

# Confidence Calibration in a Multi-Year Geopolitical Forecasting Competition: Supplementary Materials

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### 1) Individual Forecasting Problems (IFPs)

IFP ID	Question	Activation Date	Closed Date
1001	Will the Six-Party talks (among the US, North Korea, South Korea, Russia, China, and Japan) formally resume in 2011?	9/1/11	1/2/12
1002	Who will be inaugurated as President of Russia in 2012?	9/1/11	5/6/12
1003	Will Serbia be officially granted EU candidacy by 31 December 2011?	9/1/11	1/3/12
1004	Will the United Nations General Assembly recognize a Palestinian state by 30 September 2011?	9/1/11	9/30/11
1005	Will Daniel Ortega win another term as President of Nicaragua during the late 2011 elections?	9/1/11	11/5/11
1006	Will Italy restructure or default on its debt by 31 December 2011?	9/1/11	1/3/12
1007	Will there be a lethal confrontation involving government forces in the South China Sea or East China Sea by 31 December 2011?	9/1/11	12/11/11

1008	By 31 December 2011, will the World Trade Organization General Council or Ministerial Conference approve the 'accession package' for WTO membership for Russia?	9/1/11	12/16/11
1009	By 1 January 2012 will the Iraqi government sign a security agreement that allows US troops to remain in Iraq?	9/1/11	1/3/12
1010	Will the 30 Sept 2011 "last" PPB for Nov 2011 Brent Crude oil futures* exceed \$115?	9/7/11	9/30/11
1011	Will the Nikkei 225 index finish trading at or above 9,500 on 30 September 2011?	9/7/11	9/29/11
1012	Will Italy's Silvio Berlusconi resign, lose re-election/confidence vote, OR otherwise vacate office before 1 October 2011?	9/7/11	9/30/11
1013	Will the London Gold Market Fixing price of gold (USD per ounce) exceed \$1850 on 30 September 2011 (10am ET)?	9/7/11	9/30/11
1014	Who will win the September 2011 Guatemalan presidential election, or will a run-off be needed?	9/7/11	9/10/11
1015	Will Israel's ambassador be formally invited to return to Turkey by 30 September 2011?	9/7/11	9/30/11
1016	Will PM Donald Tusk's Civic Platform Party win more seats than any other party in the October 2011 Polish parliamentary elections?	9/7/11	10/8/11
1017	Will Robert Mugabe cease to be President of Zimbabwe by 30 September 2011?	9/7/11	9/30/11
1018	Will Muqtada al-Sadr formally withdraw support for the current Iraqi government of Nouri al-Maliki by 30 September 2011?	9/7/11	9/30/11
1020	Will peace talks between Israel and Palestine formally resume at some point between 3 October 2011 and 1 November 2011?	10/4/11	11/1/11
1021	Will the expansion of the European bailout fund be ratified by all 17 Eurozone nations before 1 November 2011?	10/4/11	10/13/11
1022	Will the South African government grant the Dalai Lama a visa before 7 October 2011?	10/4/11	10/6/11
1023	Will former Ukrainian Prime Minister Yulia Tymoshenko be found guilty on any charges in a Ukrainian court before 1 November 2011?	10/4/11	10/10/11
1024	Will Abdoulaye Wade win re-election as President of Senegal?	10/4/11	3/25/12

1025	Will the Freedom and Justice Party win at least 20 percent of the seats in the first People's Assembly (Majlis al-Sha'b) election in post-Mubarak Egypt?	10/4/11	1/20/12
1026	Will Joseph Kabila remain president of the Democratic Republic of the Congo through 31 January 2012?	10/4/11	1/31/12
1027	Who will win the January 2012 Taiwan Presidential election?	10/4/11	1/13/12
1028	Will Moody's issue a new downgrade of the sovereign debt rating of the Government of Greece between 3 October 2011 and 30 November 2011?	10/4/11	11/30/11
1030	Will the UN Security Council pass a measure/resolution concerning Syria in October 2011?	10/4/11	10/31/11
1031	Will the U.S. Congress pass a joint resolution of disapproval in October 2011 concerning the proposed \$5+ billion F-16 fleet upgrade deal with Taiwan?	10/4/11	10/21/11
1032	Will the Japanese government formally announce the decision to buy at least 40 new jet fighters by 30 November 2011?	10/4/11	11/30/11
1033	Will the Tunisian Ennahda party officially announce the formation of an interim coalition government by 15 November 2011?	11/8/11	11/15/11
1034	Will Japan officially become a member of the Trans-Pacific Partnership before 1 March 2012?	11/8/11	2/29/12
1035	Will the United Nations Security Council pass a new resolution concerning Iran by 1 April 2012?	11/8/11	4/1/12
1036	Will media reports indicate that Iraq has experienced a military coup (or attempted coup) before 1 June 2012?	11/8/11	5/31/12
1037	Will Greece remain a member of the EU through 1 June 2012?	11/8/11	6/1/12
1038	Will Hamad bin Isa al-Khalifa remain King of Bahrain through 31 January 2012?	11/8/11	1/31/12
1039	Will Bashar al-Assad remain President of Syria through 31 January 2012?	11/8/11	1/31/12
1040	Will Aleksandr Lukashenko remain president of Belarus through 30 June 2012?	11/8/11	6/30/12
1041	Will Italy's Silvio Berlusconi resign, lose re-election/confidence vote, OR otherwise vacate office before 1 January 2012?	11/8/11	11/12/11

1042	Will Lucas Papademos be the next Prime Minister of Greece?	11/8/11	11/10/11
1043	Will Lucas Papademos resign, lose re-election/confidence vote, or vacate the office of Prime Minister of Greece before 1 March 2012?	12/12/11	2/29/12
1044	Will the United Kingdom's Tehran embassy officially reopen by 29 February 2012?	12/12/11	2/29/12
1045	Will a trial for Saif al-Islam Gaddafi begin in any venue by 31 March 2012?	12/12/11	3/31/12
1046	Will Australia formally transfer Uranium to India by 1 June 2012?	12/14/11	6/1/12
1047	Will a foreign or multinational military force fire on, invade, or enter Iran before 1 September 2012?	12/14/11	8/31/12
1048	Will S&P downgrade the AAA long-term credit rating of the European Financial Stability Facility (EFSF) by 30 March 2012?	12/14/11	1/16/12
1049	Will Asif Ali Zardari resign, lose re-election/confidence vote, or vacate the office of President of Pakistan before 1 June 2012?	12/14/11	5/31/12
1050	Will the next Palestinian general election commence by 1 June 2012?	12/19/11	6/1/12
1051	Will Mario Monti resign, lose re-election/confidence vote, or vacate the office of Prime Minister of Italy before 1 January 2013?	12/19/11	12/21/12
1052	Will Aung San Suu Kyi be sworn in or seated as a member of Parliament in Myanmar (Burma) before 1 January 2013?	12/19/11	5/2/12
1053	By 31 December 2012, will the UK officially announce its intention* to withdraw from the EU?	12/19/11	12/31/12
1054	Will a North Korean or multinational military force fire on, invade, or enter South Korea before 1 June 2012?	12/19/11	5/31/12
1055	Will North Korea successfully detonate a nuclear weapon, either atmospherically, underground, or underwater, between 9 January 2012 and 1 April 2012?	1/9/12	4/1/12
1056	Will 1 Euro buy less than \$1.20 US dollars at any point before 1 January 2013?	1/9/12	12/31/12
1057	Will the Russian military deploy* additional Iskander missiles before 1 February 2013?	1/9/12	1/31/13
1058	By 1 April 2012, will Egypt officially announce its withdrawal from its 1979 peace treaty with Israel?	1/9/12	4/1/12

1059	Will Kim Jong-un attend an official, in-person meeting with any G8 head of government* before 1 April 2012?	1/9/12	3/31/12
1060	Will Christian Wulff resign or vacate the office of President of Germany before 1 April 2012?	1/9/12	2/16/12
1061	Will Syria's Arab League membership be reinstated* by 31 December 2012?	1/9/12	12/31/12
1062	Will the daily Europe Brent Crude FOB spot price per barrel be greater than or equal to \$150 before 3 April 2012?	1/9/12	4/2/12
1063	Will the Taliban begin official* in-person negotiations with either the US or Afghan government by 1 April 2012?	1/23/12	4/1/12
1064	Will Yousaf Raza Gillani resign, lose confidence vote, or vacate the office of Prime Minister of Pakistan before 1 April 2012?	1/23/12	3/31/12
1065	Will there be a significant* lethal confrontation involving government forces in the South China Sea or East China Sea between 23 January 2012 and 31 December 2012?	1/23/12	12/31/12
1066	Will Yemen's next presidential election commence before 1 April 2012?	1/23/12	2/20/12
1067	Will Traian Basescu resign, lose referendum vote, or vacate the office of President of Romania before 1 April 2012?	1/23/12	3/31/12
1068	Will the UN Security Council pass a new measure/resolution directly concerning Syria between 23 January 2012 and 31 March 2012?	1/23/12	3/31/12
1069	Before 1 April 2012, will South Korea officially* announce a policy of reducing Iranian oil imports in 2012?	1/23/12	3/31/12
1070	Will Israel release Palestinian politician Aziz Duwaik from prison before 1 March 2012?	1/23/12	2/29/12
1071	Will Iran and the U.S. commence official nuclear program talks* before 1 April 2012?	1/30/12	3/31/12
1072	Will Serbia be officially granted EU candidacy before 1 April 2012?	1/30/12	3/1/12
1073	Will the IMF officially announce before 1 April 2012 that an agreement has been reached to lend Hungary an additional 15+ Billion Euros?	1/30/12	3/31/12
1074	Will Libyan government forces regain control* of the city of Bani Walid before 6 February 2012?	1/30/12	2/5/12

1075	Will a run-off be required in the 2012 Russian presidential election?	1/30/12	3/4/12
1076	Will the Iraqi government officially announce before 1 April 2012 that it has dropped all criminal charges against its VP Tareq al-Hashemi?	1/30/12	3/31/12
1077	Will Egypt officially announce by 15 February 2012 that it is lifting* its travel ban on Americans currently in Egypt?	1/30/12	2/15/12
1078	Will a Japanese whaling ship enter Australia's territorial waters between 7 February 2012 and 10 April 2012?	2/7/12	4/10/12
1079	Who will win the 2012 Venezuela presidential primary for a unified opposition candidate to Hugo Chavez?	2/7/12	2/12/12
1080	Will the Republic of Macedonia* be a NATO member before 1 April 2013?	2/7/12	3/31/13
1081	Will the Nigerian government and Boko Haram commence official talks before 31 December 2012?	2/7/12	12/30/12
1082	Will William Ruto cease to be a candidate for President of Kenya before 10 April 2012?	2/7/12	4/9/12
1083	Will Marine LePen cease to be a candidate for President of France before 10 April 2012?	2/7/12	4/9/12
1084	Who will win Venezuela's 2012 presidential election?	2/21/12	10/7/12
1085	Between 21 February 2012 and 1 April 2012, will the UN Security Council announce any reduction of its peacekeeping force in Haiti?	2/21/12	4/1/12
1086	Will Mohamed Waheed Hussain Manik resign or otherwise vacate the office of President of Maldives before 10 April 2012?	2/21/12	4/9/12
1087	Will Amr Moussa win the next Egyptian presidential election?	2/21/12	5/29/12
1088	Will Japan commence parliamentary elections before 1 April 2012?	2/21/12	3/31/12
1089	Will Iran successfully detonate a nuclear device, either atmospherically, underground, or underwater before 1 January 2013?	2/21/12	12/31/12
1090	Before 13 April 2012, will the Turkish government officially announce that the Turkish ambassador to France has been recalled?	2/21/12	4/12/12

1091	Will Standard and Poor's downgrade Japan's Foreign Long Term credit rating at any point between 21 February 2012 and 1 April 2012?	2/21/12	4/1/12
1092	Will Myanmar release at least 100 more political prisoners between 21 February 2012 and 1 April 2012?	2/21/12	4/1/12
1093	Will at least one Taliban representative be appointed to serve as a minister in the Afghan government before 1 January 2013?	2/21/12	12/31/12
1094	Will Zimbabwe commence a presidential election before 1 January 2013?	2/21/12	12/31/12
1095	Will there be a significant* outbreak of H5N1 in China in 2012?	2/21/12	12/31/12
1096	Will a civil war break out in Syria between 21 February 2012 and 1 April 2012?	2/21/12	4/1/12
1097	Will Tunisia officially announce an extension of its current state of emergency before 1 April 2012?	3/5/12	3/31/12
1098	Will a foreign or multinational military force fire on, invade, or enter Syria between 6 March 2012 and 31 December 2012?	3/5/12	10/3/12
1099	Before 1 April 2012, will Al-Saadi Gaddafi be extradited to Libya?	3/5/12	3/31/12
1100	Will the Colombian government and FARC commence official talks before 1 January 2013?	3/5/12	10/17/12
1101	Will Laurent Lamothe be ratified as Haiti's Prime Minister before 1 April 2012?	3/5/12	3/31/12
1102	Will Ireland ratify the European Fiscal Compact in a referendum vote before 1 October 2012?	3/5/12	6/1/12
1103	Before 1 April 2012, will the Sudan and South Sudan governments officially announce an agreement on oil transit fees?	3/5/12	3/31/12
1104	Will Yemeni government forces regain control of the towns of Jaar and Zinjibar from Al-Qaida in the Arabian Peninsula (AQAP) before 1 April 2012?	3/5/12	3/31/12
1105	Will Standard and Poor's downgrade the United Kingdom's Foreign Long Term credit rating at any point between 18 June 2012 and 1 April 2013?	6/18/12	3/31/13
1106	Will Kim Jong-un resign or otherwise vacate the office of Supreme Leader of North Korea before 1 April 2013?	6/18/12	3/31/13
1107	When will an Egyptian Referendum vote approve a new constitution?	6/18/12	12/25/12

1108	When will Japan officially become a member of the Trans-Pacific Partnership?	6/18/12	3/31/13
1109	Will any country officially announce its intention to withdraw* from the Eurozone before 1 April 2013?	6/18/12	3/31/13
1110	When will North Korea successfully detonate a nuclear device, either atmospherically, underground, or underwater?	6/18/12	2/11/13
1111	When will the UN announce that Iran has signed an official nuclear monitoring deal with the UN?	6/18/12	3/31/13
1112	When will Bashar al-Assad resign or otherwise vacate the office of President of Syria?	6/18/12	3/31/13
1113	When will Viktor Orban resign or otherwise vacate the office of Prime Minister of Hungary?	6/25/12	3/31/13
1114	Will Raja Pervez Ashraf resign or otherwise vacate the office of Prime Minister of Pakistan before 1 April 2013?	6/25/12	3/24/13
1115	Will the UN Security Council pass a new resolution before 1 April 2013 that supports military intervention* in Mali?	6/25/12	12/20/12
1116	Will Libya commence legislative elections before 8 July 2012?	6/25/12	7/6/12
1117	Will Fayez al-Tarawneh resign or otherwise vacate the office of Prime Minister of Jordan before 1 January 2013?	6/25/12	10/9/12
1119	When will Libya name a new prime minister?	7/16/12	9/12/12
1120	Will Spanish government generic 10-year bond yields equal or exceed 7% at any point before 1 September 2012?	7/16/12	7/18/12
1121	Will the Palestinian group Islamic Jihad significantly violate its cease-fire with Israel before 30 September 2012?	7/16/12	10/1/12
1122	When will Nouri al-Maliki resign, lose confidence vote, or vacate the office of Prime Minister of Iraq?	7/16/12	3/31/13
1123	Will the Romanian people approve the removal of Traian Basescu from the office of President of Romania in a referendum vote before 1 August 2012?	7/16/12	7/31/12
1124	Will Israel officially announce that it recognizes the Armenian genocide before 1 April 2013?	7/16/12	3/31/13
1125	When will South Korea and Japan sign a new military intelligence pact*?	7/16/12	3/31/13
1126	When will Turkey ratify a new constitution?	7/16/12	5/1/13

1127	Will Moody's issue a new downgrade on the long-term ratings for any of the eight major French banks between 30 July 2012 and 31 December 2012?	7/30/12	12/31/12
1128	Will Iran blockade the Strait of Hormuz before 1 January 2014?	7/30/12	12/31/13
1129-b	Will Syria use chemical or biological weapons before 1 January 2013?	7/30/12	12/31/12
1130	Will Moody's issue a new downgrade of the long term debt rating of the Government of Germany between 30 July 2012 and 31 March 2013?	7/30/12	3/31/13
1131	Will Victor Ponta resign or vacate the office of Prime Minister of Romania before 1 November 2012?	7/30/12	10/31/12
1132-b	Will al-Shabaab commence official talks with the Somali government before 1 January 2013?	7/30/12	12/31/12
1134	When will the Free Syrian Army gain control of the city of Aleppo?	8/13/12	10/31/12
1135	Will the number of registered Syrian conflict refugees reported by the UNHCR exceed 250,000 at any point before 1 April 2013?	8/13/12	10/8/12
1136	Will Kuwait commence parliamentary elections before 1 October 2012?	8/13/12	10/1/12
1137	Will the United Kingdom's Liberal Democrats and Conservatives remain in a coalition through 1 April 2013?	8/13/12	3/31/13
1138-a	Will the Democratic People's Republic of Korea (North Korea) and the Republic of Korea (South Korea) commence official bilateral talks before 1 August 2013?	8/13/12	5/8/13
1139	Will any government force gain control of the Somali town of Kismayo before 1 November 2012?	8/27/12	10/4/12
1140	Will at least one individual be convicted of the July 2011 killing of Iranian nuclear physicist Darioush Rezaeinejad by an Iranian court of law before 1 January 2013?	8/27/12	12/31/12
1141	Who will win Ghana's next Presidential election?	8/27/12	12/9/12
1142	Will a foreign or multinational military force invade, enter or significantly* fire on Iran before 21 January 2013?	8/27/12	1/20/13
1143-a	Will the IMF officially announce before 1 January 2013 that an agreement has been reached to lend Egypt at least 4 billion USD?	8/27/12	12/31/12

1144-a	Will Mariano Rajoy resign or otherwise vacate the office of Prime Minister of Spain before 1 February 2013?	9/10/12	1/31/13
1145-a	Will the Yuan to Dollar exchange rate on 31 December 2012 be more than 5% different than the 31 August 2012 exchange rate?	9/10/12	12/31/12
1146	Will the World Trade Organization (WTO) rule in favor of the rare earth metals complaint filed by the European Union against China before 31 December 2013?	9/10/12	12/30/13
1147	Before 1 April 2013, will the Egyptian government officially announce it has started construction of a nuclear power plant at Dabaa?	9/10/12	3/31/13
1149	Will the sentence of any of the three members of the band Pussy Riot who were convicted of hooliganism be reduced, nullified, or suspended before 1 December 2012?	9/10/12	10/9/12
1150	Will Sudan and South Sudan sign a border security agreement before 1 December 2012?	9/25/12	9/27/12
1151-b	Will Japan and North Korea announce an agreement to establish formal diplomatic relations before 1 April 2013?	9/25/12	3/31/13
1152	Will the Vice President of Iraq, Tariq al-Hashimi's, death sentence be overturned before 1 November 2012?	9/25/12	10/31/12
1153	Before 1 December 2012, will Joseph Kony be *captured by a Ugandan, foreign or multinational military/law enforcement force?	9/25/12	11/30/12
1154-b	Before 1 April 2013 will the North Korean government officially announce it has invited UN nuclear inspectors to visit the country?	9/25/12	3/31/13
1155	What change will occur in the FAO Food Price index during September 2012?	9/25/12	10/3/12
1156-a	Will the new leader of Japan's Liberal Democratic Party (LDP) Shinzo Abe be declared Prime Minister of Japan before 1 October 2013?	10/9/12	12/25/12
1157	Which political parties will be a part of the next Lithuanian coalition government?	10/9/12	11/19/12
1158-b	Will the Malian government and Ansar Dine commence official talks before 1 April 2013?	10/9/12	12/4/12

1159	Will either the French or Swiss inquiries find elevated levels* of polonium in the remains of Yasser Arafat's body?	10/9/12	11/5/13
1160	Will a significant* Turkish military force invade or enter Syria between 9 October 2012 and 30 November 2012?	10/9/12	11/30/12
1161	Will the IMF officially announce sanctions on Argentina before 1 February 2013 if the International Monetary Fund (IMF) officially announces that Argentina has failed to provide the IMF with sufficient growth and inflation data before 20 December 2012?	10/23/12	1/31/13
1162	Will the Canadian consulate in Tehran officially re-open at any time before 1 April 2013?	10/23/12	3/31/13
1164	What will the number of registered Syrian conflict refugees reported by the UNHCR be as of 1 December 2012?	10/23/12	12/1/12
1165	Will Iran and the U.S. commence official nuclear program talks* before 1 April 2013?	10/23/12	2/25/13
1166-b	Will Israel launch an airstrike against Sudan between 5 November 2012 and 31 December 2012?	11/5/12	12/31/12
1167-b	Will a banking union be approved in the EU council before 1 March 2013?	11/5/12	12/12/12
1168	Will the sentence of any of the seven Italian experts convicted of manslaughter for failing to "adequately warn" about the L'Aquila earthquake be reduced, nullified, or suspended before 1 April 2013?	11/5/12	3/31/13
1169	Who will win the next South Korean presidential election?	11/5/12	12/19/12
1170	Will S&P downgrade India's credit rating between 5 November 2012 and 31 January 2013?	11/5/12	1/31/13
1171-b	Will the trial of Ahmed Shafik begin before 1 January 2013?	11/19/12	12/31/12
1172-b	Will the Taliban and the Afghan government commence official peace talks before 1 September 2013?	11/19/12	8/31/13
1173	Will the Chinese consumer confidence score for the month of November 2012 drop below 99?	11/19/12	12/28/12
1174	Will the Turkish government release imprisoned Kurdish rebel leader Abdullah Ocalan before 1 April 2013?	11/19/12	3/31/13

1175-b	Will a *significant Israeli military force invade or enter the Gaza strip between 19 November and 30 November 2012?	11/19/12	11/30/12
1176	Will Angela Merkel win the next election for Chancellor of Germany?	12/3/12	12/16/13
1177	Will Mohammed Morsi cease to be President of Egypt before 1 April 2013?	12/3/12	3/31/13
1179	Will opposition forces in Syria seize control of the Syrian city of Aleppo by 30 April 2013?	12/3/12	4/30/13
1180	Will a significant* foreign or multinational military force invade or enter Iran between 17 December 2012 and 31 March 2013?	12/17/12	3/31/13
1181	Will Iran sign an IAEA Structured Approach document before 1 April 2013?	12/17/12	3/31/13
1182	Will Mahmoud Ahmadinejad resign or otherwise vacate the office of President of Iran before 1 April 2013?	12/17/12	3/31/13
1183	Will the United Nations Security Council pass a new resolution directly concerning Iran between 17 December 2012 and 31 March 2013?	12/17/12	3/31/13
1184	Before 1 April 2013, will substantial* evidence emerge that Iran has enriched any uranium above 27% purity?	12/17/12	3/31/13
1185-b	Will there be a substantial* lethal confrontation involving Iraqi government forces and Kurdish fighters before 1 April 2013?	1/7/13	3/31/13
1186	Who will be the next president of Cyprus?	1/7/13	2/28/13
1187-b	Will M23 seize, recapture, or otherwise occupy the city of Goma at any time before 1 April 2013?	1/7/13	3/31/13
1188-b	Will North Korea attempt launch of a multistage rocket between 7 January 2013 and 1 September 2013?	1/7/13	8/31/13
1190-b	Will Italian ten-year government bond yields be below 4% as of 31 March 2013?	1/22/13	3/31/13
1191-b	Will the official US Dollar to Venezuelan Bolivar exchange rate exceed 4.35 at any point before 1 April 2013?	1/22/13	2/12/13
1192-a	Will Uhuru Kenyatta be found guilty of any charges by the International Criminal Court before 1 September 2013?	1/22/13	4/11/13

1194-b	Will a measurable* Syrian military force invade or enter Israel between 4 February 2013 and 1 April 2013?	2/4/13	4/1/13
1195-b	Will a measurable* Israeli military force invade or enter Syria between 4 February 2013 and 1 April 2013?	2/4/13	4/1/13
1196-a	Will any foreign or multinational military force significantly* attack North Korea before 1 April 2013?	2/4/13	3/31/13
1197-b	Will a foreign state or multinational coalition officially announce a no-fly zone over Syria before 1 January 2014?	2/4/13	12/31/13
1198-b	Will Egypt lift the state of emergency in Port Said, Suez, and Ismailiya before 25 February 2013?	2/4/13	2/24/13
1199	Will Hamadi Jebali cease to be Prime Minister of Tunisia before 1 April 2013?	2/12/13	2/19/13
1200-a	Will Mali commence presidential elections before 1 January 2014?	2/12/13	5/1/13
1201	When will Mariano Rajoy vacate the office of Prime Minister of Spain?	2/12/13	4/7/13
1202-b	Will the Malian government and National Movement for the Liberation of Azawad (MNLA) begin official talks before 1 April 2013?	2/12/13	3/31/13
1203	Will a Zimbabwean referendum vote approve a new constitution before 1 April 2013?	2/26/13	3/19/13
1204	Will Egypt commence parliamentary elections before 23 April 2013?	2/26/13	4/22/13
1205	Who will be the next Pope?	2/26/13	3/13/13
1206	When will Italy next form a new government?	3/11/13	3/31/13
1207	Will France withdraw at least 500 troops from Mali before 10 April 2013?	3/11/13	4/9/13
1208	Will the Syrian government commence official talks with Syrian opposition forces before 1 September 2013?	3/20/13	8/31/13
1209	Will Standard & Poor's improve Tunisia's sovereign credit rating or outlook before 10 April 2013?	3/11/13	4/9/13
1210-b	Will a significant North Korean military force violate the Military Demarcation Line (MDL) of the Korean Demilitarized Zone (DMZ) before 1 October 2013?	3/11/13	9/30/13
1211-a	Will the Liberal Democratic Party (LDP) hold a relative majority of seats in the Japanese Parliament's upper house following the next	3/11/13	7/20/13

	elections?		
1212	Will there be a significant lethal confrontation in the East China Sea region between Japan and China before 1 January 2014?	3/11/13	12/31/13
1213	Will the Euro buy less than \$1.27 at any point before 10 April 2013?	3/25/13	4/9/13
1214	Will Standard & Poor's improve Cyprus' sovereign credit rating or outlook before 10 April 2013?	3/25/13	4/9/13
1215	Will Turkey ratify a new constitution before 1 February 2014?	7/15/13	1/31/14
1216	Will Uhuru Kenyatta be found guilty of any charges by the International Criminal Court before 1 September 2013?	7/15/13	8/31/13
1218-b	Will China seize control* of the Second Thomas Shoal before 1 January 2014?	9/25/13	12/31/13
1219-b	Before 1 May 2014, will Myanmar *officially announce that construction of the Myitsone Dam will resume?	1/15/14	4/30/14
1220	Before 1 May 2014, will Chinese armed forces or maritime law enforcement forces attempt to interdict or make physical contact with at least one U.S. government naval vessel or airplane or Japanese government naval vessel or airplane that it claims is in its territorial waters or airspace?	7/31/13	12/13/13
1221	When will the official Chinese renminbi-to-U.S. dollar exchange rate exceed 0.17?	8/28/13	4/30/14
1222	What will China's official quarterly GDP growth rate for Q3 2013 be?	7/31/13	10/17/13
1223	Which of these events will occur before 1 May 2014?	8/14/13	4/30/14
1225-b	Before 1 May 2014, will Iran abolish the office of President of the Islamic Republic?	9/11/13	4/30/14
1226-b	Will six-party talks with North Korea resume before 1 January 2014?	8/7/13	12/31/13
1227	When will South Korean workers resume work at the Kaesong Industrial Complex in North Korea?	7/31/13	9/16/13
1231-b	Before 1 May 2014, will Nicolas Maduro vacate the office of President of Venezuela?	8/14/13	4/30/14

1232-b	Before 1 January 2014, will the government of Bolivia invite the U.S. Agency for International Development (USAID) to resume work in Bolivia?	7/31/13	12/31/13
1234-b	Before 1 January 2014, will the government of Afghanistan sign a Status of Forces Agreement (SOFA) permitting U.S. troops to remain in Afghanistan?	7/31/13	12/31/13
1235	When will the Leadership Council of the Islamic Emirate of Afghanistan announce that it accepts the constitution of the Republic of Afghanistan?	9/19/13	4/30/14
1238	Who will be the head of government of Saudi Arabia as of 1 May 2014?	9/19/13	4/30/14
1240	Will Libya complete elections for a Constitutional Commission before 1 October 2013?	7/31/13	9/30/13
1241	When will a U.N.-sponsored international conference on Syria convene with official representatives of both the Syrian government and the Syrian National Coalition in attendance?	8/7/13	12/31/13
1243	What percentage of countries worldwide will Freedom House identify as "electoral democracies" in its 2014 Freedom in the World Report?	8/7/13	1/22/14
1244	Will India and/or Brazil become a permanent member of the U.N. Security Council before 1 March 2015?	8/28/13	2/28/15
1245	When will the International Monetary Fund announce that it has ratified a change to the voting shares for its member countries?	7/31/13	4/30/14
1249-b	Will China deploy any armed unmanned aerial vehicles (UAVs) over the territory of another country before 1 May 2014?	8/28/13	4/30/14
1251	Will Guinea commence legislative elections before 1 October 2013?	8/14/13	9/27/13
1252-a	Before 1 May 2014, will Joseph Kony be *captured or *incapacitated by a Ugandan, foreign or multinational military/law enforcement force?	8/14/13	4/30/14
1253-b	Before 1 December 2013, will Egypt impose a constitutional ban on political parties based on *religion?	8/14/13	11/30/13
1254-b	Before 1 April 2014, will the International Atomic Energy Agency (IAEA) inspect the Parchin Military Complex?	8/14/13	3/31/14

1255-b	Before 1 May 2014, will Iran *test a ballistic missile with a reported range greater than 2,500 km?	8/21/13	4/30/14
1256	How much will *world economic output grow in 2013?	8/21/13	4/2/14
1257	Before 1 February 2014, will either India or Pakistan recall its High Commissioner from the other country?	8/21/13	1/31/14
1258	Who will become the next Prime Minister of Australia?	8/21/13	9/17/13
1259-b	Will Prince Khalifa bin Salman Al Khalifa be Prime Minister of Bahrain on 1 February 2014?	8/28/13	1/31/14
1261	What will the outcome of Bo Xilai's trial be?	8/28/13	9/21/13
1262-a	Will Syria attack Israel between 28 August 2013 and 31 December 2013?	8/28/13	12/31/13
1263-a	Will Nawaz Sharif vacate the office of Prime Minister of Pakistan before 1 May 2014?	9/11/13	4/30/14
1264	What will be Moody's next action on the credit rating of the Government of Ireland between 11 September and 1 November 2013?	9/11/13	10/31/13
1265	Between 11 September and 1 December 2013, what will be the highest daily close for the U.S. dollar-Japanese yen exchange rate?	9/11/13	11/30/13
1266-b	Before 1 March 2014, will Gazprom announce that it has unilaterally reduced natural-gas exports to Ukraine?	9/19/13	2/28/14
1267	Who will win the next presidential election to be held in Honduras?	9/11/13	11/25/13
1268	When will the United Nations Security Council next pass a new resolution directly concerning Syria's chemical weapons?Â	9/11/13	9/27/13
1269-a	Will the Organization for the Prohibition of Chemical Weapons (OPCW) complete its initial on-site inspections of Syria's declared chemical weapons sites before 1 December 2013?	9/19/13	10/27/13
1271-b	Before 1 March 2014, will North Korea conduct anotherÂ successful nuclear detonation?	9/19/13	2/28/14
1273	Who will win the next presidential election in Georgia?	9/25/13	10/27/13

1274	Before 1 May 2014, will any non-U.S. actor use, in a lethal confrontation, either a firearm containing a critical part made with 3D printing technology or a lethal explosive device containing a critical part made with 3D printing technology?	11/20/13	4/30/14
1275-b	Between 25 September 2013 and 31 March 2014, will any members or alternate members of the 18th Central Committee of the Communist Party of China be arrested on charges of bribery, embezzlement, or abuse of power?	9/25/13	3/31/14
1276	Before or during its next plenary meeting, will the Central Committee of the Communist Party of China announce that it plans to reform the hukou system nationwide by 2015?	10/9/13	11/11/13
1277-b	Before 1 May 2014, will Russia sign an agreement with the de facto government of South Ossetia delineating the border between the two?	10/9/13	4/30/14
1278	Will the *M-PESA system have a failure that results in at least 100,000 subscribers losing all ability to send and receive money from their accounts for at least 48 hours before 31 December 2013?	10/9/13	12/30/13
1279	Before 1 May 2014, will the government of Colombia and the FARC sign a formal peace agreement?	10/16/13	4/30/14
1281	Before 1 May 2014, will any U.N. member state offer diplomatic recognition to the government of a new state on what is now territory of Syria, Turkey, or Iraq?	10/16/13	4/30/14
1289-b	Before 1 December 2013, will the government of Pakistan and Tehrik-i-Taliban Pakistan announce that they have agreed to engage in direct talks with one another?	10/16/13	11/30/13
1290-b	Will the president of Brazil come to the United States for an official State Visit before 1 February 2014?	10/16/13	1/31/14
1291	What will be the lowest end-of-day price of Brent Crude Oil between 16 October 2013 and 1 February 2014?	10/16/13	1/31/14
1292	Before 1 May 2014, will construction begin on the Lamu oil pipeline?	10/16/13	4/30/14
1293-b	Will the INC (India National Congress) win more seats than any other party in the Lok Sabha in the 2014 General Elections in India?	10/23/13	5/16/14

1294	Before 1 April 2014, will the government of Syria and the Syrian Supreme Military Command announce that they have agreed to a cease-fire?	11/13/13	3/31/14
1295-b	Will defense expenditures in Japan's initial draft budget for fiscal year 2014 exceed 1 percent of projected gross domestic product (GDP)?	10/16/13	12/23/13
1296	Before 1 January 2014, how many cases of the Middle East respiratory syndrome coronavirus (MERS-CoV) occurring among pilgrims who attended the 2013 Hajj will be *reported?	10/23/13	12/31/13
1297-b	Will the United Kingdom's Tehran embassy *officially reopen before 31 December 2013?	10/23/13	12/30/13
1300	Between 6 November 2013 and 1 April 2014, how many violent attacks will be reported on the Arab Gas Pipeline?	11/6/13	12/25/13
1301-b	Will Facebook and/or Twitter be available in China's Shanghai Free Trade Zone before 31 March 2014?	11/6/13	3/30/14
1302-a	Before 1 May 2014, will Russia rescind its law barring US citizens from adopting Russian children?	11/6/13	4/30/14
1303	At the opening session of the 2014 UN Security Council, what country will sit in the non-permanent seat to which Saudi Arabia was elected in 2013?	11/6/13	1/6/14
1304-b	Before 1 February 2014, will Iran officially announce that it has agreed to *significantly limit its uranium enrichment process?	11/6/13	11/23/13
1308	As of 31 March 2014, what will be the last total value of cumulative pledges to the Least Developed Countries Fund (LDCF) reported by the Global Environmental Facility (GEF)?	11/6/13	3/31/14
1310	Before 1 May 2014, will the government of any country other than Armenia, Belarus, Kazakhstan, Kyrgyzstan, Russia or Tajikistan announce its intention to join the Eurasian Customs Union?	12/4/13	2/16/14
1311	What will be the projected real GDP growth for the world in 2014 in the International Monetary Fund's April 2014 World Economic Outlook Report?	11/13/13	4/2/14
1312	Between 13 November 2013 and 1 March 2014, what will be the peak value of the BofA Merrill Lynch Euro High Yield Index Option-Adjusted Spread?	11/13/13	2/28/14
1314	What will be the outcome of Chile's next legislative elections?	11/6/13	11/17/13

1315-b	Before 1 April 2014, will one or more countries impose a new requirement on travelers to show proof of a polio vaccination before entering the country?	11/13/13	12/11/13
1316	Which of the following will occur in the next municipal elections in Venezuela?	11/13/13	12/8/13
1318-b	Before 1 January 2014, will the Prime Minister of Japan visit the Yasukuni Shrine?	11/13/13	12/25/13
1319	Will Russia file a formal World Trade Organization (WTO) anti-dumping dispute against the European Union (EU) before 31 March 2014?	11/20/13	1/5/14
1320	Before 1 May 2014, will China arrest Wang Zheng on charges of incitement to subvert state power and/or subversion of state power and/or incite separatism?	12/4/13	4/30/14
1321	Will the general elections in Guinea-Bissau commence on 16 March 2014 as planned?	12/4/13	3/16/14
1322	Between 4 December 2013 and 1 March 2014, will the European Commission *officially state that Italy is eligible for the investment clause?	12/4/13	2/28/14
1323-b	Will South Korea and Japan sign a *new military intelligence pact before 1 March 2014?	12/4/13	2/28/14
1324	Will North Kosovo experience any *election-related violence before 31 December 2013?	12/4/13	12/30/13
1325	Before 1 March 2014, will the U.S. and E.U. *officially announce that they have reached at least partial agreement on the terms of a Transatlantic Trade and Investment Partnership (TTIP)?	12/4/13	2/28/14
1327	Before 1 March 2014, will the European Commission (EC) announce that Turkey is permitted to open a *new chapter of accession negotiations?	1/8/14	2/28/14
1328	Before 31 March 2014, will the Slovenian government *officially announce that it will seek a loan from either the European Union bailout facilities or the IMF?	1/15/14	3/30/14
1329	Before 1 May 2014, will General Abdel Fattah al-Sisi announce that he plans to stand as a candidate in Egypt's next presidential election?	1/22/14	3/26/14
1330	Before 1 May 2014, will the U.S. and the European Union reach an agreement on a plan to protect individuals' data privacy?	1/15/14	4/30/14

1332	Before 1 May 2014, will official representatives of the Syrian government and the Syrian opposition formally agree on a *political plan for Syria?	1/22/14	4/30/14
1333	Will the six-party talks with North Korea resume before 1 May 2014?	1/8/14	4/30/14
1334	How many Japanese nuclear reactors will be operational as of 31 March 2014?	1/15/14	3/31/14
1335	Before 1 March 2014, will the International Atomic Energy Agency (IAEA) announce that it has visited the Gchine uranium mine site in Iran?	1/8/14	2/8/14
1336	How many countries will *officially ban WhatsApp before 1 May 2014?	1/15/14	4/30/14
1337	Before 31 March 2014, will either Peru or India announce their intention to formally launch negotiations on a preferential trade agreement (PTA) with each other?	1/22/14	3/30/14
1339	What will be the number of registered Syrian refugees reported by the UNHCR as of 1 April 2014?	1/8/14	3/31/14
1340	Will Israel release all of the 104 Palestinian prisoners from its jails before 1 May 2014?	1/8/14	4/30/14
1341	Will Thailand *commence parliamentary elections on or before 2 February 2014?	1/15/14	1/25/14
1342	Will inflation in Japan reach 2 percent at any point before 1 April 2014?	1/15/14	4/24/14
1343	What will be the highest reported monthly average of Mexican oil exports to the United States between 5 February 2014 and 1 April 2014?	2/5/14	4/1/14
1344	Will the U.N. Security Council approve a U.N. peacekeeping operation for the Central African Republic before 1 April 2014?	1/22/14	3/31/14
1345-b	Will negotiations on the TransPacific Partnership (TPP) *officially conclude before 1 May 2014?	2/19/14	4/30/14
1347-b	Will Viktor Yanukovich vacate the office of President of Ukraine before 10 May 2014?	2/5/14	2/21/14
1348	Will Ukraine *officially declare a state of emergency before 10 May 2014?	2/5/14	5/9/14
1349	Will there be a *lethal confrontation between national military forces from China and Japan before 1 May 2014?	1/22/14	4/30/14

1350	Before 1 May 2014, will China confiscate the catch or equipment of any foreign fishing vessels in the South China Sea for failing to obtain prior permission to enter those waters?	1/22/14	3/20/14
1351	Before 1 May 2014, will Iran install any new *centrifuges?	1/22/14	4/30/14
1352	Will there be a *significant attack on *Israeli territory before 10 May 2014?	3/12/14	5/9/14
1353	Will the Israeli-Palestinian peace talks be extended beyond 29 April 2014?	3/5/14	4/30/14
1354	Before 1 April 2014, will the government of Venezuela *officially announce a reduction in government subsidies for gasoline prices?	2/5/14	3/31/14
1355-a	Before 1 May 2014, will Kenneth Bae leave North Korea?	2/5/14	4/30/14
1357	Which party will win the largest number of seats in the next elections for Colombia's Chamber of Representatives?	2/12/14	3/9/14
1358	Before 1 May 2014, will China *attempt to seize control of Zhongye Island?	2/12/14	4/30/14
1359	Which of the following will occur first with regard to the state of emergency declared by the government of Thailand on 21 January 2014?	2/5/14	3/17/14
1361	How many *additional countries will announce *restrictions on financial institutions and/or businesses converting Bitcoin to conventional currencies between 19 February 2014 and 30 April 2014?	2/19/14	4/30/14
1363	How many people in the Central African Republic will be estimated as internally displaced by the U.N. High Commissioner for Refugees (UNHCR) as of 1 May 2014?	2/19/14	4/30/14
1366	Will the Bank of Japan (BoJ) *officially announce an *enhancement of its quantitative and qualitative monetary easing (QQE) policy before 10 May 2014?	3/19/14	5/9/14
1367-a	Will the European Central Bank (ECB) *officially announce a plan to charge a *negative interest rate on funds parked overnight at the ECB before 31 March 2014?	2/12/14	3/30/14
1368	Will Pakistan and the TTP reach a peace agreement before 10 May 2014?	3/5/14	5/9/14

1369-b	Before 1 March 2014, will Russia purchase any *additional Ukrainian government bonds?	2/12/14	2/28/14
1370-b	Will family reunions between South and North Korea begin on or before 25 February 2014?	2/12/14	2/19/14
1371-a	Before 1 May 2014, will North Korea conduct a new *multistage rocket or missile *launch?	2/12/14	4/30/14
1372	Will Syria's *mustard agent and key binary chemical weapon components be destroyed on or before the 31 March 2014 deadline established by the Executive Council of the Organization for the Prohibition of Chemical Weapons (OPCW)?	2/19/14	3/31/14
1373	Will the U.N. Human Rights Council (UNHRC) adopt a resolution *directly concerning Sri Lanka during its 25th regular session in March 2014?	2/19/14	3/26/14
1376	Will Argentina, Brazil, India, Indonesia, Turkey, and/or South Africa impose *currency or capital controls before 1 May 2014?	2/19/14	4/30/14
1378	Will the European Union and/or the U.S. impose new *sanctions on Viktor Yanukovich and/or members of his government before 10 May 2014?	2/19/14	2/20/14
1379	When will Yingluck Shinawatra vacate the office of Prime Minister of Thailand?	3/12/14	4/30/14
1383	Who will win the April 2014 presidential elections in Afghanistan?	3/12/14	9/20/14
1386	Will Recep Tayyip Erdogan vacate the office of Prime Minister of Turkey before 10 May 2014?	3/5/14	5/9/14
1388	What will be the highest daily close for the U.S. dollar-Ukrainian hryvnia exchange rate between 5 March 2014 and 1 May 2014?	3/5/14	4/30/14
1391	Will there be a *significant lethal confrontation between armed forces from Russia and Ukraine in Crimea before 1 April 2014?	3/5/14	3/31/14
1392	Will *Russian armed forces invade or enter Kharkiv and/or Donetsk before 1 May 2014?	3/5/14	4/30/14
1393	Will Bahrain, Egypt, Saudi Arabia, or the United Arab Emirates return their ambassadors to Qatar before 10 May 2014?	3/12/14	5/9/14
1394	Before 31 December 2014, will China *seize control of Second Thomas Shoal?	3/12/14	12/30/14
1396	Between 29 May 2011 and 3 May 2014, how many fatalities in Nigeria will be attributed to Boko Haram?	3/19/14	5/3/14

1397	Before 1 May 2014, will the government of Myanmar sign a nationwide ceasefire agreement with the Nationwide Ceasefire Coordination Team (NCCT)?	3/19/14	4/30/14
1398	Will Parti Quebecois hold a majority of seats in the Quebec legislature after the 2014 provincial election?	3/19/14	4/7/14
1399-b	Will a referendum on Quebec's affiliation with Canada be held before 31 December 2014?	4/2/14	12/30/14
1400	Will China's *official annual GDP growth rate be less than 7.5 percent in Q1 2014?	3/19/14	4/15/14
1401	Before 10 May 2014, will Russia agree to conduct a joint naval exercise with Iran?	3/19/14	5/9/14
1402-b	Between 2 April 2014 and 10 May 2014, will Russia *officially *annex any *additional Ukrainian territory?	4/2/14	5/9/14
1403	Will Iran and the P5+1 countries *officially announce an agreement regarding the Arak reactor before 10 May 2014?	4/2/14	5/9/14
1405	Will Nouri al-Maliki's State of Law bloc win more seats than any other entity in the 2014 parliamentary elections in Iraq?	4/16/14	5/19/14
1406	Will Iran and Russia *officially sign an agreement regarding the exchange of oil for *goods and services before 10 May 2014?	4/9/14	5/9/14
1408	How many *additional countries will report *cases of the Ebola virus as of 9 May 2014?	4/9/14	5/8/14
6379	Will Yingluck Shinawatra vacate the office of Prime Minister of Thailand before 1 May 2014?	3/12/14	4/30/14

## 2) Recruiting methods, subject information, procedure, and research design

### Forecaster Recruitment Methods

Forecasters were recruited from professional societies, research centers, alumni associations, science blogs, and word of mouth. Requirements included completion of psychological and political tests that took an average of two hours. Of the 2,860 participants, most were male (83%) and U.S. citizens (78%). Their average age was 35 years. Almost two-thirds (63%) had post-graduate training.

## Procedure

Participants were randomly assigned to one of four conditions in a 2 x 2 factorial design. One factor was the absence or presence of probabilistic-reasoning training. The training consisted of a 1-hour module administered at the start of the forecasting year. It was readily accessible on the website, so participants could go back for “refreshers” whenever they wished. (More details provided below.)

The second factor was teaming, whether forecasters worked alone or collaboratively. At the beginning of the year, each condition had an average of 250 forecasters, with a range of 249 to 259. Team conditions were separated into 10 groups with 25 forecasters per team. Members received training in how to help their teammates be as accurate as possible by using high standards of evidence and proof in discussions. (More details below.) Team forecasters could post comments online to offer rationales for their forecasts, share information, and respond to others’ comments. Participants were identified by user names, so they remained anonymous unless they wished to reveal their identities.

Five hundred and seven questions were released to forecasters between September 1, 2011 and May 10, 2014. Three hundred and forty-four closed with known outcomes and were scored for accuracy. The majority of closed questions were binomial; others were multinomial with 3 to 5 outcomes. Questions specified temporal windows that averaged (1 to 549 days ( $M = 114$ )).

Forecasters answered each question with two responses. For example, one question asked, “Will Italy's Silvio Berlusconi resign, lose re-election/confidence vote, or otherwise vacate office before 1 January 2012?” Forecasters rated their expertise on the topic using a 5 point rating scale (where 1= “Not at all knowledgeable” and 5 = “Extremely knowledgeable”). Then they predicted the chances of the event (where 0% = “Certain it will Not occur”, and 100% = “Certain it will occur”). They were encouraged to return to the website and update their predictions as often as they wished until the question was resolved. Updating of beliefs was done by adjusting previous forecasts.

Attrition during the nine-month forecasting period was 12%. The initial average of 250 forecasters per condition dropped to 222, with a range of 209 to 237 across conditions. In team conditions, the size of teams dropped from an average of 25 to 21, with a range of 18 to 24.

### Participants by condition for year 1

Elicitation	Training		
	a	b	c
1	237	220	217
2	233	212	221
4	209	218	207

### Participants by condition for year 2

Elicitation	Training	
	a	b
1	266	283
4	244	263
5	0	64

### Participants by condition for year 3

	Training	
Elicitation	a	b
1	289	293
4	0	400
5	0	124

### Omitted Conditions

Out of the eleven conditions, the Prediction market and the Information Rich conditions were omitted from the analyses. The Information Rich condition was a cross between the Information Poor and Groups conditions, wherein forecasters were able to see the group's consensus forecast when they made their own forecast. The Prediction market condition allowed forecasters to bet against each other with "play money" (points). Because the Information Rich condition performed poorly in terms of forecast accuracy, it was eliminated from the experimental design after the first year. The limited data available from that condition makes it less useful for the analyses we conduct, which focus on confidence and accuracy over longer periods of time. Therefore, we omit it from the analyses we present in the paper. As for the prediction market, forecasters in that condition were placing bets against a market price and did not make their own forecasts or provide confidence judgments that would allow us to assess their calibration. They therefore do not provide the data necessary to conduct the analyses on which we focus in the paper.

### Incentive systems, compensation schemes, question response rates

#### Incentive Systems

Forecasters were incentivized by the \$250 honoraria (read below on "Compensation Schemes"), as well as by the prestige from their forecasting peers, especially by being listed on the Leaderboard. The Leaderboard was an online list of the top 100 individual forecasters by condition, as ranked by their Brier scores. Forecasters who were in the team condition were listed individually by their individual Brier scores. In the Prediction market, the top 100 forecasters with the largest earnings were listed. For all other conditions, the top 100 individuals of each condition (based on Brier scores) appeared on the Leaderboard.

#### Scoring

We gave all forecasters the explicit goal of minimizing Brier scores. The Brier scoring rule was explained, with warnings about the perils of extreme predictions. For example, if one made an 80% prediction on a binary question for an event that did not occur, the resulting Brier score would be 1.28  $((0 - 0.8)^2 + (1 - 0.2)^2)$ . If the prediction had been more extreme--say 95%--the Brier score would be 1.80  $((0 - .95)^2 + (1 - .05)^2)$ , a substantially worse score for what might be viewed as only a slightly more plausible probability.

Each IFP was weighted equally. An individual's score for a single IFP was calculated by taking the average of all the individual's daily Brier scores for that IFP while it was open. For the

“Leaderboard”, we used imputed scores. This meant that if the individual did not make a forecast for a day that the IFP was open, we imputed a score for them by assigning the condition’s average score (or their team’s average score for the individuals in the team conditions). Scores were imputed to establish more effective forecaster feedback on performance, as opposed for data collection. As a result, non-imputed scores were used in the analysis.

### Compensation Schemes

Every forecaster was required to answer at least 30 IFPs during the course of the year. Provided they had done so, forecasters were awarded a \$250 honorarium as thanks for their participation. On top of this honorarium, forecasters who had participated in the first year as well as the second year were given a \$100 retention bonus as a way of thanking them for their continued work.

## 3) Descriptive Statistics on Questions Answered

### Summary of average forecast counts by year

Note: all IFPs, including voided branches of resolved conditionals, are included in activity summaries. This is not the same subsetting we do for Brier scores, but we believe this more appropriately and fairly reflects activity. If we include all participants who ever made a forecast, the total average number of forecasts by participant for year 1 is 74.1105. For year 2, the total average number of forecasts is 149.0837. For year 3, the total average number of forecasts is 191.6044.

The overall average number of forecasts by IFP for year 1 is 1.3611. For year 2 it is 1.6309, and for year 3 it is 2.3008.

For year 1, the average number of attempted IFPs across all participants is 46.9574 out of a total of 102 IFPs, or 46.0367% of IFPs. For year 2, the average number of attempted IFPs is 72.3100 out of a total of 172 IFPs, or 42.0407% of IFPs. For year 3, the average number of attempted IFPs is 55.2801 out of a total of 233 IFPs, or 23.7254% of IFPs.

### Average forecast counts by condition by year

For all participants who ever made a forecast in any condition, this is the average total number of forecasts made over the course of each year.

	<b>Elicitation</b>	<b>Training</b>	<b>Year 1 Total</b>	<b>Year 2 Total</b>	<b>Year 3 Total</b>
1	1	a	70.406	126.1414	108.023
2	1	b	67.382	118.751	176.692
3	1	c	77.207		
4	2	a	83.146		

5	2	b	77.208		
6	2	c	75.000		
7	4	a	74.478	87.965	
8	4	b	77.899	118.536	142.649
9	4	c	63.246		
10	5	b		808.844	789.565

### Average number of per-IFP forecasts by condition by year

This is the average number of forecasts a participant made on each IFP.

	Elicitation	Training	Year 1 Per IFP	Year 2 Per IFP	Year 3 Per IFP
1	1	a	1.252	1.338	1.554
2	1	b	1.305	1.409	2.517
3	1	c	1.408		
4	2	a	1.362		
5	2	b	1.302		
6	2	c	1.303		
7	4	a	1.453	1.431	
8	4	b	1.503	1.527	2.037
9	4	c	1.374		
10	5	b		5.407	5.246

### Average number of IFPs attempted by condition by year

Here is the mean number of IFPs a participant attempted over the course of the full year.

	Elicitation	Training	Year 1 IFPs	Year 2 IFPs	Year 3 IFPs	Year 1 % of IFPs	Year 2 % of IFPs	Year 3 % of IFPs
1	1	a	52.152	83.365	58.192	51.129	47.633	24.975
2	1	b	46.495	72.986	48.066	45.584	42.865	20.629
3	1	c	45.401			44.511		
4	2	a	53.940			52.882		

5	2	b	53.184			52.141		
6	2	c	50.493			49.503		
7	4	a	40.694	59.020		39.896	32.090	
8	4	b	41.179	66.806	45.646	40.371	37.638	19.591
9	4	c	37.304			36.573		
10	5	b		123.25 0	125.16 9		76.335	53.721

### Average number of forecasts by period of time

This includes how many forecasts, on average, a participant made during the first week, the middle two weeks, and the last week of all IFPs. These figures exclude IFPs that were not open for at least 2 weeks, only evaluated for IFPs that closed during each respective year.

	Elicitation	Training	Average # of Wk 1 FCasts Year 1	Average # of Wk 1 FCasts Year 2	Average # of Wk 1 FCasts Year 3
1	1	a	32.112	35.694	22.357
2	1	b	24.878	26.976	20.077
3	1	c	27.477		
4	2	a	35.391		
5	2	b	31.192		
6	2	c	30.934		
7	4	a	25.526	19.873	
8	4	b	23.314	25.237	18.578
9	4	c	18.872		
10	5	b		119.270	93.790

	Elicitation	Training	Average # of Mid Wk FCasts Year 1	Average # of Mid Wk FCasts Year 2	Average # of Mid Wk FCasts Year 3
1	1	a	7.612	9.135	9.087
2	1	b	9.039	9.023	15.361
3	1	c	11.846		

4	2	a	10.031		
5	2	b	9.033		
6	2	c	9.168		
7	4	a	11.835	7.610	
8	4	b	12.058	9.935	14.300
9	4	c	10.387		
10	5	b		66.206	71.033

	<b>Elicitation</b>	<b>Training</b>	<b>Average # of Last Wk FCasts Year 1</b>	<b>Average # of Last Wk FCasts Year 2</b>	<b>Average # of Last Wk FCasts Year 3</b>
1	1	a	10.349	13.965	14.509
2	1	b	12.186	16.247	26.445
3	1	c	14.894		
4	2	a	11.757		
5	2	b	12.791		
6	2	c	12.118		
7	4	a	12.719	13.763	
8	4	b	15.735	18.339	22.934
9	4	c	13.839		
10	5	b		52.279	71.148

#### 4) Season 2 Probability Training with Scoring for Condition 4b

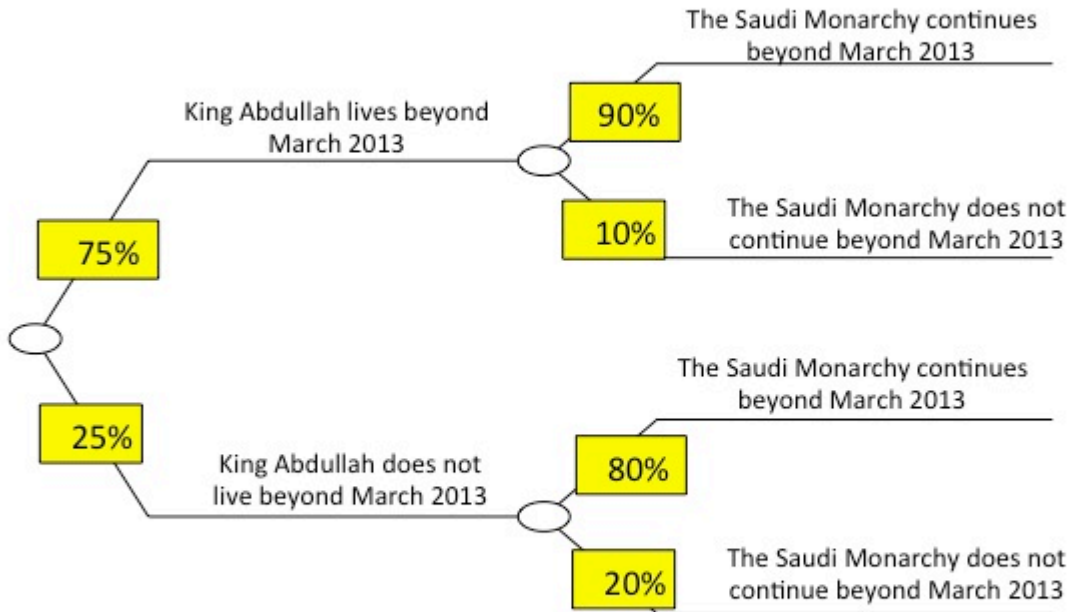
Q1 TRAINING IN ASSIGNING REALISTIC PROBABILITIES TO MESSY REAL-WORLD OUTCOMES This training session has two aims: (1) to give you rough-and-ready guidelines for improving your accuracy in the forthcoming forecasting tournament; and (2) to test your understanding of key concepts. Passing this test is necessary for participating in the tournament. We say "rough and ready" because messy real-world forecasting problems resist mathematically precise solutions. Our goal is to give you effective shortcuts that can be readily adopted by busy professionals who juggle competing priorities and lack the time to analyze all possible variables and their interactions. We believe these rough-and-ready rules of thumb will serve you well because many of our best forecasters in Year 1 have already deployed them to good effect. That

said, we know there is room for improvement: you know things we do not. At the end of this session is an address for suggestions. This is optional, but we greatly appreciate your help. The forecasting problems in Season 2 will not require seeing far into the future, rarely beyond a year. Some of these questions will be unconditional, such as: "Will the Russian military deploy additional Iskander missiles before 1 February 2013?" Other questions will be conditionals that highlight possible precursors to target events: "Will the Russian military to deploy additional Iskander missiles before 1 February 2013 (a) if Barack Obama is reelected President?" And then "(b) if he is not reelected?" The remainder of this training module is divided into two sections: (1) how you can make the most accurate possible forecasts; and (2) tests of your understanding of key concepts.

Q129 I. How You Can Maximize Your Forecasting Accuracy Our guidelines are captured by the acronym CHAMP, which builds on five key insights: • Comparison classes offer useful clues in initially estimating probabilities; • Historical trends can help you update your probabilities; • Averaging across opinions often boosts accuracy; • Mathematical and statistical models often offer useful guidance; and • Predictable biases are a fact of life and the best forecasters are aware of their biases.

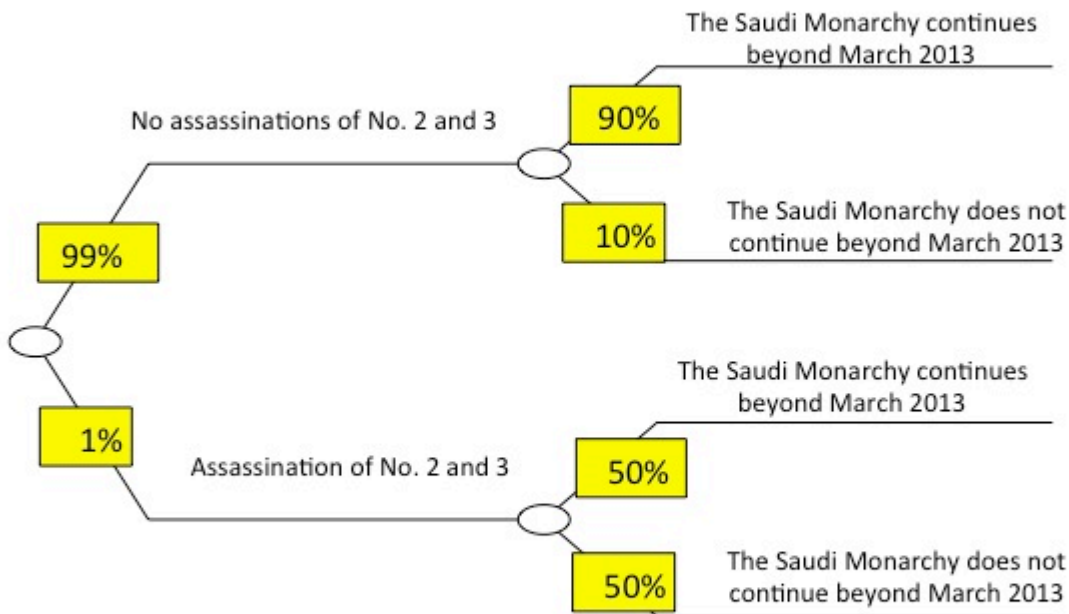
Q5 STEP #1. Comparison Classes and Base Rates in Making Initial Estimates A comparison class is a set whose members (people, nations, etc.) share key attributes. Step 1 is to explore the base-rate probabilities in comparison classes most relevant to the forecast at hand. Consider the question: Will the House of Saud monarchy continue to rule Saudi Arabia as of 1 March 2013? Suppose you know nothing about this topic, and predict a 50% likely of a "yes" outcome to express maximum uncertainty (you are no more confident than you are about a fair coin toss). It is a mistake to say 50% automatically whenever you feel ill-informed—a mistake because it is often easy to gain useful predictive information. For instance, you could readily discover that the House of Saud has ruled for 80 years. The base-rate of autocratic regimes that have survived 50-plus years surviving another year is very high—say, 90%. Of course, you might reduce your estimated likelihood of regime survival when you learn King Abdullah is ill—because succession can be problematic in autocracies. Suppose you see a 25% chance of the King's dying prior to 1 March 2013 and a 20% chance of regime collapse if he dies. How much should you reduce your overall estimate of the likelihood that the House of Saud will continue to rule as of 1 March 2013? This question brings into focus a new comparison class (autocracy survival during successions)—and requires thinking in terms of conditional probabilities: How likely is the House of Saud to rule as of March 1, 2013 if King Abdullah lives until that date? And how likely if he does not live that long?

Q138 When you get conditional-forecast questions, draw a branching structure, like that below:



Q6 If you see the chance of regime collapse as 20% in the possible worlds in which the King dies (worlds with a 25% chance of materializing) – and see regime collapse as 10% likely in the worlds in which the King lives (worlds with a 75% chance)—then your overall probability of regime collapse is:  $.25 (.20) + .75 (.10) = .05 + .075 = .125$ . Or, the logical-complement probability is that of the monarchy surviving, which is  $1 - (.125) = .875$ , only slightly below the original base-rate estimate of .9.

Q133 The first conditionalizing exercise led only to a minor change in probability estimates. Of course, your views would change much more in response to something more dramatic than the already expected death of octogenarian occupant of the throne: civil unrest in oil-rich, Shi'ite eastern provinces, a power struggle in the royal family, ... Suppose something highly unlikely happened, such as assassinations of both the Crown Prince heir-designate (shown as "No. 2" in the figure below) and the next-in-line, the Defense Minister ("No. 3"):

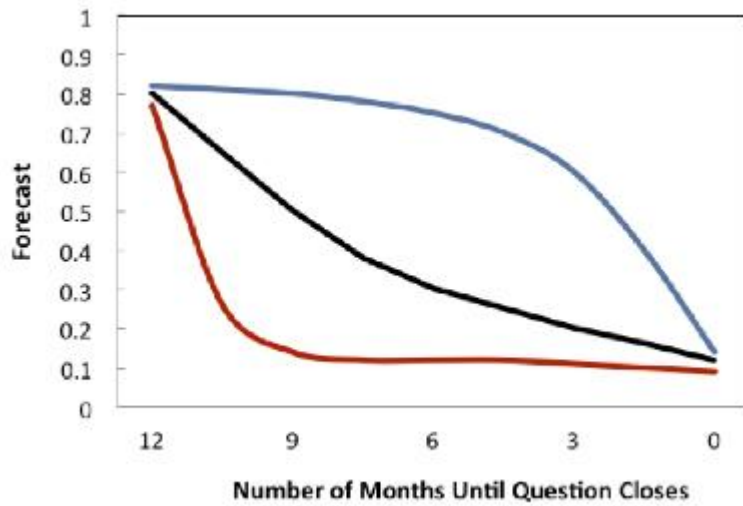


Q134 In this imaginary exercise, as soon as the assassinations occur, your comparison categories should shift to the possible worlds on the right (regime survival during a leadership succession when the two next-in-lines have been assassinated). A once very unlikely event—regime collapse—has been transformed into a 50/50 proposition.

Q7 STEP # 2. Historical Trends: Updating Beliefs in Response to Time and Events Finding the right comparison class(es) is crucial for assigning realistic odds at the onset of forecasting. But the right comparison classes at one time are not necessarily the right classes for all times. Indeed, even in the absence of breaking news, your comparison classes should be shifting simply as a function of the passage of time. This point is a key one in this tournament because you get no credit under current rules for being "almost right." Imagine the Saudi monarchy collapsed on 2 March 2013. Unfair though it may seem, those

who assigned high probabilities to collapse by March 1, 2013 would receive high (bad) Brier score, and those who assigned low probabilities to collapse would receive low (good) Brier scores. In many cases, time passing is a sign that time is running out for the event—so, you should adjust your probability estimate. Let's say that after balancing causal arguments bearing on an outcome in a 12-month period, you arrive at a probability of 0.5. Now ask: absent any news, how much should my probability decline purely as a function of time? Suppose the question only allows 6 months. Should I cut my probability by  $\frac{1}{2}$ ? What if it were only 3 months or  $1\frac{1}{2}$  months or ... ? Figure 2 illustrates three ways in which forecasters might adjust their probabilities in response to time in low-news environments. The red-curve forecaster believes that, although there was a 0.8 probability at the outset, that value rapidly fell as a function of time (e.g. the best chance for the outcome was early in the period). The black-curve forecaster believes that the 0.8 chance at the outset fell more gradually with time. The blue-curve forecaster believes that the 0.8 chance declined very slowly with time because causal forces conducive to the outcome were strong enough to mostly neutralize the probability-corrosive effects of time – until late in the period when the fall-off occurs.

Q145



Q146 Season 1 saw a few cases in which savvy forecasters who scaled back their probabilities over time were blindsided. One such question was about the chances in the next 5 months of a lethal confrontation in the South or East China Sea involving government forces and causing at least one death. Suppose the base-rate likelihood of such incidents in any 5-month period is .20. Knowing only this (and assuming no news about rising tensions on the high seas at the onset of the period), rational forecasters should adopt the base rate of .2. As time passes, and again assuming no news about rising tensions, forecasters should lower their estimates—and by the final 3 or 4 weeks, the probability should have fallen to fraction of the 5-month base-rate probability, perhaps as low as .04. Many of our best forecasters did roughly this—"the right thing"—and were in for a rude surprise when a Chinese fishing boat captain fatally stabbed a South Korean Coast Guard officer who apprehended his boat in South Korean waters (an event was not linked in any way to Chinese territorial claims) Using a usually effective rule of thumb, many forecasters received very high (and bad) Brier scores. Given that our best forecasters need to achieve average—across questions—Brier scores in the low .20's or high teens, this event was a setback. There are two key lessons we can draw from this incident: Given the Brier-scoring rules, it makes sense, as already noted, to be very cautious in moving from a 0.9 to .99—or from .1 to .01. Your Brier score improves (falls) by only .02 when you move to the

extremes and you are right—and it deteriorates (rises) by about .38 when you are wrong; But when should you be cautious—and when venture out to the extremes? Be very cautious on questions that could be resolved by impulsive acts of lower-level actors, such as fishing-boat captains in the East China Sea or North Korean majors along the DMZ or junior naval officers in the Strait of Hormuz or public-health sloppiness that triggers a new outbreak of H5N1. Also be cautious when there are historical or institutional reasons for expecting resolution to come late (such as the Year 1 question on extending emergency laws in Tunisia). But also recognize when there is no need to be cautious: for example, questions that have yet to be technically resolved but are done deals because there just is not enough time for, say, a Palestinian election or Japanese entry into the Trans-Pacific Partnership. Here you can safely "shave off a few Brier points" by going to the extremes. The key is knowing what kind of situation you confront. If you are unsure, it is better to be cautious for the Brier-score reasons noted earlier.

Q147 Thus far, our focus has been on the passage of time: all else equal, less time for  $x$  to happen means shrinking probabilities. But all else is rarely equal. Things happen—and a huge challenge is updating probabilities in response to news that tells us to move from general comparison classes (e.g. survival rates of autocratic regimes) to increasingly specific ones (e.g. survival rates of autocratic regimes in the post-Arab-spring world that are in the midst of a leadership succession and that have been shaken by assassinations). The next three steps of CHAMP are not heroic, but they offer prudent advice on how to prevail in the competition to assign realistic odds to messy real world events. It becomes very hard to find useful base-rate probabilities the closer we get to the richness of unique real-world problems.

Q8 STEP #3. The Benefits of Averaging: Take the “Wisdom of Crowds” Seriously, But Also Be Wary of the “Madness of Crowds” Although experts are often wrong, expert guidance is still often the best we have. When experts disagree—as they often do—averaging their opinions is usually wiser than trying to pick the best. The claims of “super experts” or “gurus” rarely hold up under close inspection. Averaging across experts often yields more accurate predictions because averaging cancels out random or idiosyncratic errors. One method of distilling the wisdom of the crowd is prediction markets in which people bet on future events in finance, politics, technology, etc. Below are prediction markets worth checking out: For financial events: Motley Fool Caps, PredictWallStreet.com, TheUpDown.com, and WallStreetIdol.com For international politics: InTrade.com, inklingmarkets.com. For trends in technology: Yahoo! Buzz Game In addition, there are many other places where you can find distillations of expert judgments. The magazine The Economist often publishes consensus forecasts—and so do many other outlets, such as Bloomberg and the Financial Times.

Q149 Consider this question: Will Iran conduct a successful nuclear test by the end of 2012? There are many schools of thought – and unless you have access to esoteric knowledge, you should consider averaging these perspectives. Suppose one school of thought holds that Iran’s nuclear program is advanced and Iran puts little credibility in American willingness and Israeli capacity to destroy its program. Indeed, Iran might welcome an international crisis to defuse domestic opposition. These arguments suggest a higher chance of a test (you must do the difficult conversion of arguments into numbers, but let’s say, for

this time frame, they range from 30% to 60%). Suppose another school of thought holds that Iran is deterred by the threat of American or Israeli military action, or thwarted by technical problems (perhaps linked to sabotage) or seduced by promises to loosen economic sanctions. These arguments suggest a much lower range of probabilities to a successful nuclear test (say, between 1% and 20%). The next step is to compute the midpoint of each range (45% and 10%, respectively) and, absent any other information, average those midpoints (27.5%). If you believe one viewpoint closer to the truth than another, compute a weighted average. For instance, if you think Iran is probably not ready to conduct a nuclear test, give more weight to the second range of probabilities—bringing your estimate much closer to 10% than to 27%. Again, this is one of those tough judgment calls. Note: many forecasters may understandably feel it would be far more serious to under-predict an Iranian nuclear test than to over-predict it. You should however put such feelings to the side. You are being assessed purely for the accuracy of your probability judgments—and Brier scoring treats errors of under- and over-prediction identically.

**Q9 STEP #4. Mathematical and Statistical Models—Another Source of Guidance** Predictions of formal models can be very useful, when treated with due caution. For example, meteorologists benefit by consulting several computer models before combining them into a forecast. When models with good track records are available, exploit them. Consider this question: Will President Obama win re-election in 2012? The predictions of econometric models of the 2012 election are becoming available—and there are skilled synthesizers of these models in the blogosphere (e.g., Nate Silver). These models stress variables such as incumbency, pre-election approval ratings and unemployment/GDP growth, each a comparison class of predictive value. Obama is an incumbent—and suppose that 65% of the time incumbents win. In Spring 2012, Obama's approval ratings are in the high 40s, which the models might translate into a roughly 50% chance of re-election. And predictions for GDP growth are in the 2 to 4% range and predictions of unemployment in the 7 to 9% range, which the models might translate into a 45% chance of re-election. How can you convert this information into a re-election probability? Unless you are a formal modeler, you must rely on shortcuts—and one of the best is equal weighting. Simply averaging estimates derived from incumbency, approval ratings, and economic growth rates leads you to predict  $[(65\% + 50 + 45)/3] =$  approx. 53% chance of re-election. This is a number you should be ready to change fast but increase your confidence in it if other indicators, such as prediction markets and likely-voter polls, converge on the same conclusion (the principle of converging indicators).

**Q10 STEP #5. Predictable Biases in Probabilistic Reasoning: Be Honest about Your Foibles** Research on forecasters has identified numerous biases in probability estimation. The better you are at spotting and correcting these mistakes, the more likely you are to emerge as a top performer. Answer each of the questions that follows to the best of your ability.

**Q11** Are you a risk seeker who swings hard for homeruns by making extreme predictions?

- Yes (1)
- No (2)

Q19 The swinging for-the-fences strategy may make sense for aspiring pundits but not for winning this tournament, which requires good batting averages over the long term. Straying far from the base rates of comparison classes and far from wisdom-of-the-crowd indicators is dangerous when you don't have the insights to back up extreme stands.

Q13 Are you risk averse and prone to make very cautious predictions?\*

- Yes (1)
- No (2)

Q20 Here is the mirror-image mistake: being so cautious and sticking so close to comparison classes and conventional wisdom-of-crowd indicators that you fail to take strong stands when warranted. When you feel you really know something, don't be afraid to say so. (Of course, the accuracy of your feelings of knowing is something you want to check on periodically—and this session will close with an opportunity to perform such a check.)

Q14 Do you assign higher probabilities to events that you wish would happen (e.g., a candidate you like winning an election)?

- Yes (1)
- No (2)

Q21 Separate your emotions from your beliefs. Don't let your wishes and desires distort your beliefs about the future.

Q15 Do you assign higher probabilities to events that you think society should be concerned about (e.g., global warming; terrorists gaining access to Pakistan's nuclear arsenal)?\*

- Yes (1)
- No (2)

Q22 Again, don't let emotions and personal priorities influence your beliefs. Preferences should be separated from facts.

Q16 Do you fail to update your beliefs in response to new information – to the point where others consider you stubborn?

- Yes (1)
- No (2)

Q23 We all tend to look for information that confirms our beliefs. Be sensitive to information that you feel tempted to discount because it conflicts with your current assumptions.

Q17 When dealing with binary predictions that you know little about, do you instinctively assign a 50% estimate even though their occurrence in the past has not been 50-50?\*

- Yes (1)
- No (2)

Q24 Remember the 50% fallacy in two-outcome forecasts (and the 33.3/33.3/33.3 fallacy in the three-outcome case and the 25/25/25/25 fallacy in the four-outcome case). There is usually a way to get some predictive leverage even on topics about which you know little—and one of the best ways is by looking for instructive base rates.

Q25 Concluding Comments We know how hard it is to apply these guidelines to specific problems but the evidence suggests that doing so will help. Again, our advice can be condensed into the CHAMP acronym. Comparison classes are essential: Identify the best comparison class – and anchor your initial guesses on the base rate in that class. Historical trends can help: the right comparison classes are continually shifting is a function of not only events but also the mere passage of time. Average across opinions: Expert-consensus or prediction-market data are not infallible but they offer valuable hints about the “wisdom of the crowd.” Mathematical models can offer useful guidance: Formal models are not infallible, but they often capture key causal regularities from the past. When model-based predictions are available, take those predictions into account in making your forecasts. When such predictions are not available, still look at variables that go into the models and base estimates on unit weighting. Predictable biases are a fact of life: Beware of the potential biases in your forecasting strategy and of how they can reduce your accuracy. In sum, every situation you confront is unique. But that does not mean there are no useful precedents. As Mark Twain said, history may not repeat itself but it does sometimes rhyme.

Q27 Suppose you want to predict whether a chemical firm will go bankrupt in the next year. You know nothing about the firm, except that 10% of chemical firms go bankrupt each year. What probability should you assign to this firm going bankrupt in the upcoming year?\*

- 25% (1)
- 10% (2)
- 1% (3)

Q139 Correct answer: 10%. Use the base rate, if that is all you know

Q28 Assume that you learned something else about the firm: a panel of experts rated the company and predicted the chances of bankruptcy in the upcoming year were 20%. Now which of the following estimates would you choose?

- 35% (1)
- 15% (2)
- 5% (3)

Q140 Correct answer: 15%. It is hard to know which estimate is better – 10% or 20% – so a reasonable solution will lie somewhere between the two numbers.

Q29 Suppose you are asked whether the unemployment rate in Spain will fall below 20% next year. You find estimates from statistical models as well as prediction markets. Those estimates are 26%, 18%, 20%, 23%, and 18%. If called upon to estimate your confidence that unemployment will fall below 20%, which of the following two estimates would you choose?

- 60% (1)
- 40% (2)

Q141 Correct answer: 40%. If you have no reason to believe any one estimate is better than the next, take the average estimate, which is 21%. You would be slightly certain the event would not occur, and a reasonable confidence rating would be 40%.

Q30 Forecaster X assigned a probability of 0.5 to President Hugo Chavez of Venezuela winning re-election. But he also assigned a probability of 0.35 to Henrique Capriles Radonski winning the election and a probability of 0.25 to some other candidate winning. What clear-cut logical error in probabilistic reasoning has X made?

- Over-estimating the chances of the challenger Capriles Radonski (1)
- Over-estimating the chances that Chavez will be replaced by another candidate from his party, who would then win the election (2)
- Assigning probabilities that sum to more than 1.0 (3)
- Failing to recognize that the chances of a Chavez victory must be lower than 50% (4)

Q142 Correct answer: Assigning probabilities that sum to more than 1.0. Watch to make sure the probabilities of mutually exclusive and exhaustive events sum to 1.0.

Q31 A forecaster is impressed by scenarios that highlight causal forces that could dramatically slow Chinese economic growth and produce massive instability over the next 10 years. The forecaster applies these long-range projections to a short-term prediction of Chinese growth in the next year. The forecaster assigns the highest possible probability, 100%, to zero growth – even though the most recent data indicate a GDP growth rate of roughly 9.5% per year and there is a trend going back 20 plus years of high growth rates. Explain what is probably wrong with this forecaster’s reasoning.

- Given the power of the statistical trends, the forecaster should have given at least some weight to them and struck more of a compromise between the time-series trend and the gloomy-growth scenarios that he finds convincing. (1)
- The forecaster should have given greater weight to even more pessimistic scenarios about Chinese economic growth in the next year. (2)
- The forecaster should have ignored the scenarios and simply relied on the time-series trend. (3)
- All of the above (4)
- None of the above (5)

Q143 Correct Answer: Given the power of the statistical trends, the forecaster should have given at least some weight to them and struck more of a compromise between the time-series trend and the gloomy-growth scenarios that he finds convincing. The forecaster is probably giving too little weight to the time-series trend and also probably blurring the distinction between short- and long-term predictions. Furthermore, the forecaster should almost never use 100% or 0% because very little in life is absolutely certain. It is almost always a good idea to give yourself a little wiggle room.

Q33 Practice Feedback on Your General-Knowledge Brier Scores (and Calibration and Discrimination Components of Your Brier Score) We are asking you to do something that people rarely do: translate vague hunches into a precise probability metric. Most people do not go through life thinking about how to

"minimize their Brier scores." So it is useful to give our forecasters practice in translating your hunches into a probability metric—and getting initial feedback on how good your Brier scores are on general-knowledge questions—before you start finding out how good your Brier scores are in the actual tournament. On this test—and on the forecasting questions to come—there are two basic ways to get a good Brier score: by getting good calibration scores and good discrimination scores.

Q150 Your calibration score is your skill at assigning probabilities to events that correspond to their true frequencies of occurrence. If you were perfectly calibrated, 60% of all events to which you assigned a probability of 60% would occur; 70% of events to which you assigned 70%, would occur; ...and 100% of events to which you assigned 100% would occur. In brief, good calibration means you know the limits of your knowledge. Good calibration is a necessary but not sufficient condition for getting a good Brier score. For instance, you might feel the general knowledge questions are so hard that you can't do better than chance in guessing the right answers-- so you assign 50% confidence to all your answers. Assuming your self-assessment of your knowledge is right, you will get a perfect calibration score (when you said 50% confident, you were right 50% of the time). Good calibration scores are generally taken to be a sign of "realistic humility" in the fallibility of one's judgment.

Q151 Discrimination is your skill at assigning higher probabilities to correct answers than to incorrect answers. Note that the perfectly calibrated forecaster in the previous example has zero discriminatory skill. To get perfect discrimination scores, forecasters would need to assign the highest confidence, 100%, to all their correct answers and the lowest possible confidence, 50% (just guessing), to their incorrect answers. Good discrimination scores are generally taken to be a sign of "justified decisiveness. "Highly discriminating forecasters are willing to take strong stands (make quite extreme probability judgments) that turn out to be correct.

Q152 To give you Brier-score feedback, we ask you to take this 30-item true-false test of general knowledge. Please answer as best you can without going to the internet for information (the opposite of what we hope you will do in the forecasting tournament—where information searching is strongly encouraged). If you honestly tell us your initial hunches about whether you are right or wrong (without looking up answers), we can give you better feedback that you can use to fine-tune your own judgment processes in situations where it counts. When ready, please begin. This test is timed so, once you begin, please work through the whole test without interruption.

Q35 In a mortar and pestle, the pestle is the bowl that holds the material.

- True (1)
- False (2)

Q36 How confident are you in the correctness of your chosen answer?

- 50% (1)
- 60% (2)
- 70% (3)
- 80% (4)
- 90% (5)
- 100% (6)

Q37 An isotope is an element with abnormal number of electrons.

- True (1)
- False (2)

Q39 How confident are you in the correctness of your chosen answer?

- 50% (1)
- 60% (2)
- 70% (3)
- 80% (4)
- 90% (5)
- 100% (6)

Q38 The capital of Oregon is Portland.

- True (1)
- False (2)

Q40 How confident are you in the correctness of your chosen answer?

- 50% (1)
- 60% (2)
- 70% (3)
- 80% (4)
- 90% (5)
- 100% (6)

Q41 The cause of the seasons is the earth's distance from the sun.

- True (1)
- False (2)

Q136 How confident are you in the correctness of your chosen answer?

- 50% (1)
- 60% (2)
- 70% (3)
- 80% (4)
- 90% (5)
- 100% (6)

Q43 A gallon is equivalent to 64 fluid ounces.

- True (1)
- False (2)

Q44 How confident are you in the correctness of your chosen answer?

- 50% (1)
- 60% (2)
- 70% (3)
- 80% (4)
- 90% (5)
- 100% (6)

Q45 The Magna Carta was signed in the 1200s.

- True (1)
- False (2)

Q46 How confident are you in the correctness of your chosen answer?

- 50% (1)
- 60% (2)
- 70% (3)
- 80% (4)
- 90% (5)

- 100% (6)

Q47 The Mona Lisa was painted by Leonardo da Vinci.

- True (1)
- False (2)

Q48 How confident are you in the correctness of your chosen answer?

- 50% (1)
- 60% (2)
- 70% (3)
- 80% (4)
- 90% (5)
- 100% (6)

Q49 The Hartsfield-Jackson International Airport in Atlanta has the greatest passenger traffic of any airport in the world.

- True (1)
- False (2)

Q50 How confident are you in the correctness of your chosen answer?

- 50% (1)
- 60% (2)
- 70% (3)
- 80% (4)
- 90% (5)
- 100% (6)

Q51 Christopher Columbus was the first European to circumnavigate the globe.

- True (1)
- False (2)

Q52 How confident are you in the correctness of your chosen answer?

- 50% (1)
- 60% (2)
- 70% (3)
- 80% (4)
- 90% (5)
- 100% (6)

Q53 Most geologists accept the theory of plate tectonics, which says that the entire earth's crust consists of moving plates.

- True (1)
- False (2)

Q54 How confident are you in the correctness of your chosen answer?

- 50% (1)
- 60% (2)
- 70% (3)
- 80% (4)
- 90% (5)
- 100% (6)

Q55 Gold is denser (heavier) than iron.

- True (1)
- False (2)

Q56 How confident are you in the correctness of your chosen answer?

- 50% (1)
- 60% (2)
- 70% (3)
- 80% (4)
- 90% (5)
- 100% (6)

Q57 Helium is highly flammable.

- True (1)
- False (2)

Q58 How confident are you in the correctness of your chosen answer?

- 50% (1)
- 60% (2)
- 70% (3)
- 80% (4)
- 90% (5)
- 100% (6)

Q59 Plants need carbon dioxide to live.

- True (1)
- False (2)

Q60 How confident are you in the correctness of your chosen answer?

- 50% (1)
- 60% (2)
- 70% (3)
- 80% (4)
- 90% (5)
- 100% (6)

Q61 Crime and Punishment was written by Tolstoy.

- True (1)
- False (2)

Q62 How confident are you in the correctness of your chosen answer?

- 50% (1)
- 60% (2)
- 70% (3)
- 80% (4)
- 90% (5)
- 100% (6)

Q63 In poker, a straight flush beats four of a kind.

- True (1)
- False (2)

Q64 How confident are you in the correctness of your chosen answer?

- 50% (1)
- 60% (2)
- 70% (3)
- 80% (4)
- 90% (5)
- 100% (6)

Q65 Mt. McKinley (also known as Mt. Denali) is the tallest mountain in North America.

- True (1)
- False (2)

Q66 How confident are you in the correctness of your chosen answer?

- 50% (1)
- 60% (2)
- 70% (3)
- 80% (4)
- 90% (5)
- 100% (6)

Q67 The earth is approximately 9 billion years old.

- True (1)
- False (2)

Q68 How confident are you in the correctness of your chosen answer?

- 50% (1)
- 60% (2)
- 70% (3)
- 80% (4)
- 90% (5)
- 100% (6)

Q69 The Yankees won the World Series in 1998.

- True (1)
- False (2)

Q70 How confident are you in the correctness of your chosen answer?

- 50% (1)
- 60% (2)
- 70% (3)
- 80% (4)
- 90% (5)
- 100% (6)

Q173 Timing

- First Click (1)
- Last Click (2)
- Page Submit (3)
- Click Count (4)

Q71 The distance between Los Angeles and New York City is greater than the distance between London and Moscow.

- True (1)
- False (2)

Q72 How confident are you in the correctness of your chosen answer?

- 50% (1)
- 60% (2)
- 70% (3)
- 80% (4)
- 90% (5)
- 100% (6)

Q73 On a ship, "starboard" means to the left.

- True (1)
- False (2)

Q74 How confident are you in the correctness of your chosen answer?

- 50% (1)
- 60% (2)
- 70% (3)
- 80% (4)
- 90% (5)
- 100% (6)

Q75 The capital of Montana is Helena.

- True (1)
- False (2)

Q76 How confident are you in the correctness of your chosen answer?

- 50% (1)
- 60% (2)
- 70% (3)
- 80% (4)
- 90% (5)
- 100% (6)

Q77 Bats are mammals.

- True (1)
- False (2)

Q78 How confident are you in the correctness of your chosen answer?

- 50% (1)
- 60% (2)
- 70% (3)
- 80% (4)
- 90% (5)
- 100% (6)

Q79 Pakistan is a landlocked country.

- True (1)
- False (2)

Q80 How confident are you in the correctness of your chosen answer?

- 50% (1)
- 60% (2)
- 70% (3)
- 80% (4)
- 90% (5)
- 100% (6)

Q81 The area of a circle is pi times the square of the diameter.

- True (1)
- False (2)

Q82 How confident are you in the correctness of your chosen answer?

- 50% (1)
- 60% (2)
- 70% (3)
- 80% (4)
- 90% (5)
- 100% (6)

Q83 The leading cause of death in the US is cancer.

- True (1)
- False (2)

Q84 How confident are you in the correctness of your chosen answer?

- 50% (1)
- 60% (2)
- 70% (3)
- 80% (4)
- 90% (5)
- 100% (6)

Q85 Haiti occupies the eastern part of a Caribbean island.

- True (1)
- False (2)

Q86 How confident are you in the correctness of your chosen answer?

- 50% (1)
- 60% (2)
- 70% (3)
- 80% (4)
- 90% (5)
- 100% (6)

Q87 "Apogee" refers to the point in the orbit of a satellite that is the closest to the earth.

- True (1)
- False (2)

Q88 How confident are you in the correctness of your chosen answer?

- 50% (1)
- 60% (2)
- 70% (3)
- 80% (4)
- 90% (5)
- 100% (6)

Q89 In 1914, Germany invaded Belgium.

- True (1)
- False (2)

Q90 How confident are you in the correctness of your chosen answer?

- 50% (1)
- 60% (2)
- 70% (3)
- 80% (4)
- 90% (5)
- 100% (6)

Q91 Cameroon is a former Dutch colony.

- True (1)
- False (2)

Q92 How confident are you in the correctness of your chosen answer?

- 50% (1)
- 60% (2)
- 70% (3)
- 80% (4)
- 90% (5)
- 100% (6)

Q93 In the Russian Empire, a kulak was an affluent independent farmer who emerged from the peasant class.

- True (1)
- False (2)

Q94 How confident are you in the correctness of your chosen answer?

- 50% (1)
- 60% (2)
- 70% (3)
- 80% (4)
- 90% (5)
- 100% (6)

Q282 Your calibration score is  $\frac{\text{Invalid Expression}}{30} - \left(\frac{\text{gr://SC2/Score}}{30}, 2\right) * 100$ . Calibration is defined as the difference between the percentage average confidence rating and the percentage of correct answers. A score of zero is perfect calibration. Positive numbers indicate overconfidence and can go up to 100. Negative numbers represent under-confidence and can go down to -100. Your discrimination score is  $\frac{\text{Invalid Expression}}{\frac{\text{e://Field/Ans}}{\text{e://Field/Incorrect}} - \frac{\text{e://Field/RAns}}{\text{e://Field/RAns}}} * 100, 2$ . Discrimination is defined as the difference between the percentage average confidence rating for the correct items and the percentage average confidence rating for the incorrect item. Higher positive numbers indicate greater discrimination and are better scores.

Q281 Your calibration score is  $\frac{\text{Invalid Expression}}{30} - \left(\frac{\text{gr://SC2/Score}}{30}, 2\right) * 100$ . Calibration is defined as the difference between the percentage average confidence rating and the percentage of correct answers. A score of zero is perfect calibration. Positive numbers indicate overconfidence and can go up to 100. Negative numbers represent under-confidence and can go down to -100. Your discrimination score is

$\frac{\{Invalid\ Expression\}}{\{e://Field/Ans\}} * 100, 2 \}$ . Discrimination is defined as the difference between the percentage average confidence rating for the correct items and the percentage average confidence rating for the incorrect item. Higher positive numbers indicate greater discrimination and are better scores.

Q280 Your calibration score is  $\frac{\{Invalid\ Expression\}}{30} - (\frac{\{gr://SC2/Score\}}{30}, 2) * 100 \}$ . Calibration is defined as the difference between the percentage average confidence rating and the percentage of correct answers. A score of zero is perfect calibration. Positive numbers indicate overconfidence and can go up to 100. Negative numbers represent under-confidence and can go down to -100. Your discrimination score is  $\frac{\{Invalid\ Expression\}}{\{e://Field/RAns\}} * 100, 2 \}$ . Discrimination is defined as the difference between the percentage average confidence rating for the correct items and the percentage average confidence rating for the incorrect item. Higher positive numbers indicate greater discrimination and are better scores.

Q97 Thank you for working through these training exercises. We believe the CHAMP guidelines will help you in the forecasting tournament. Unfortunately, research suggests that training exercises of this sort often don't "stick" as long as intended. The fact is that it will be hard to apply these somewhat abstract lessons to the specific forecasting problems you'll be grappling with. For these reasons, we will periodically be in touch with reminders and tips about how to apply the CHAMP guidelines. Again, keep in mind the following acronym, CHAMP, whenever you make a forecast. Comparison classes Historical trends Averaging Mathematical models Predictable biases Finally, we close on the note of humility. As we noted at the outset, we do not claim to know all the answers and we recognize there is a great deal of expertise in our participant pool. We welcome suggestions for how to improve our training guidelines – and, once again, want to encourage you to send us any constructive comments you might have to [feedback@goodjudgmentproject.com](mailto:feedback@goodjudgmentproject.com).

5) Example suggestions for Team condition



**Divide and conquer** takes advantage of the diverse backgrounds and skills of each teammate. **Active participation** ensures your teammates can build off of those unique insights.

**Together, your collective knowledge will almost certainly exceed that of the best individual forecaster in the tournament.**

**You don't have to know everything, use the knowledge-base of your team.**



**In all seasons of the tournament, team forecasters substantially out-performed individuals. **So you're already at an advantage!****

**Being part of a team can make the tournament more enjoyable and less work!**



**We develop this training from our research on teams. The goal is to help ensure your team does this...**



**and not this....**





## Offer constructive criticisms

### Be Diplomatic

When you challenge someone's reasoning, do so diplomatically. Avoid ad hominem attacks: "only an idiot would think..." or "this argument reveals no understanding of..." Encourage each other to be open-minded, not defensive.

Evidence from past seasons show that open-minded team, where different view points are encouraged, have better accuracy scores and happier members.

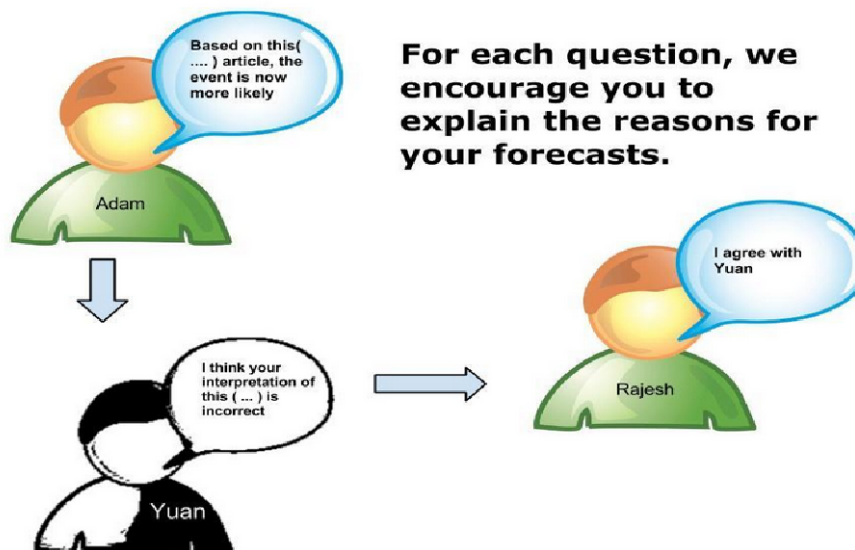


### An example of constructive criticism:

*"You may be right that the year-to-year survival rate for dictators in sub-Saharan Africa is 90% (someone should check), but I suspect the survival rate falls if you narrow the comparison class to West African countries with bitter ethnic-religious-linguistic divisions. My estimate is 70% or lower. And it falls further when you consider the scale of the recent riots (chances fall to 50/50 for this time frame)."*



## Weakly hold strong beliefs



**Be confident enough to defend your position, but if you see that someone has new evidence, better analysis, more experience on the subject, don't be afraid to adjust accordingly!**

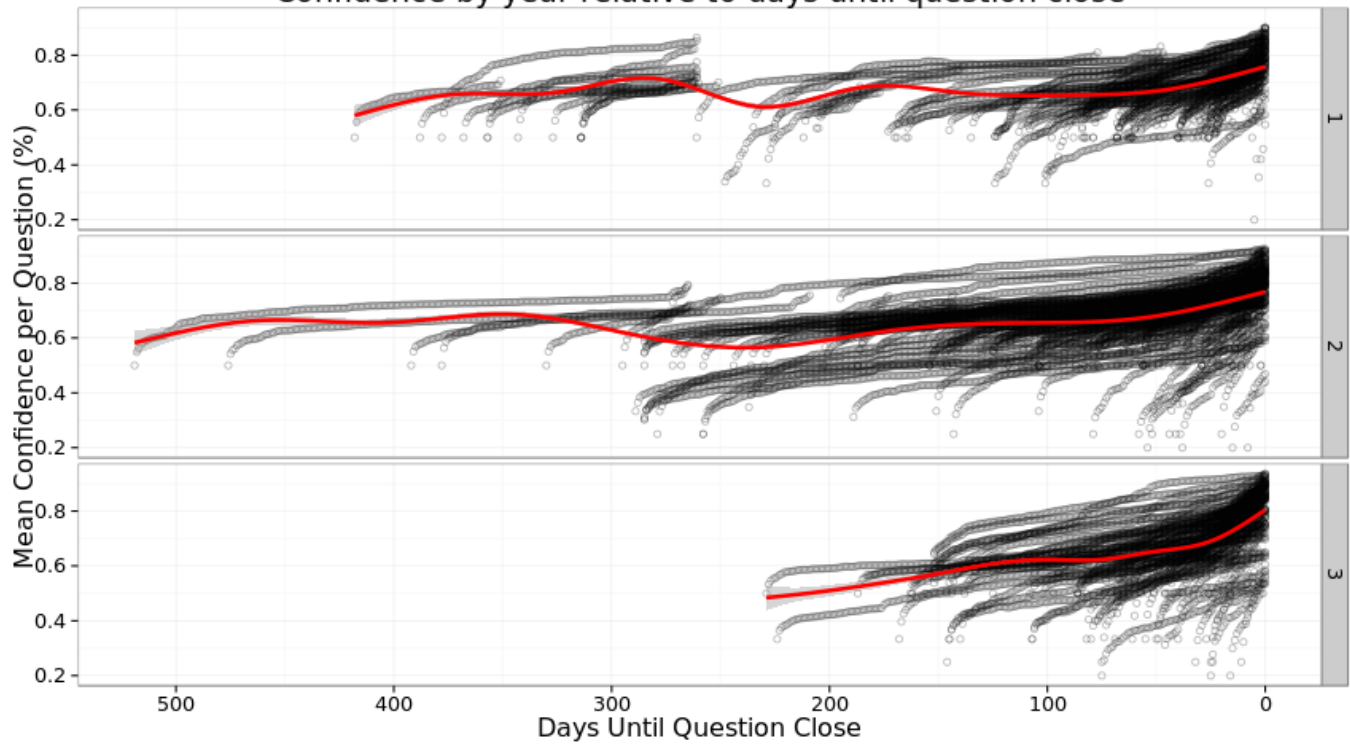
# Confidence And Accuracy Over Time supplemental analyses

In the paper, we focus on percentage of question duration as our primary measure of time. This measure standardizes our data with respect to the wide range in question duration and calendar start and end dates. The figures below present confidence and accuracy with respect to some alternative measures of time.

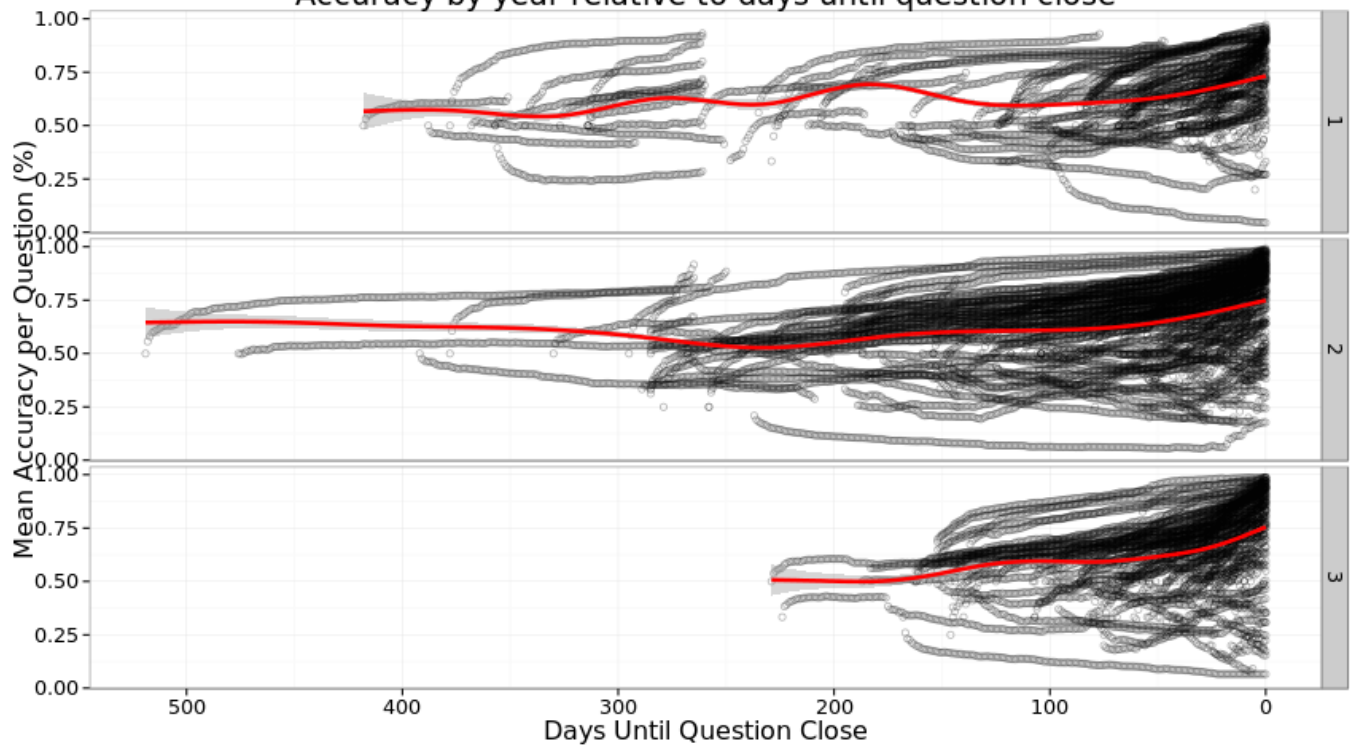
## Days until question close

This measure considers the temporal distance of the judgment in days from the eventual resolution of the question. Because of varying question length, we have many observations near 0 because all questions in the sample have closed, but fewer and fewer observations as we move to more distant judgments which were not possible on shorter questions.

### Confidence by year relative to days until question close

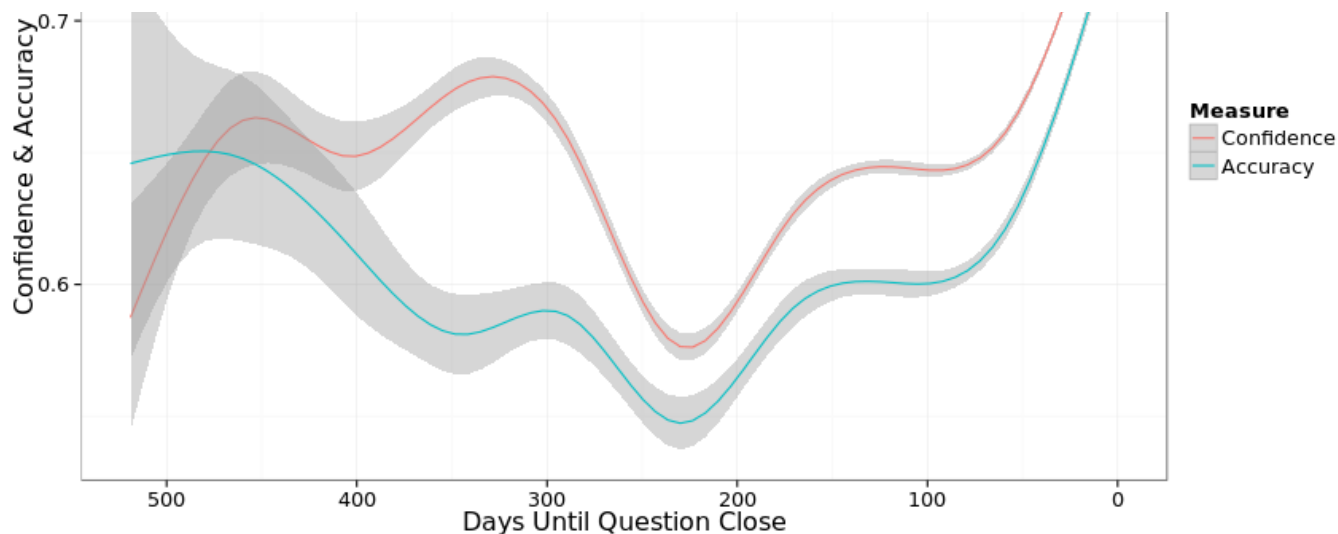


### Accuracy by year relative to days until question close



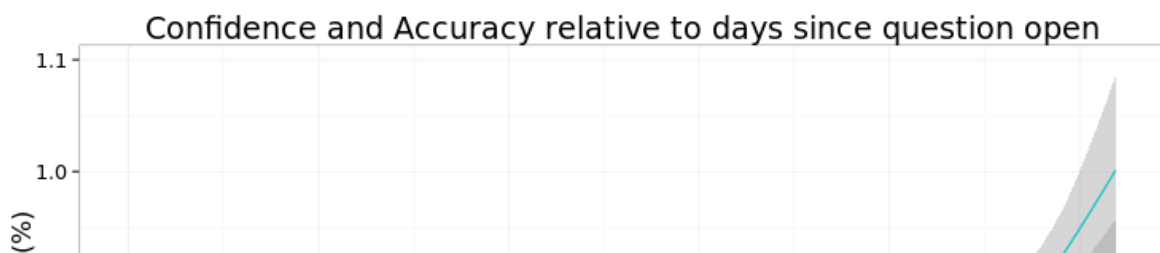
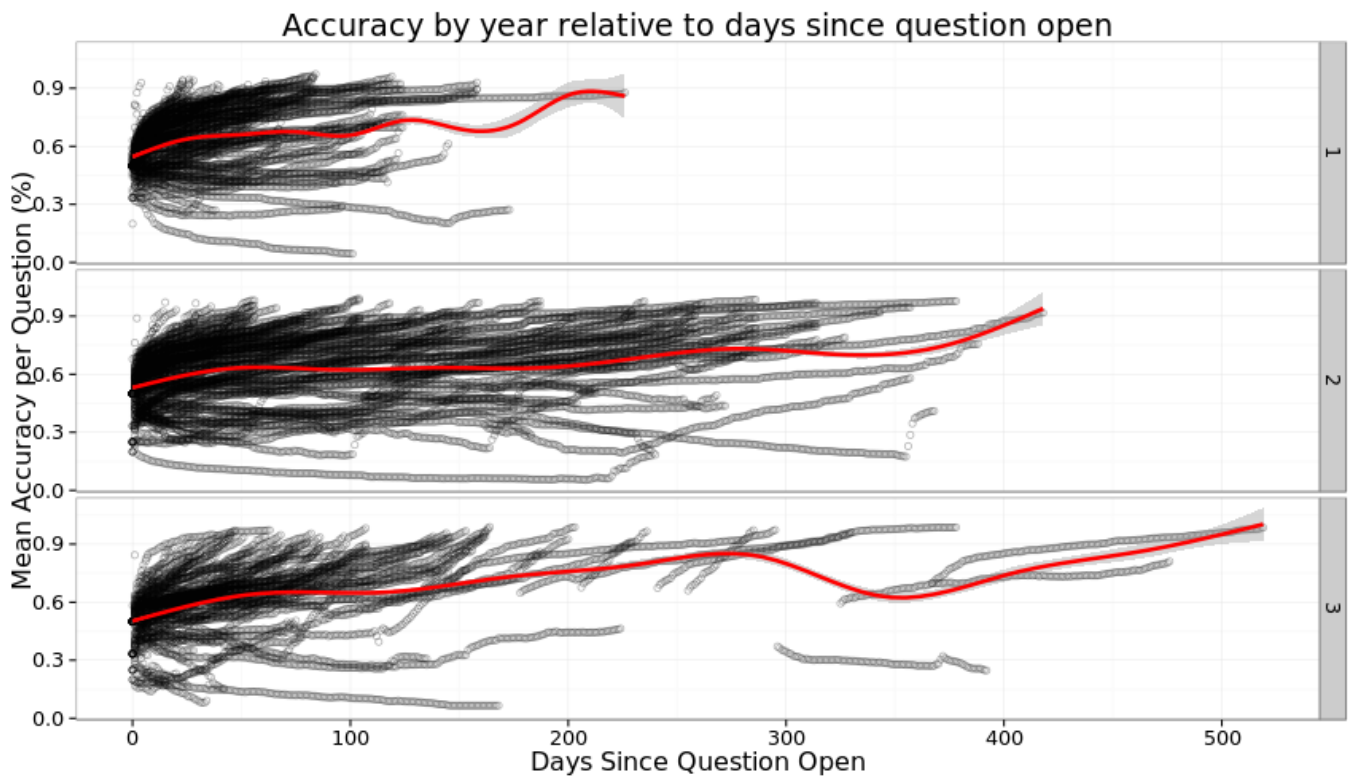
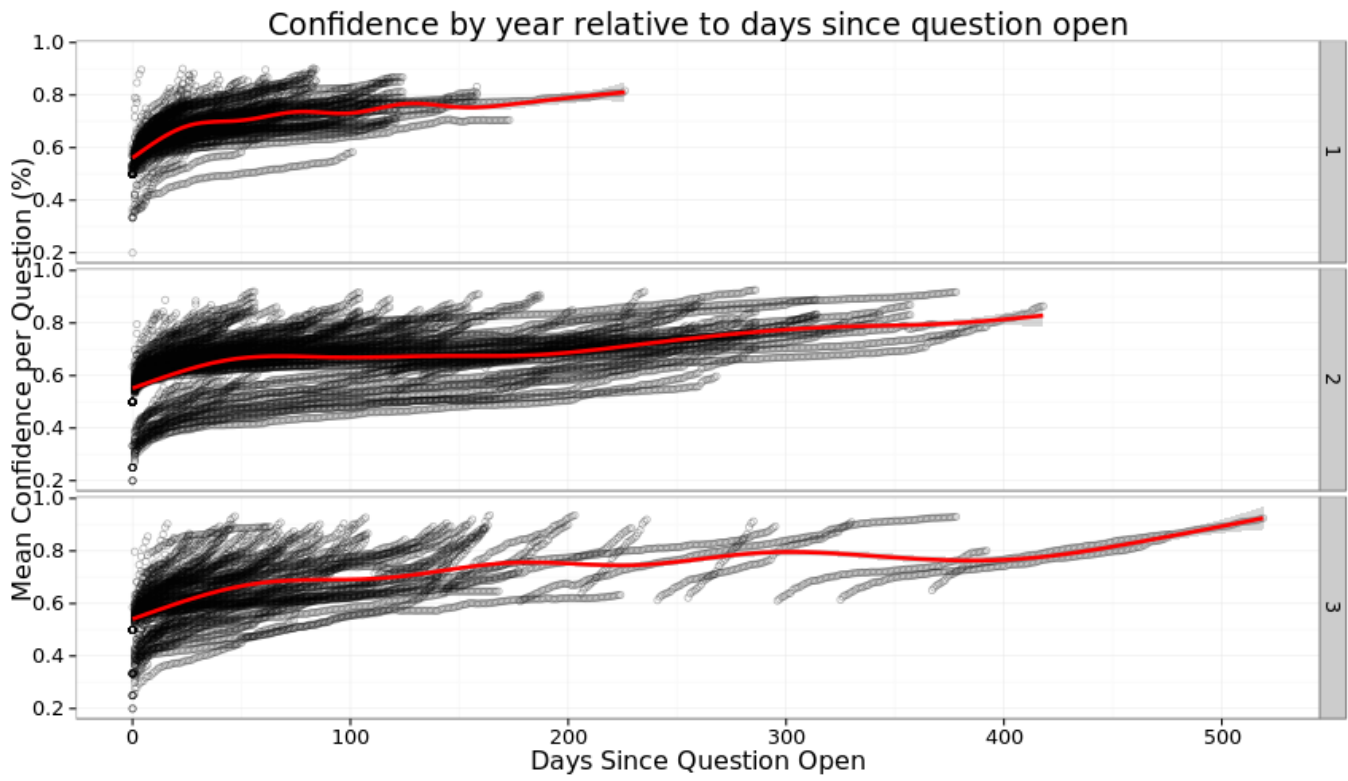
### Confidence and Accuracy relative to days until question close

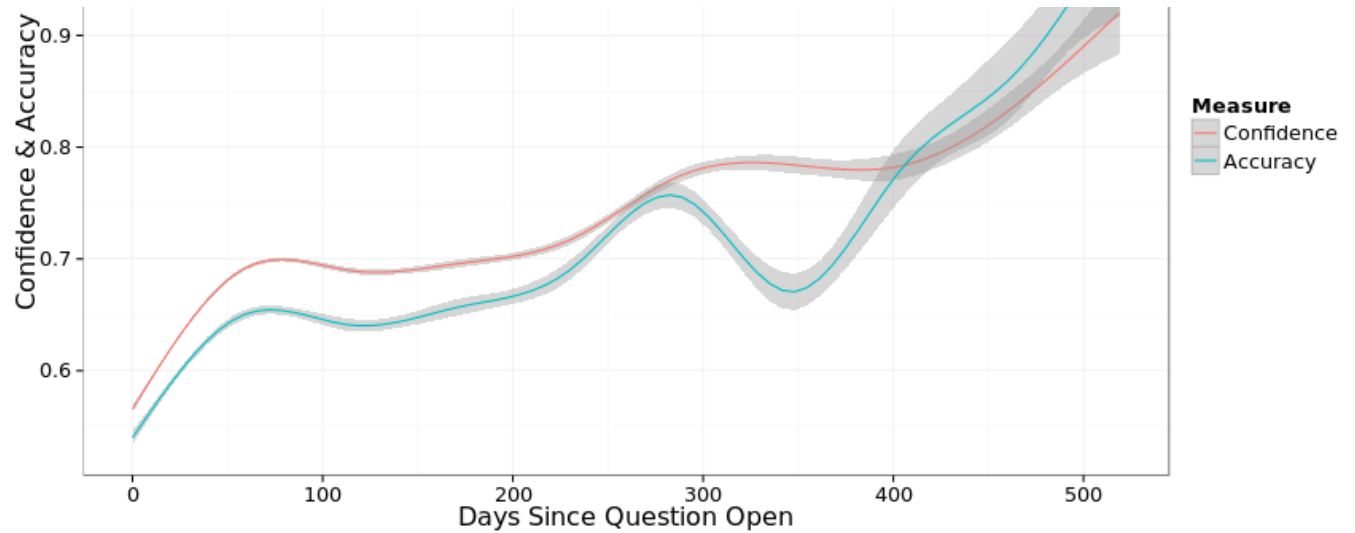




## Days since question open

This measure considers the temporal distance of the judgment in days the question was opened for forecasting. Because of varying question length, we have many observations near 0 because all questions in the sample had a first day, but fewer and fewer observations as we move to more distant judgments which were not possible on shorter questions.

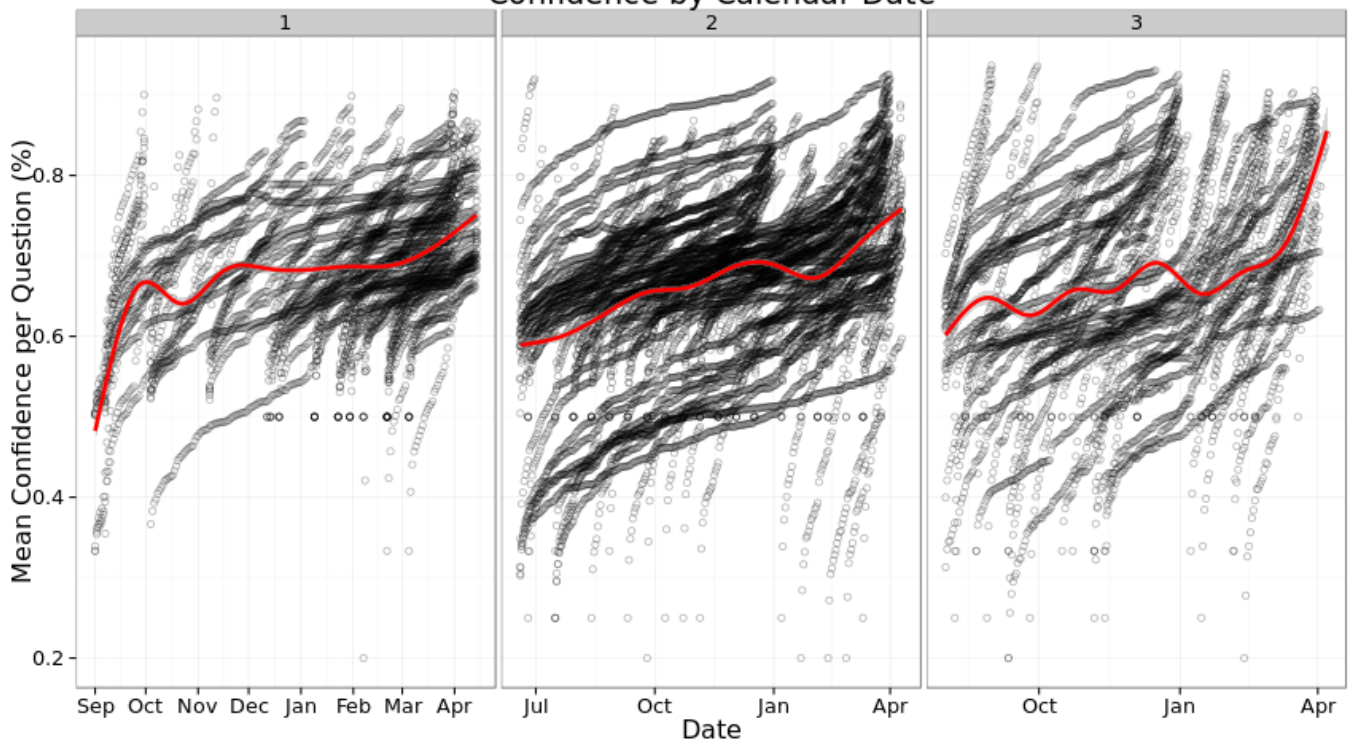




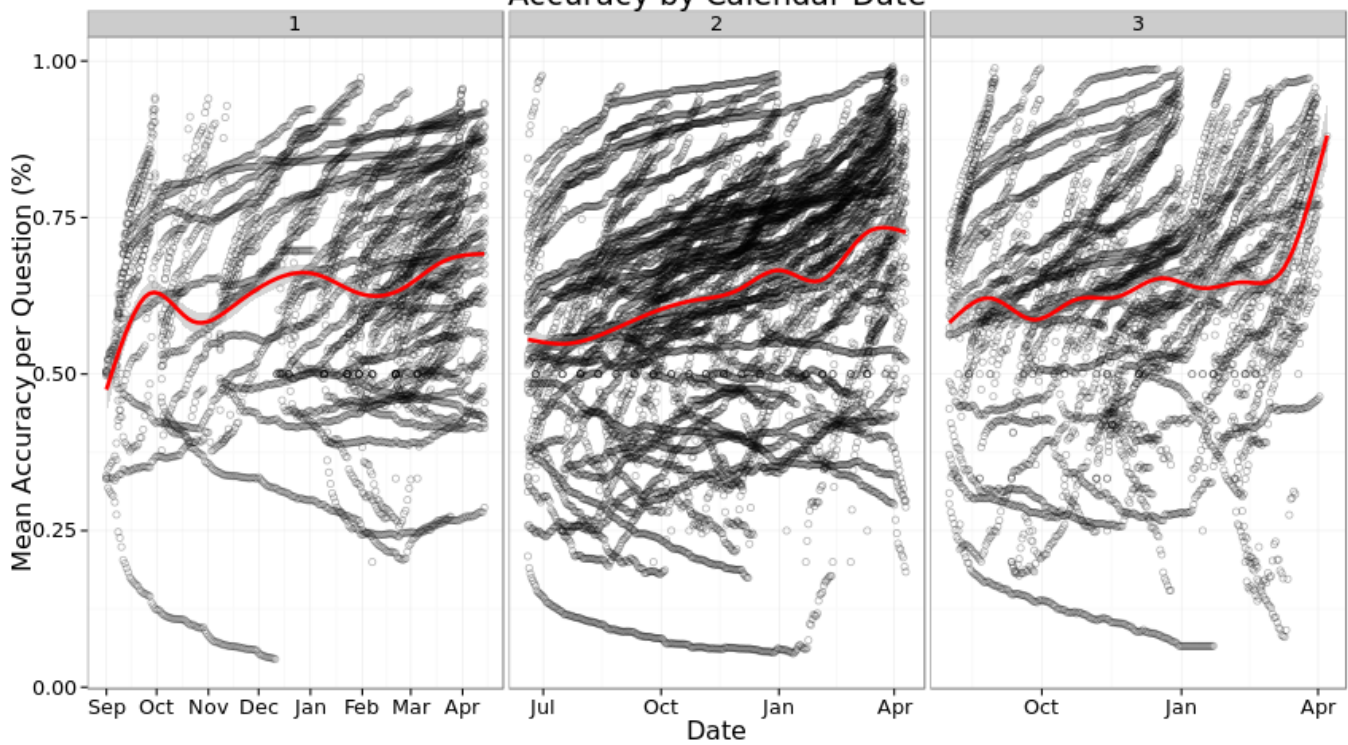
## Calendar Date

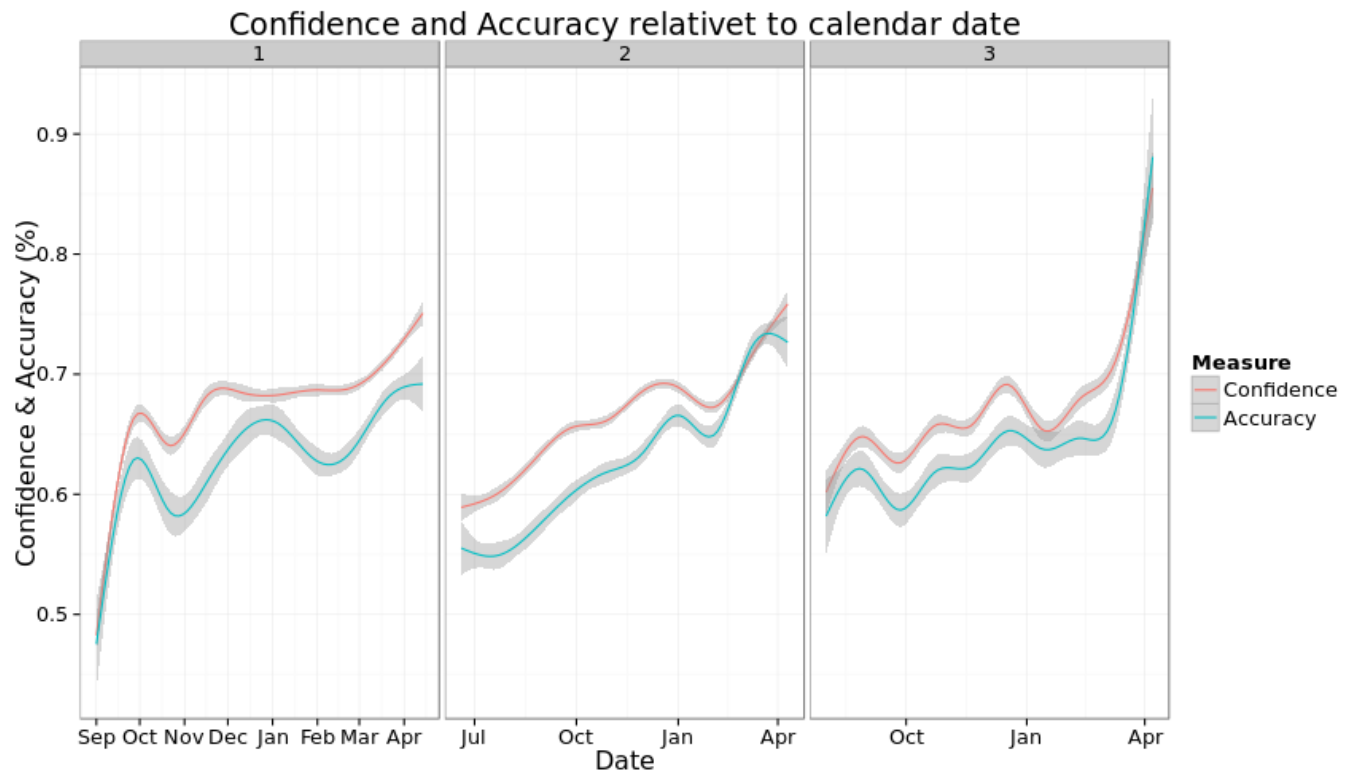
We can also ask how confidence and accuracy have varied over the passage of time across three tournament years without specific reference to the individual question timelines.

### Confidence by Calendar Date



### Accuracy by Calendar Date





# Extreme Forecasts

## The Basics

### Data Used:

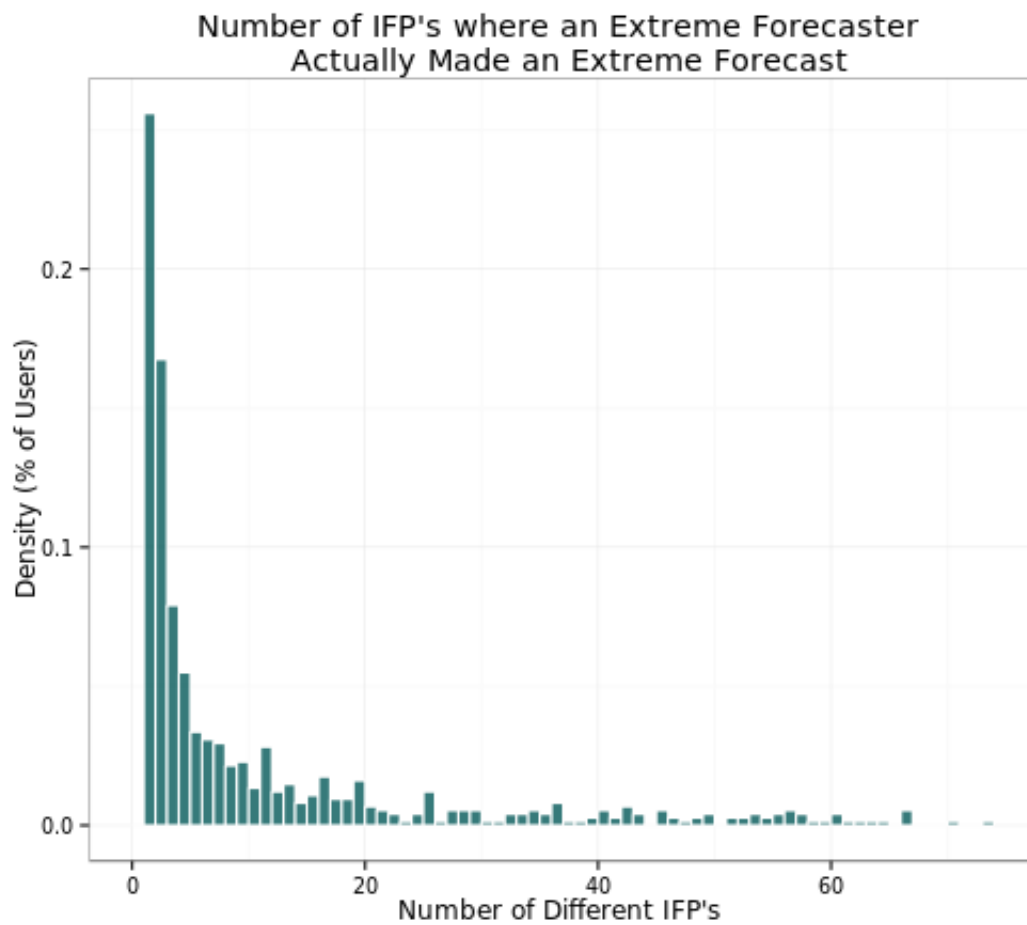
- Year 2 binary IFP's, answer option 'a'. Total of 73 IFP's, 1221 forecasters, 101,565 forecasts made.

### Definitions:

- **Extreme Forecast** - a forecast of 0 or 1 (on a binary IFP's option 'a')
- **Extreme Forecaster** - a forecaster who submits at least one extreme forecast
- **Active Extreme Forecasters** - extreme forecasters who have submitted at least 10 forecasts in year 2
- **Extreme Only Forecast** - the event where a forecaster submits only extreme forecasts for the duration of an IFP

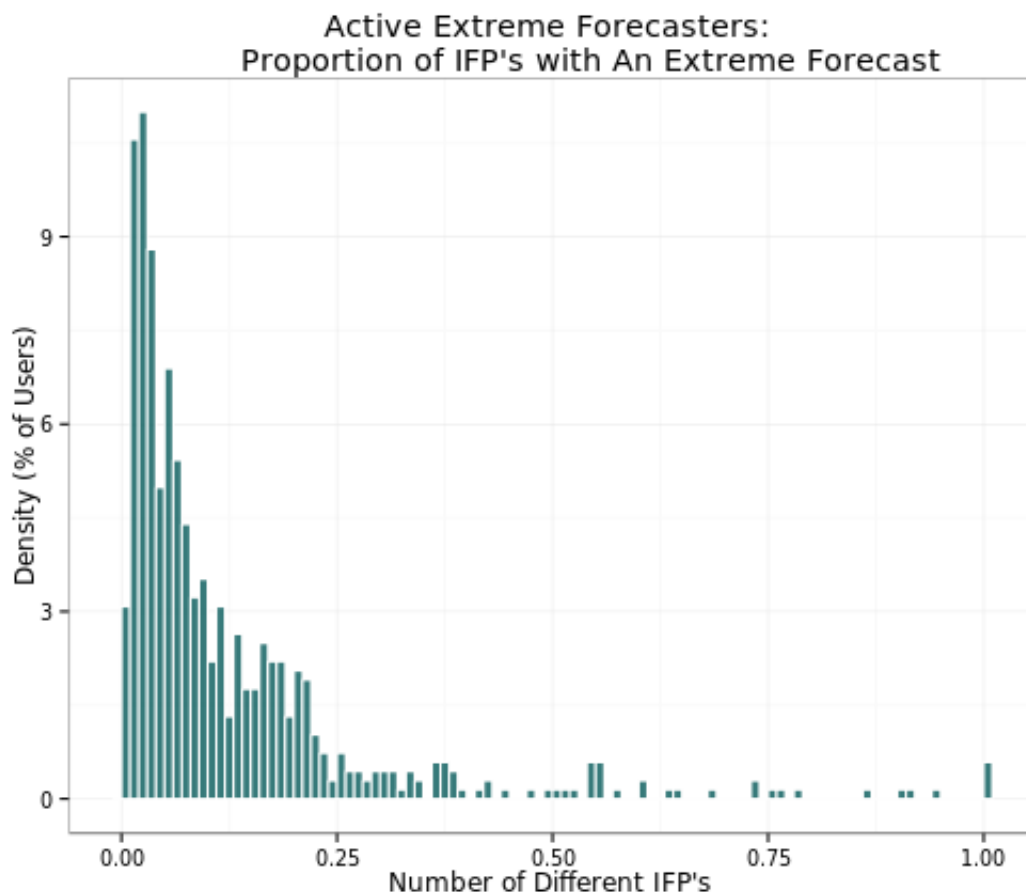
First we'll look at the forecasts made on option 'a' for binary IFP's in year 2. We'll consider extreme forecasts to be a forecast of 0 or 1, since a forecast of 0 on option 'a' is necessarily a forecast of 1 on option 'b'.

In year 2 there were 746 (61% of 1221) forecasters who made at least one forecast of exactly 1 or zero on outcome 'a' of a binary IFP. There were 9,008 extreme forecasts submitted (8.9% of all forecasts), with at least one on every (binary) IFP.



Most users (59%) who make extreme forecasts  
only do so on 5 or fewer IFP's;  
25.5% use an extreme forecast on just 1 IFP

This graph shows the proportion of forecasts made which are extreme, given that the person is and extreme forecaster and made at least 10 forecasts throughout the whole year.



Most users (59%) who make extreme forecasts only do so on 5 or fewer IFP's; 25.5% use an extreme forecast on just 1 IFP

Note: the bar furthest to the left represents 0% to 1%, not 0% only.

## Extreme forecasts across all users:

Looking at the proportion of extreme forecasts out of all forecasts made:

**Table 1: Proportion of Extreme Forecasts by Group & Total (All Users)**

group	n	mean	median
1 Individuals	594	0.10	0.02
2 Team Individuals	564	0.09	0.02
3 Superforecasters	64	0.11	0.09
4 Total	1222	0.10	0.03

**Table 2: Proportion of Extreme Forecasts by Group & Total (Active Extreme Forecasters)**

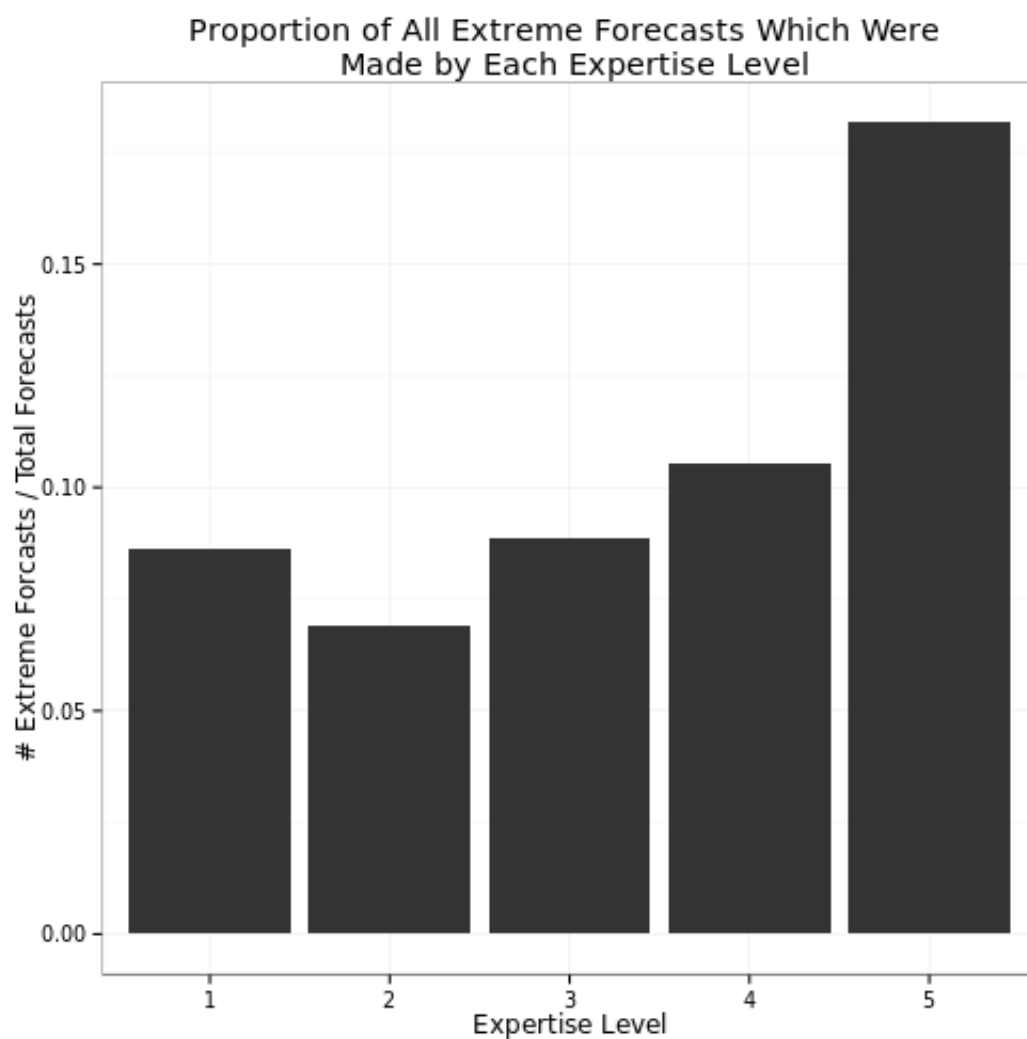
group	n	mean	median
1 Individuals	322	0.13	0.06
2 Team Individuals	300	0.12	0.07

3 Superforecasters	60	0.12	0.09
4 Total	682	0.12	0.07

# Who Makes Extreme Forecasts?

## Expertise

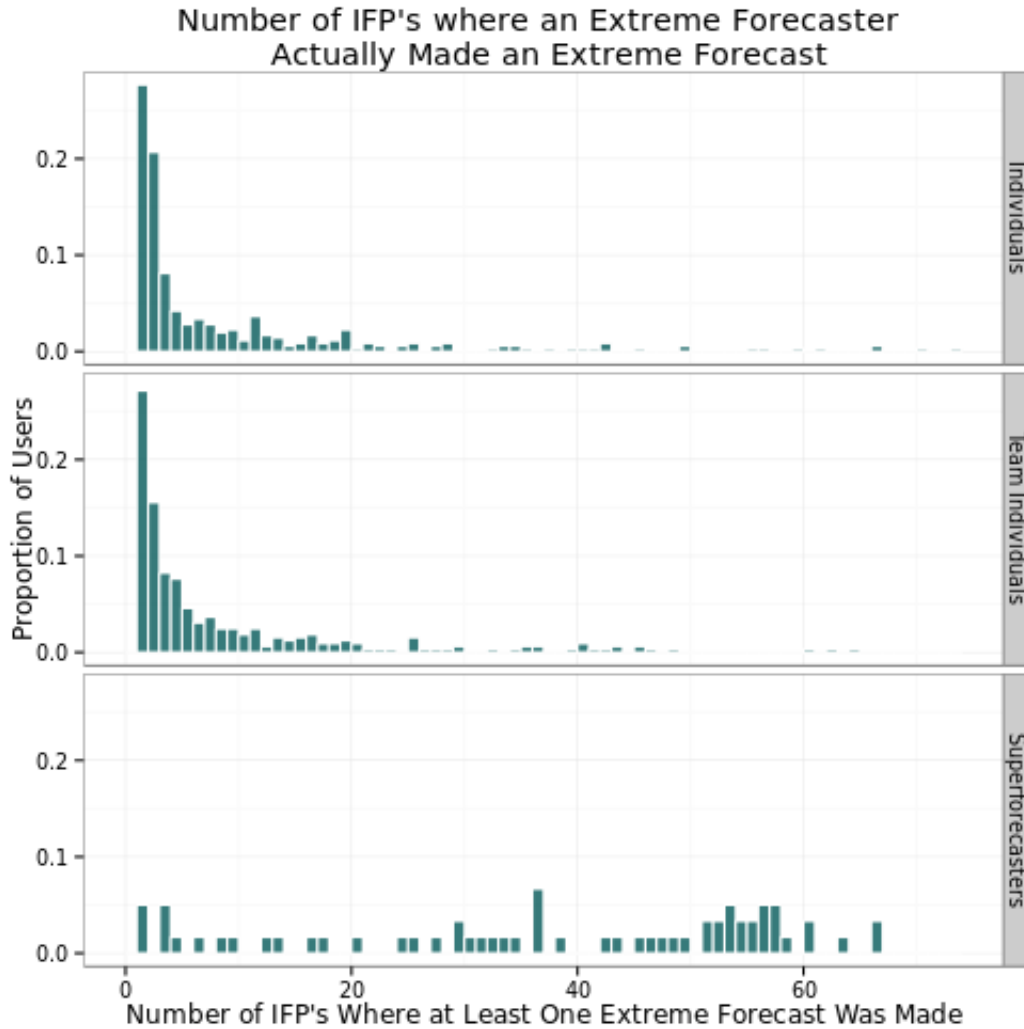
Is there any relationship between expertise and extreme forecasts? I.e. are forecasters more likely to make an extreme forecast when they believe that they have expertise on the subject?



There does seem to be some relationship between expertise and extreme forecasts. More of the extreme forecasts seem to be made by those at level 5 than at any other expertise level.

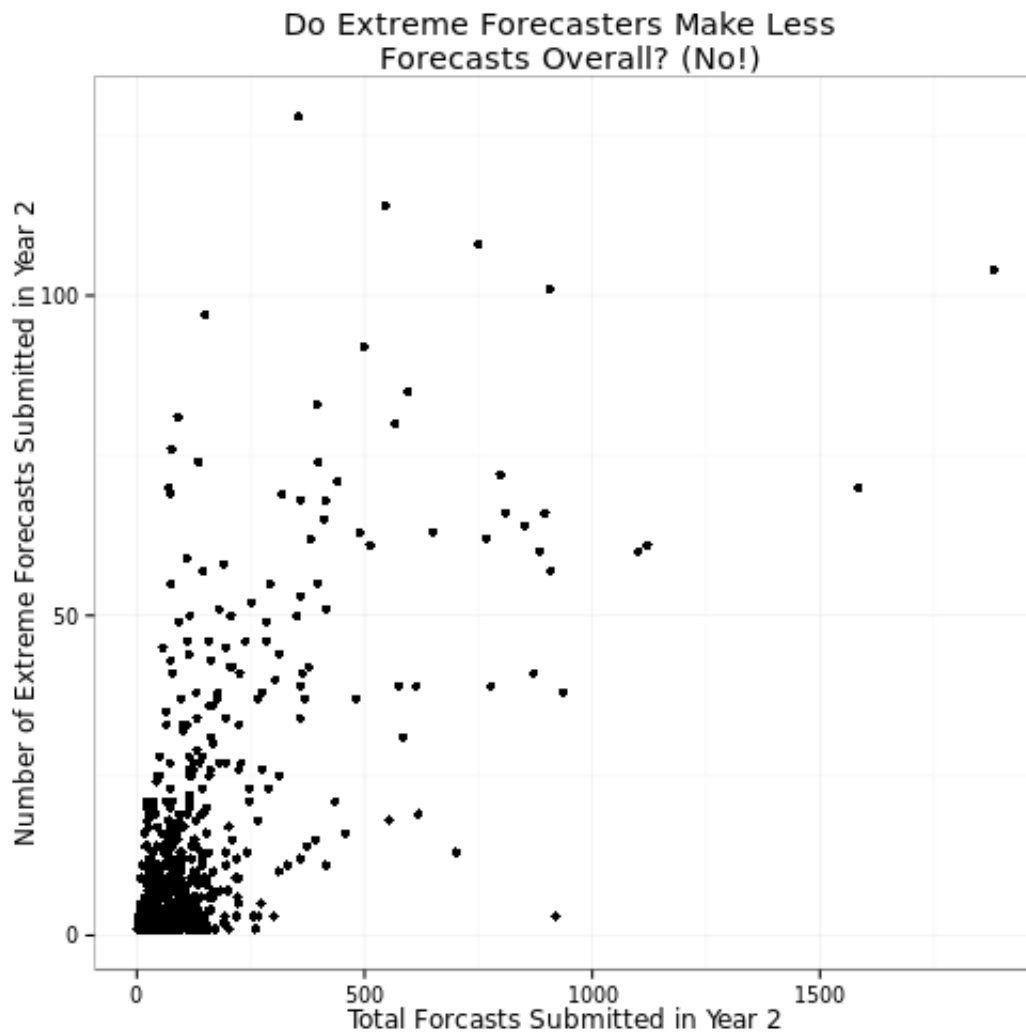
# Group (Individuals vs. Teams vs. Superforecasters)

Who is more likely to make the extreme forecasts?



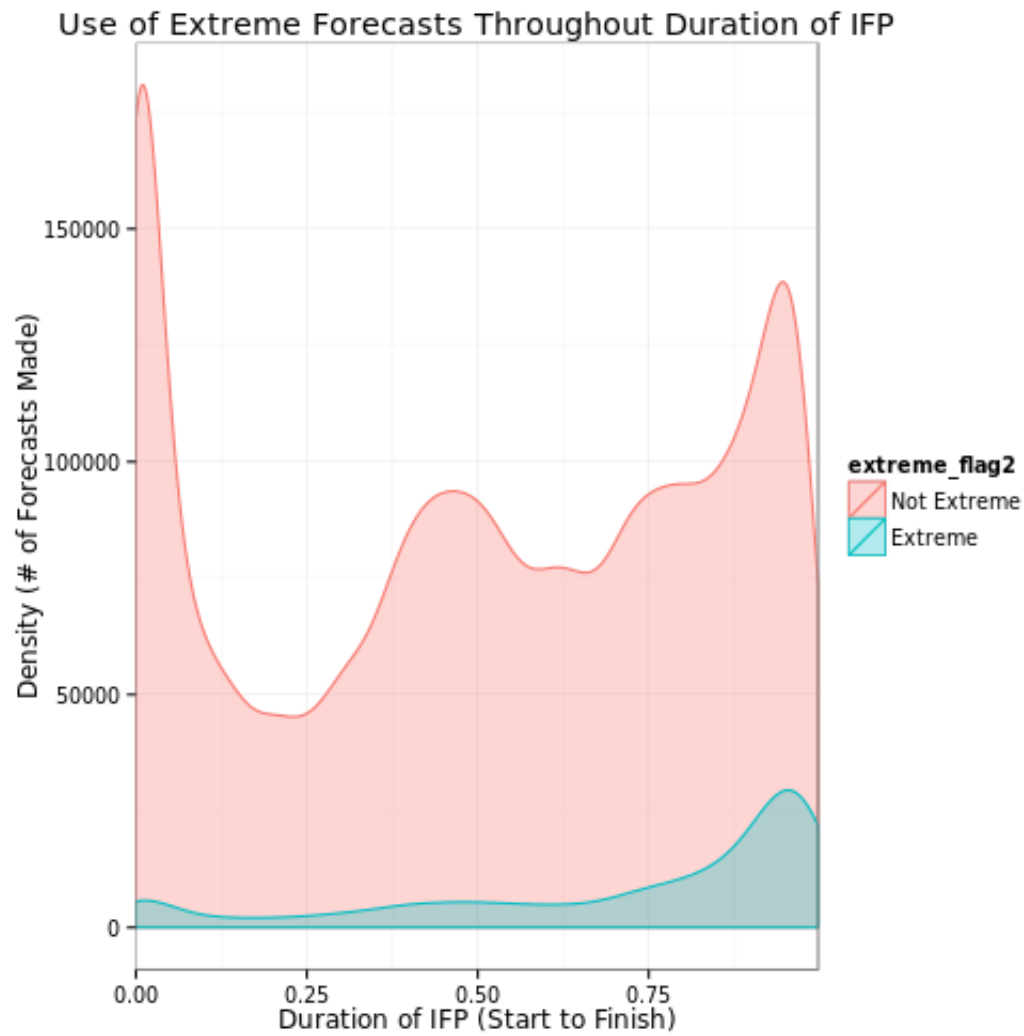
So by group, super forecasters are more likely to use an extreme forecast. Individuals and teams use the extreme forecast more sparingly.

## Do extreme forecasters make less forecasts?



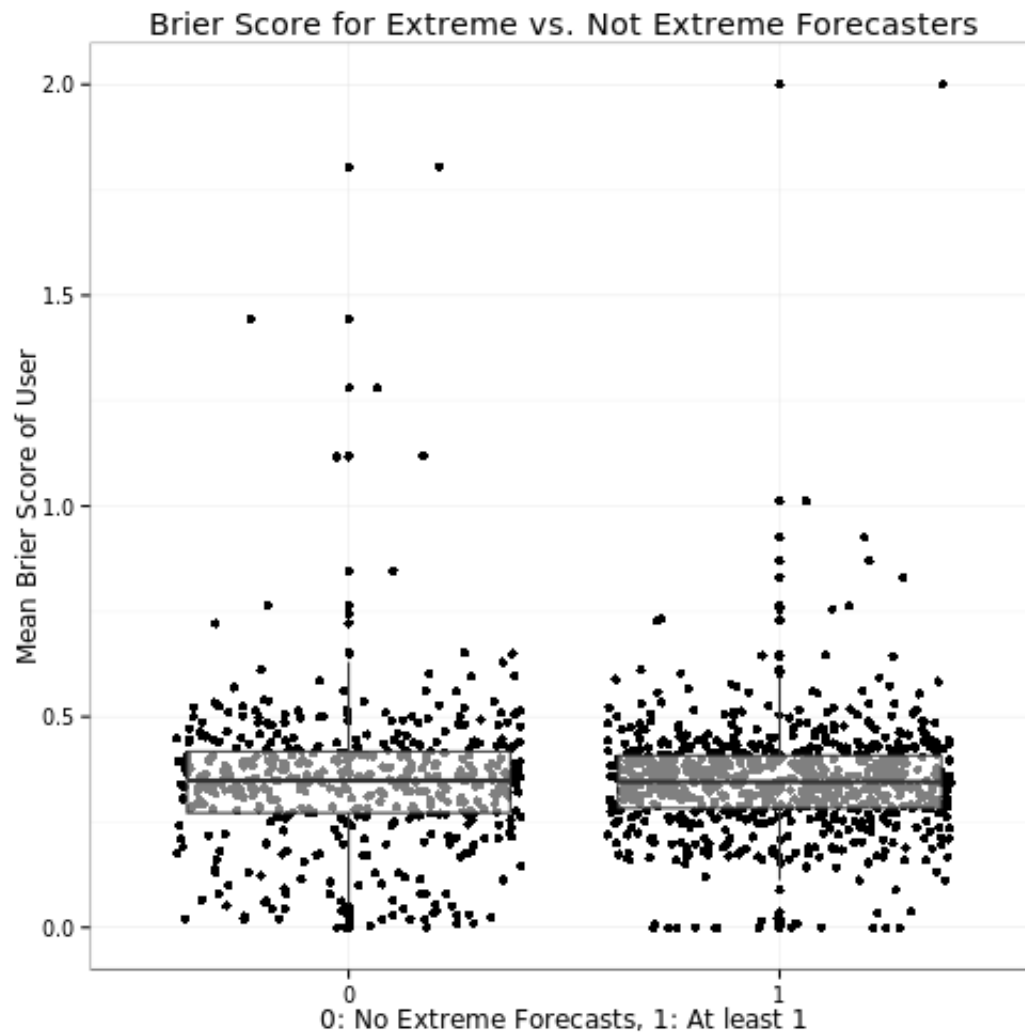
## When are extreme forecasts made?

Extreme forecasts tend to be made closer to the close date of an IFP.

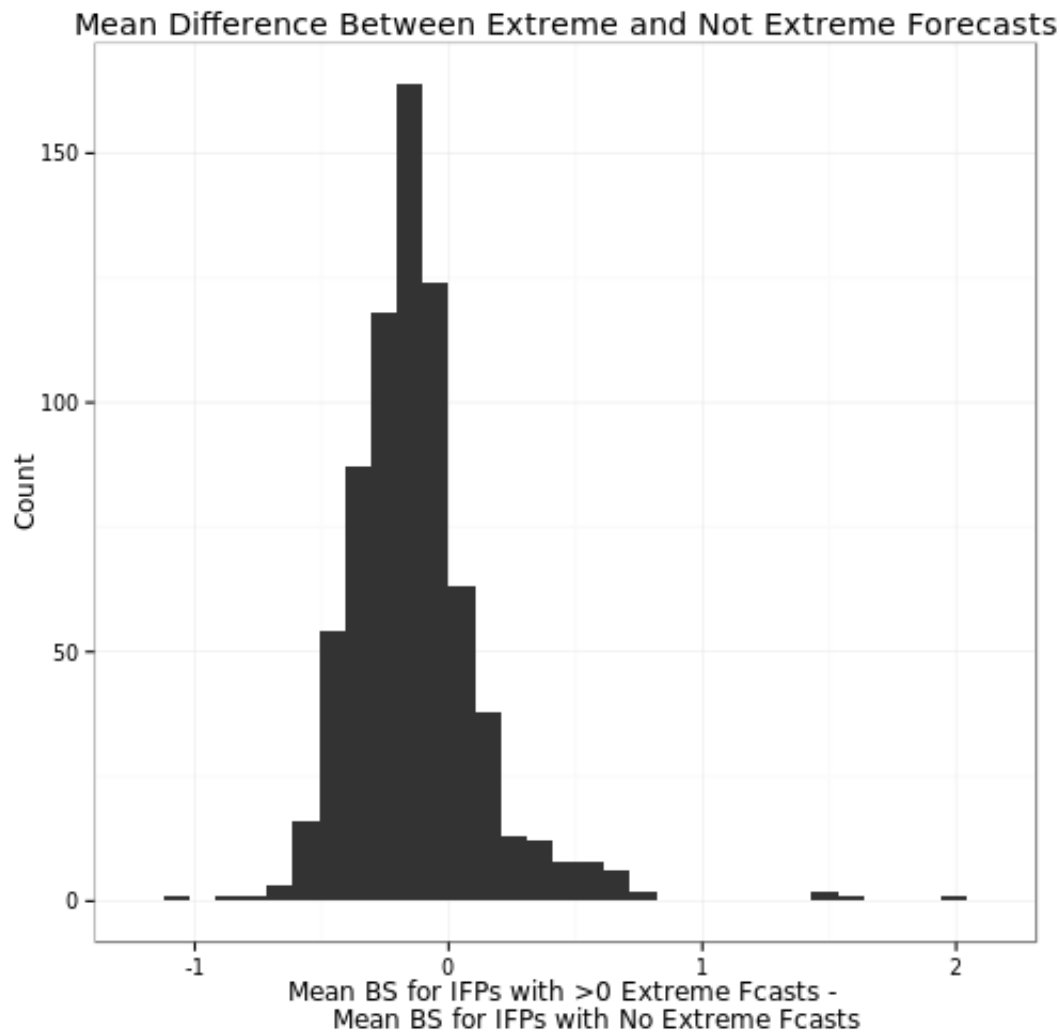


Extreme forecasts are not more (less) likely to be made on a long (short) IFP.

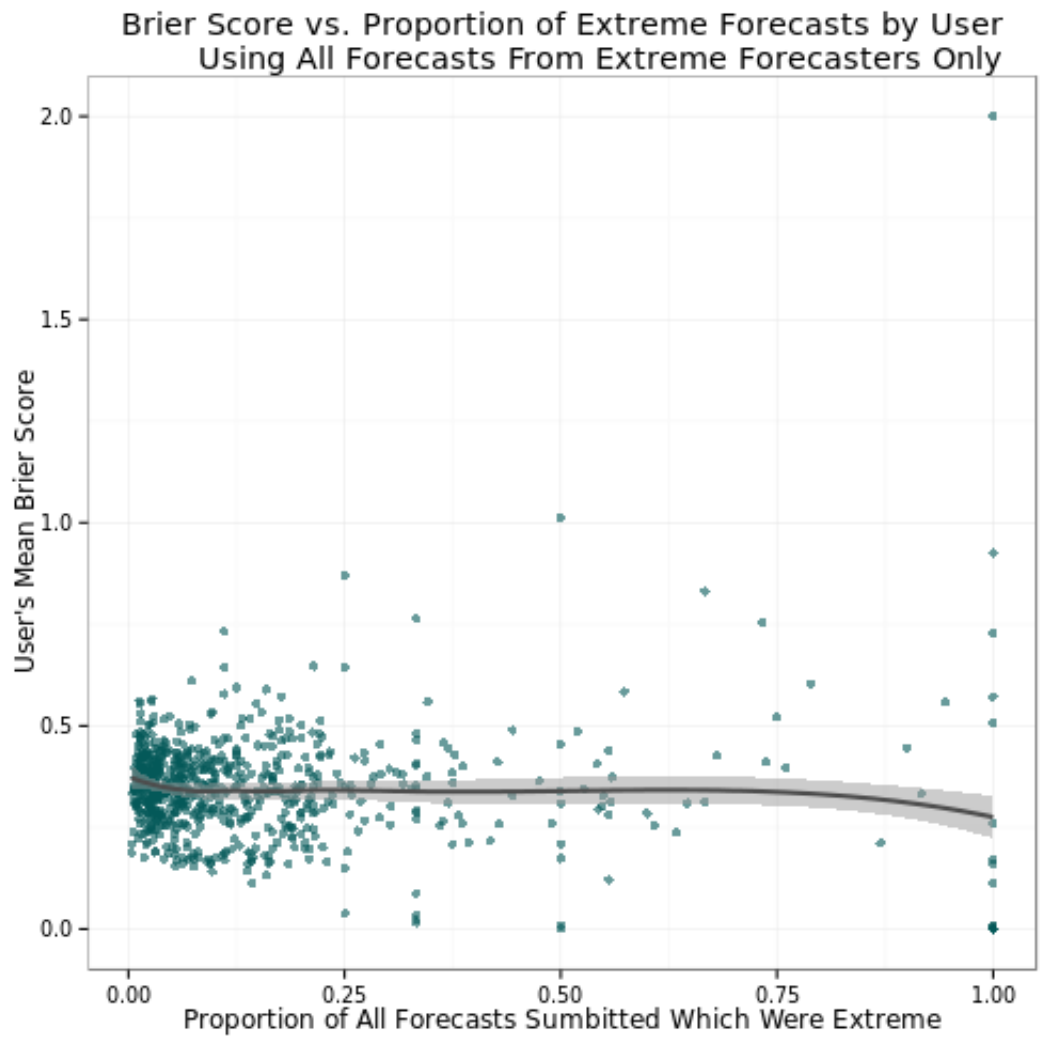




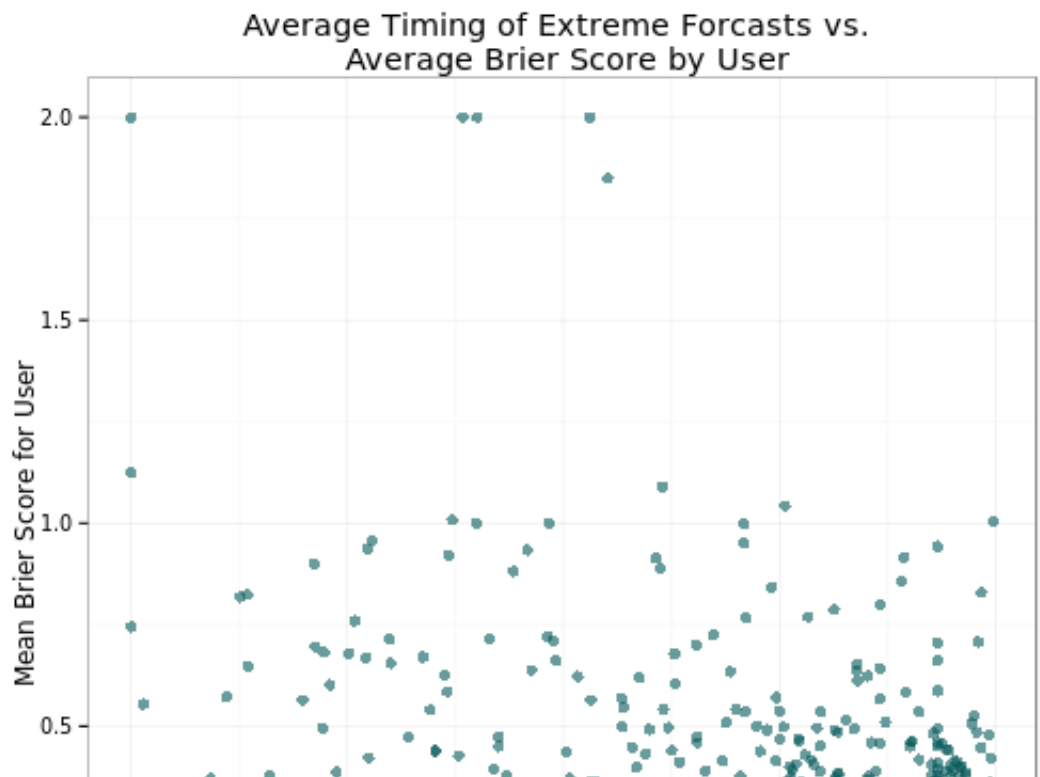
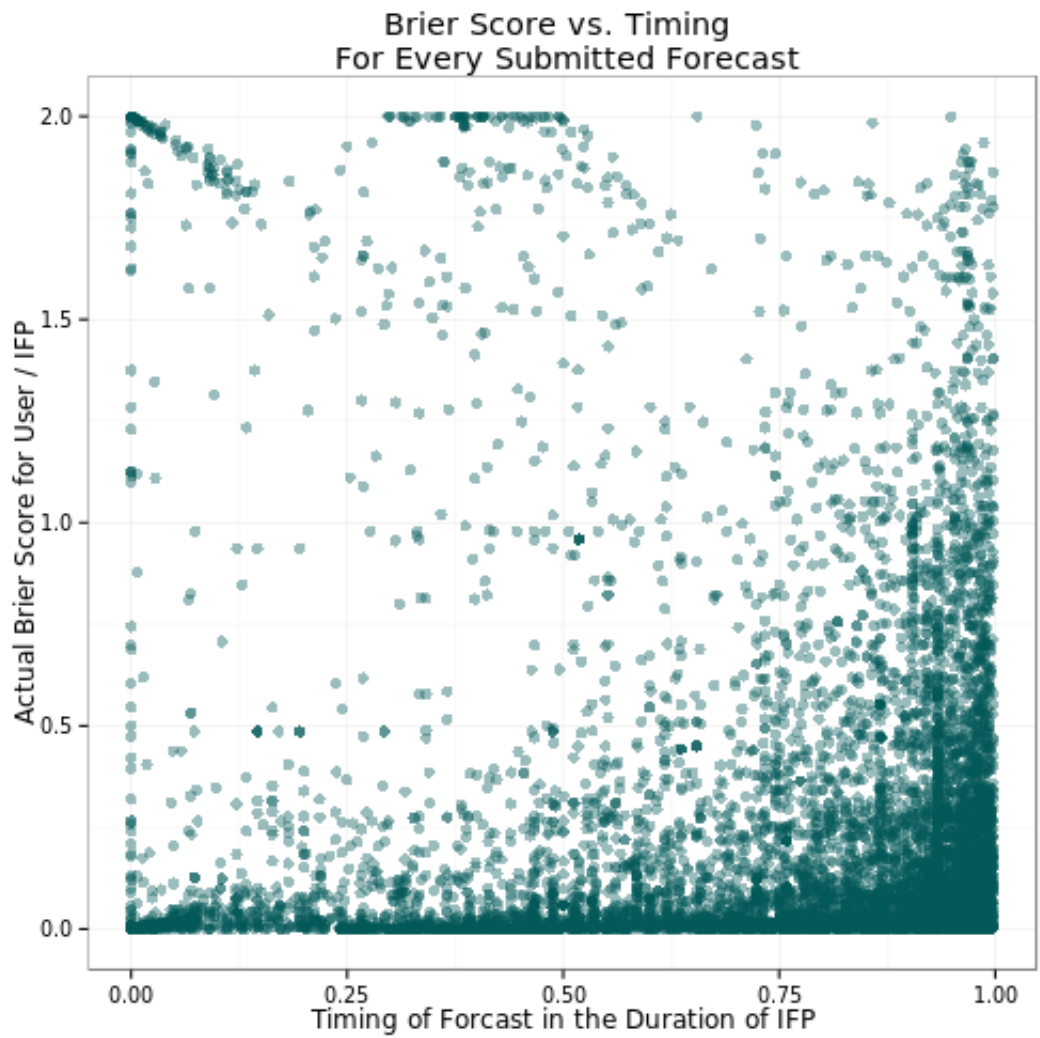
However, on average forecasters have a significantly lower average Brier score on the IFP's where they made at least one extreme forecast than they did on other IFPs.

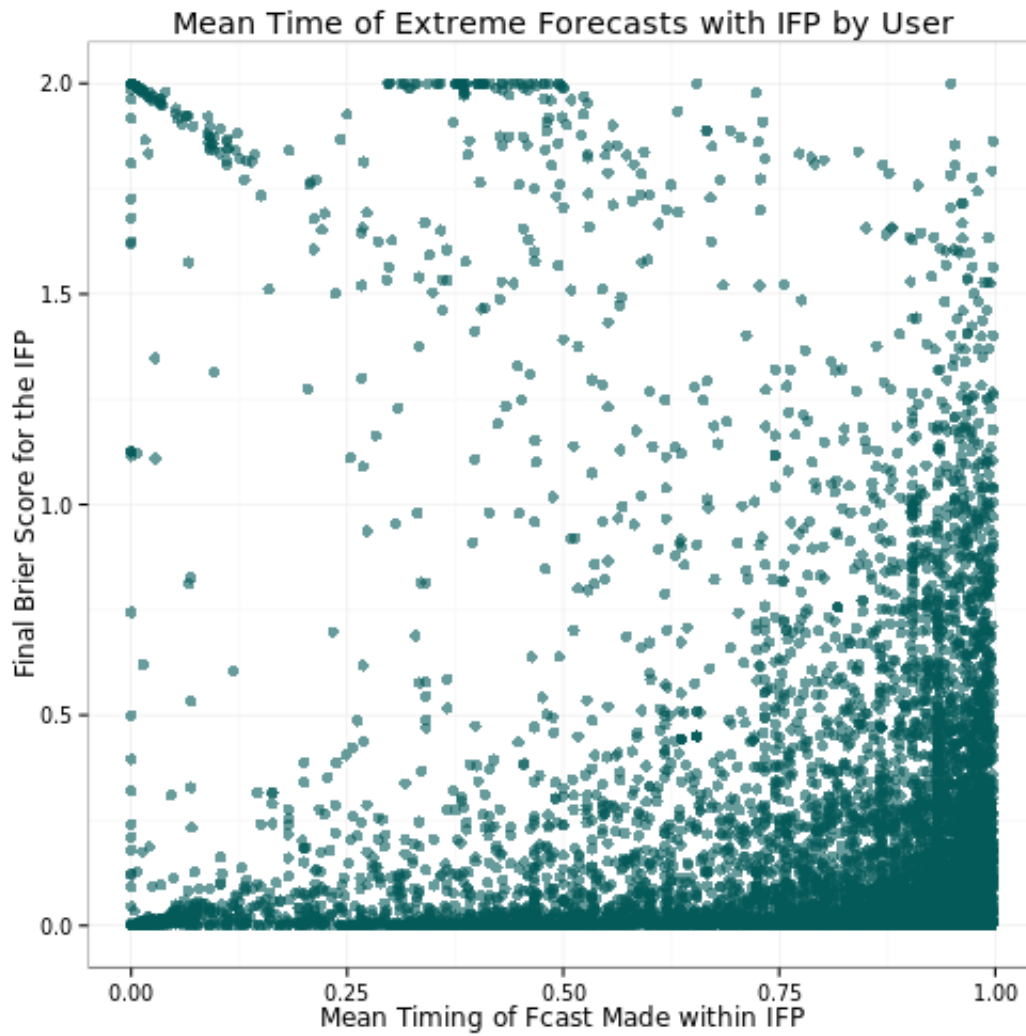
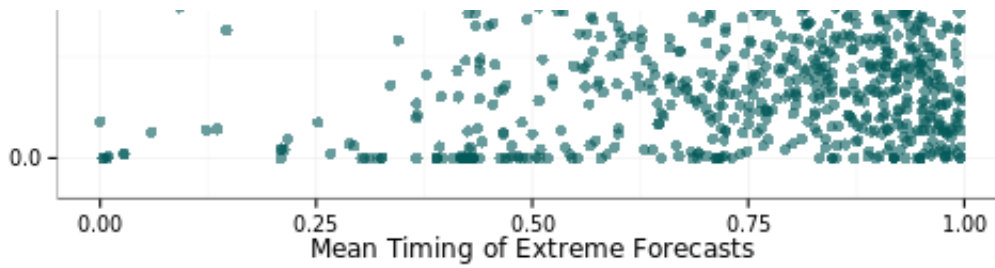


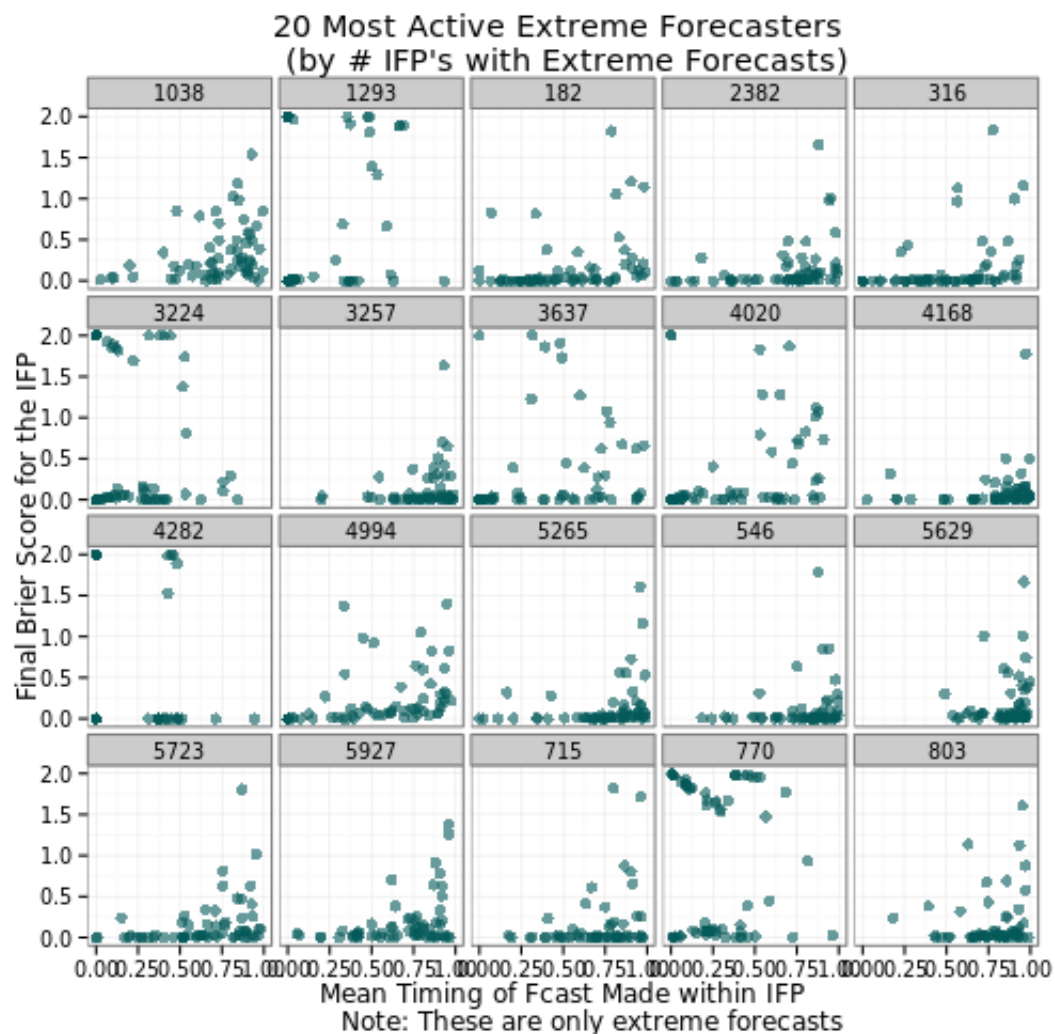
## Attempting to understand the relationship between Extreme Forecasts & Brier Scores











## Only Extreme Forecasts

What happens to a forecasters Brier score if we consider IFPs where a forecaster made ONLY an extreme forecast? There were 2,663 instances (combination of user by IFP) from a total of 45,249 (5.8%) where a user made only an extreme forecast. There was at least one forecaster who used only extreme forecasts on every IFP, and this type of forecast was made at least once by 569 of 746 Extreme forecasters (77%), 47% of all forecasters.

So do people who are “more sure” earn lower Brier scores? Yes. The mean Brier score for the combination of IFP / user when only an extreme forecast was made was 0.33 vs. 0.38 for all others. This difference is even more pronounced when we look only at users who made more than one forecast on an IFP, then the extreme only forecasts mean brier score drops to 0.19 and the non extreme drops only to 0.32.

This difference holds across each of the groups, but the difference is striking in superforecasters who seem to only make extreme-only forecasts when they are very sure of the outcome.

