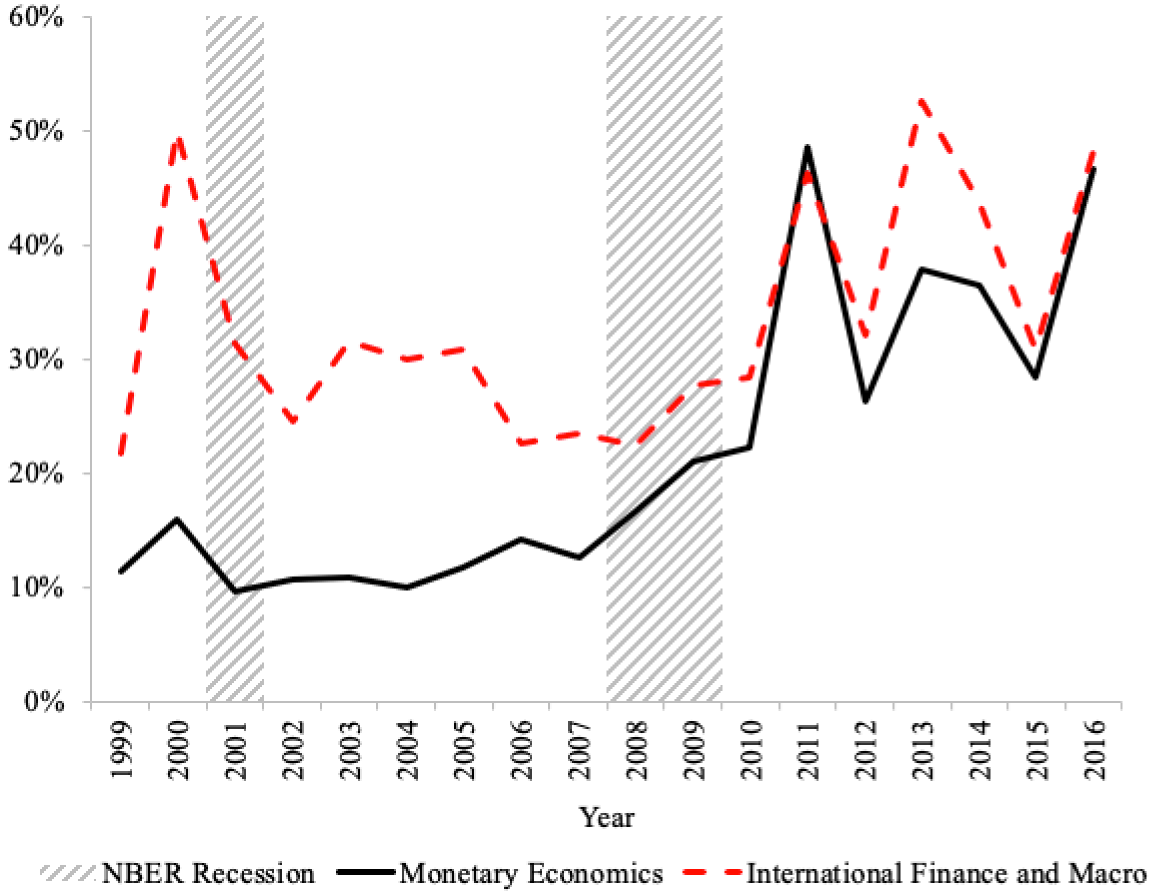
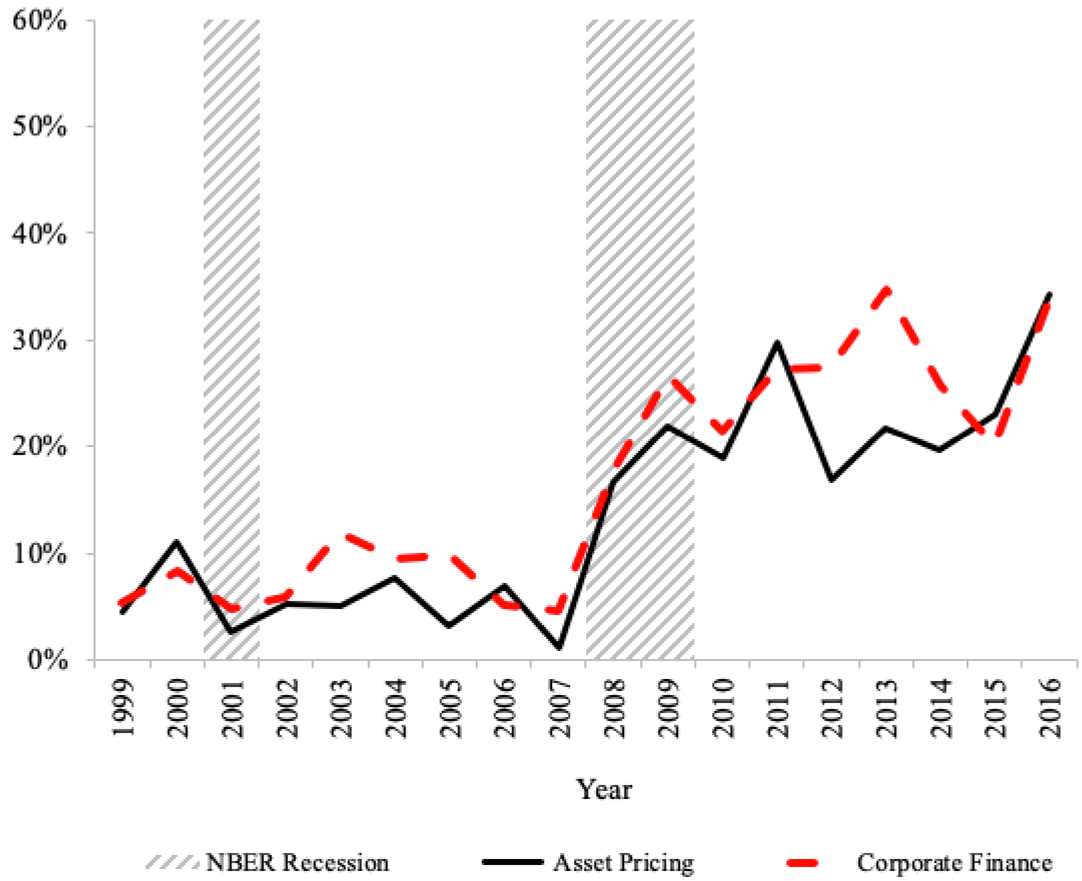


Figure 3 Average annual % of crisis WPs published by (a) Asset Pricing, and (b) Corporate Finance Programs



LDA topic modelling

To identify the topics that scholars studied in their crisis-related research, and to assess their intensity, we employ the latent Dirichlet allocation (LDA), a machine learning algorithm for topic modelling (Blei et al. 2003). The algorithm interprets documents as a probability distribution over topics, and topics as a probability distribution over words. The model's goal, therefore, is to simultaneously estimate the word content of each topic, and the topic content of each document. Given this structure, the method makes it possible to identify the main topics that a set of documents covers, as well as the weight and share of each topic. Recently, the method has been gaining some popularity in economic research (e.g. Angrist et al. 2020, Bowles and Carlin 2020, Goldstein et al. 2019).

Applying the LDA analysis to the NBER WPs, we identify nine crisis topics (out of 500 considered) in the WPs published between 1999–2016. These are 'international reserves', 'sovereign debt', 'repo and securitization', 'liquidity', 'emerging markets', 'Global Crisis', 'Great Recession', 'sudden stops', and 'financial intermediaries'.

Sudden stop of 'sudden stop'

We find that the topic of 'sudden stop,' which concerns the adjustments needed to deal with a sudden reversal in net capital inflows, stops abruptly. Similarly, the topic of 'emerging markets,' typically identified during a crisis in small open economies, also disappears in the post-crisis period (see Figure 4). According to Table 1, the topic of 'sudden stop' drops from 32nd place in 2004 to 477th place in 2009. During the same period, the topic of 'emerging markets' drops from 42nd to 269th place. Table 2 shows that these topics were studied primarily by the members of the International Finance and Macro, and the Economic Fluctuations and Growth programmes.

Figure 4 The change in the weights of 6 (out of 9) crisis topics over time, 1999–2016

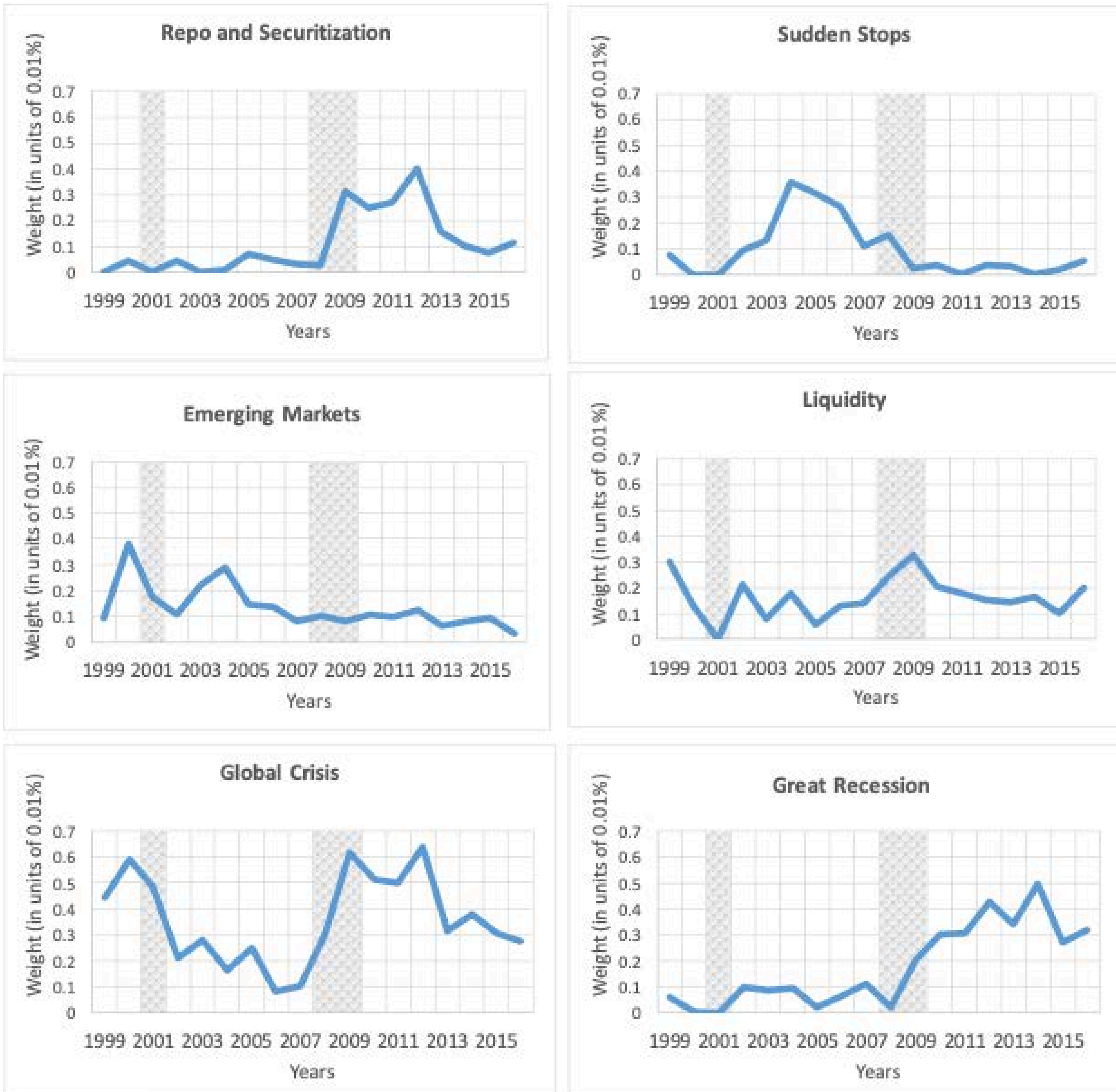


Table 1 The change in the rank of the weights of the 9 (out of 500) crisis topics over time, 1999–2016

Year	International Reserves	Financial Intermediaries	Sudden Stop	Liquidity	Sovereign Debt	Emerging Markets	Great Recession	Global Crisis	Repo and Securitization
1999	392	208	349	61	151	203	317	12	482
2000	256	221	450	244	127	33	219	9	366
2001	397	105	409	358	119	149	363	27	446
2002	123	30	247	135	43	179	207	58	415
2003	385	81	251	287	39	62	290	57	494
2004	192	54	32	114	53	42	233	118	493
2005	264	92	50	298	137	203	387	72	325
2006	77	94	88	224	240	165	317	302	390
2007	181	86	260	202	119	242	241	218	442
2008	198	139	181	72	99	187	414	25	423
2009	53	66	477	32	193	269	71	1	40
2010	77	47	465	67	210	219	19	5	65
2011	74	36	468	135	50	180	25	1	70
2012	169	38	375	145	89	176	6	1	29
2013	103	35	400	164	61	238	18	34	193
2014	123	116	456	120	88	328	6	19	335
2015	427	179	442	266	25	198	29	33	371
2016	175	135	426	114	74	343	23	55	223

Note: The table shows the weights of the 9 crisis topics out of the 500 topics that were identified by the LDA topic modeling method.

New crisis topics

Two new topics emerged as a result of the crisis. The first deals with ‘repo and securitization,’ which ranked 423 in 2008, right before the crisis, and jumped to 40th place in 2009, and then climbed further to 29th place in 2012. It is primarily studied by the Asset Pricing, Corporate Finance, and Monetary Economics programmes. This topic is almost ignored by the International Macro and Finance programme, the most active programme in studying financial crises before 2008 (see Table 2). However, from 2013 onwards, we see a sharp decline in the attention this topic receives, as shown in Table 1.

Table 2 Variation in the weights of the 9 crisis topics (out of 500) across NBER research programs

	Monetary Economics	Int. Trade	Corporate Finance	Asset Pricing	Int. Finance and Macro	Econ. Fluct. and Growth
International Reserves	9%	17%	2%	3%	***52%***	7%
Financial Intermediaries	13%	4%	17%	11%	25%	18%
Sudden Stop	5%	5%	1%	3%	***62%***	15%
Liquidity	15%	1%	22%	32%	11%	12%
Sovereign Debt	13%	2%	8%	5%	***38%***	18%
Emerging Markets	10%	7%	4%	4%	***43%***	16%
Great Recession	18%	2%	4%	5%	14%	27%
Global Crisis	19%	4%	11%	8%	***33%***	12%
Repo and Securitization	17%	1%	***37%***	24%	4%	8%
Average	13%	5%	12%	11%	31%	15%

Note: The table shows the contribution of each programme to the 9 crisis topics identified by LDA. The figures in the rows don't add up to 100% because we present only 6 programs out of 20.

The second topic that emerged in the post-crisis period is 'Great Recession,' which relates to the spread of the financial crisis to the real economy and its effects on different aspects of the economy. In contrast to the other crisis-topics, we find persistence in the study of 'Great Recession.' Indeed, the topic's weight increases also in the post-crisis period of 2013–2016.

Procyclical topics

'Liquidity,' 'international reserves,' and 'sovereign debt' are procyclical. Similar patterns are observed for the topic of 'financial intermediaries,' which deals with the structure of the financial sector and financial institutions while focusing on the task of regulators, and for the topic of 'Global Crisis.' The latter focuses on how the financial crisis spread across markets and countries. In contrast to all other topics (which typically capture the attention of one or two research programmes), the topics of 'Global Crisis' and 'financial intermediaries' drew attention from multiple programmes in the post-crisis period.

Economists in crisis: Slow to see but fast to respond

Overall, our findings are consistent with the criticism that economists and finance scholars were indeed slow to see the coming of the Global Crisis. However, the results suggest that as soon as the financial crisis began to unravel, the academic community responded dramatically to the crisis, and to the public criticism that the crisis generated. Thus, counter to the popular image of economics and finance scholars being disconnected from real life, and consistent with Reis' (2018) observations, we find that scholars specializing in the relevant areas of economics and finance stopped studying relatively less relevant and urgent topics, and switched their focus and efforts to studying and understanding the crisis, its causes and its consequences.

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