



11

QUESTIONS FOR THE NEXT DECADE

SUPERFORECASTING GLOBAL
AND REGIONAL POLITICAL AND
ECONOMIC TRENDS





**QUESTIONS
FOR THE
NEXT DECADE**

Introduction

The Arab Strategy Forum has engaged Good Judgment Inc to analyze 11 global Megatrends and forecast on a set of related "Ignition Questions" that serve as early indicators and monitors of change in the Megatrends. The Megatrends have profound implications for the next 10 years and beyond, dealing with global issues as well as issues that more directly impact the Arab World and the broader Middle East/North Africa (MENA) region. The Ignition Questions were posed to 150 experts of Good Judgment's professional Superforecasters in October/November 2019.



المنتدى الاستراتيجي العربي
ARAB STRATEGY FORUM

Methodology

Good Judgment Inc, is the world's most accurate geopolitical and geo-economic forecasting entity. Good Judgment Inc is the outgrowth of a four-year, \$20 million research project run by the United States (US) Office of the Director of National Intelligence to see whether crowd-sourced forecasting approaches could deliver more accuracy than existing approaches. The result was decisively positive, with Good Judgment's methodology generating up to 85% increases in accuracy. Good Judgment continues to work with clients and partners to push the frontiers of forecasting even further.

To generate the most accurate forecasts available, Good Judgment works with Superforecasters from around the world whose forecasting accuracy placed them in the top 1-2% of the more than 25,000 forecasters who took part in the US Government's research project. These Superforecasters are a diverse lot, with professions ranging from finance to intelligence, management to medicine, and psychology to archaeology. Most have one or more graduate degrees, and a third have doctorates. A third of Superforecasters live outside of the US and most speak two or more languages. In 2013-14, many of these Superforecasters were compared directly against 4,300 members of the US Intelligence Community on the same set of 139 geopolitical forecasting questions; the Superforecasters were 30% more accurate.¹

Each team of Superforecasters included a smaller "Red Team" – Superforecasters who do not themselves forecast, but rather who critique the "regular" Superforecasters' thinking, whatever it is, and suggest alternative arguments for consideration. Red Team members highlight new details or new arguments that, in their view, "regular" forecasters had not fully considered. The results are forecasts that are better informed by multiple data sets and paradigms.

¹ See: <http://www.sjdm.org/journal/17/17408/jdm17408.pdf>.



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1. GLOBAL BUSINESS CYCLE

This key Megatrend is focused on the global business cycle and whether the next recession will be a repeat of the Great Recession or rather a return to the earlier pattern of a brief economic downturn followed by a resumption of steady growth. **Superforecasters give roughly three-to-one odds that the world will not undergo another great recession in the next decade.**

A core principle in Superforecasting is to begin with an appropriate reference class, or “base rate,” to determine the frequency of an event over time. In the case of the global business cycle, the time frame a forecaster selects will make a dramatic difference. Going back a century or more, business cycles were far more frequent, with wider swings as economies went from boom to bust. Beginning in the later 20th century, however, business cycles began to last longer and downturns were milder. In contrast, the Great Recession of the last decade was far more brutal. In their analysis, Superforecasters generally conclude that the correct base rate is the experience of recent decades with mild recessions that can be punctuated occasionally by a deep downturn. The Great Recession, in short, is the outlier rather than the norm.

Superforecasters expect there will be at least one global recession over the next decade. That is the frequency we should expect – or the “base rate” – according to the International Monetary Fund (IMF). However, a repeat of the deep and scarring Great Recession is currently not on the horizon. A number of rare events coincided during that downturn, including multiple asset bubbles across many economies, a crisis in consumer and business confidence as those bubbles popped, and a credit crisis in the wake of the collapse of Lehman Brothers.

Against that backdrop, some Superforecasters argue that central banks have become more skilled at steering skidding economies out of trouble, and others suggest emerging technologies will serve to lift major industrialized economies in coming years. They will scan for indications of coming trouble, which could include continuing or worsening US-Chinese trade tensions or a major interstate conflict that disrupts trade. But while the global economy is vulnerable to another downturn, the forces in play appear to be more typical of earlier cycles

WILL THE GLOBAL BUSINESS CYCLE RETURN TO THE PATTERN OF STEADY GROWTH WITH BRIEF DOWNTURNS?

After a decade of recovery, indicators of a new recession are accumulating. It could mark the return to the pattern of steady growth with brief downturns seen in recent decades, or it could be another deep, longer-lasting downturn, as was the case with the Great Recession of 2008-13.

IGNITION QUESTION: WILL THE WORLD AVOID ANOTHER GREAT RECESSION THROUGH 2030?

Q1 | PAGE 20

2. GLOBAL TRADING SYSTEM

A common theme running through many of the Megatrends and associated Ignition Questions relates to global prosperity and financial stability. This specific Megatrend is focused on the post-World War II (WWII) system of global trade, and the associated Ignition Question asks whether China, Russia, or a G7 country will leave the World Trade Organization (WTO) by 2030.

Superforecasters see a very low likelihood of any of these states exiting the WTO. Indeed, several Superforecasters argue that China and Russia enjoy greater benefits than costs from their WTO membership. However, potential pivot points exist. Several G7 countries, including the US and Italy – and perhaps even France and the United Kingdom – are slightly more likely to consider exiting the WTO in response to populist pressures from the electorate or populist tendencies in governing political parties.

Superforecasters also note that there are other threats to global trade regimes, including the growing proclivity of pairs of states or groups of states to try to establish new regional trade regimes, like the US-backed Trans-Pacific Partnership or Russia's desired Eurasian Economic Union. Accordingly, several Superforecasters see the global trade regime under threat even if no country formally exits the WTO in the next 10 years.

While bilateral and regional agreements are new additions, the post-World War II trend to reduce trade tariffs remains in place. According to the World Trade Organization, the average tariff for major trade partners was about 22% in 1947. After a series of trade agreements, that level dropped to under 5% by the mid-1990s. This base rate trend is confirmed by World Bank data that shows an average tariff of 3% as of 2017, a multidecade low in their data. Against this backdrop, the trade disputes of recent years should not detract from an ongoing general consensus that open trade is beneficial, whether achieved through multilateral institutions like the World Trade Organization or through regional and bilateral agreements.

WILL THE POST-WWII WORLD TRADE SYSTEM SURVIVE THE PRESENT POPULIST TREND?

In recent years, the WTO-based system has been under strain. After decades of nearly steady growth, world trade began a sharp decline in mid-2018.

IGNITION QUESTION: WILL CHINA, RUSSIA, OR A G7 COUNTRY LEAVE THE WORLD TRADE ORGANIZATION BY 2030?

Q2 | PAGE 26

3. CHINA-US TECHNOLOGY COLLABORATION AND COMPETITION

This Megatrend is interrelated to the following two trends. The Megatrend on US power relates directly to other Megatrends, including to political Megatrends asking whether technology conflicts between the United States and China will ever become opportunities for collaboration, and whether large economies are increasingly vulnerable to cyber warfare. On the former, Superforecasters see it as 85% likely that a “splinternet” – one Internet led by the United States and one led by China will not be in place by 2030. Information will continue to flow across global networks, even as other types of political or ideological information will be blocked. To some degree, a “splinternet” already exists, with China’s great firewall and very different Internet service providers. Increasing barriers to the full and free flow of information are likely, but a completely separate Chinese Internet with zero connections to the rest of the world will not emerge.

WILL TECHNOLOGY CONFLICTS BETWEEN THE US AND CHINA BECOME OPPORTUNITIES FOR COLLABORATION?

Chinese tech has had a hard time in the West but is experiencing rapid acceptance in other parts of the developing world. In ways, there is already a new cold war in tech. As events unfold over the next 10 years, however, there could be opportunities to find new ways to collaborate.

IGNITION QUESTION: WILL A “SPLINTERNET,” WITH ONE INTERNET LED BY THE US AND ONE LED BY CHINA, BE AVOIDED AS OF 2030?

Q3 | PAGE 32

4. CYBER WARFARE

Asked whether major economies are vulnerable to a debilitating cyberattack, Superforecasters see a 66% probability of a cyberattack shutting down a major infrastructure system in a G7 country for at least one day before 2030.

There are known points of potential attack. For instance, satellite systems are highly vulnerable to cyberattacks, but they are so valuable to developed economies that they have robust cyber defenses. Energy grids have proven vulnerable to cyberattacks, and Italy is vulnerable here as it has only two energy companies where other G7 states have multiple, disconnected companies. Otherwise, government operations, capital markets, and banking are at the forefront of cyber defense. While all three sectors will suffer debilitating attacks, they are hardened enough to prevent a country-wide shutdown for over a day. To take out a major system for a G7 country would require the national assets of a major nation such as China or Russia – mitigated by the fact that NATO would presumably consider such a move to be an act of war.

Outside of the G7, there are countries that are perhaps more vulnerable. It will be worth monitoring these situations as harbingers of larger-scale attacks elsewhere. For instance, in the Philippines, government hearings recently raised concerns that China could remotely “turn off power” in the country. Authorities believe they could restore power within two days, but there is concern because of the large share of Chinese ownership in the Philippines national grid, as well as reports that Chinese engineers were able to troubleshoot and control the network. Vulnerabilities such as these outside of the G7 itself also present risks to the global supply chain that can affect many other economies.

ARE THE LARGE ECONOMIES INCREASINGLY VULNERABLE TO CYBER WARFARE?

Examples of susceptible systems include governments, central banks, energy grids, and capital markets. Cyberattacks could cost billions of dollars.

IGNITION QUESTION: WILL A CYBERATTACK SHUT DOWN A MAJOR INFRASTRUCTURE SYSTEM IN A G7 COUNTRY FOR ONE OR MORE DAYS BEFORE 2030?

5. END OF THE AMERICAN CENTURY

Superforecasters see a 65% chance that the US will still be the world's largest economy a decade from now, and a 33% chance it will be number two after China.

This Megatrend is closely related to the global issues of the business cycle, international trade, and territorial stability, all of which would be affected by the relative position of the United States in the global system that it has dominated for most of the past century. Looking toward 2030, experts like Harvard University's Graham Allison warn of the Thucydides Trap, in which war between a rising power and an established power becomes increasingly likely. "It was the rise of Athens and the fear that this instilled in Sparta that made war inevitable," wrote the great Greek historian Thucydides. Will this same logic apply to a rising China on course to collide with an immovable US?

The Superforecasters argue the US economy is 1.5 times the size of the Chinese economy at nominal GDP, and even at modest US growth rates and accelerated Chinese growth, it will take over a decade for the two to switch places. Superforecasters also observe that the slowdown of the Chinese economy is likely to persist, especially given the demographic burden that working Chinese will increasingly bear as the median age in the overall Chinese population continues to climb.

Superforecaster commentary is more equivocal on the political and cultural aspects of US power, however. The current US administration has repeatedly demonstrated in word and deed that it views alliances and multilateral agreements as less important than

every other post-WWII US administration. To the extent that Washington continues to emphasize unilateral approaches to multilateral challenges on issues like trade and climate change, it will see its political and cultural soft power dissipate. A pivot point in this trajectory would likely come about if a new US president were elected in 2020.

As far as hard power goes, Superforecasters believe no other state will have a more powerful military by 2030, although several will make themselves increasingly powerful regional hegemons. That is, China and Russia, and increasingly North Korea, will continue to grow into "superpowers" in a regional context, though all will remain regional powers in a superpower context. China and Russia will make rapid gains in the militarization of the cyberspace and information space, increasing their capabilities to carry out aggressive acts below long-established red lines that sparked kinetic military conflict in the past. The United States and its allies will also make capability gains in these areas, but Western use of these tools will be circumscribed by moral and political considerations.

ARE THE POLITICAL, CULTURAL, MILITARY, AND ECONOMIC ASPECTS OF THE AMERICAN CENTURY WEAKENING?

The US became the largest economy at the dawn of the 20th century, which influenced much of its trajectory thereafter. The 21st century is shaping up as a multipolar system, with many countries and regions making major contributions to world society. The main nominal GDP contenders are China, the European Union (EU) collectively, and India. The more the US economy is eclipsed in size by other countries, the less the US will be able to project hard and soft power around the globe.

IGNITION QUESTION: WILL THE US ECONOMY BE RANKED FIRST, SECOND, OR THIRD IN 2030?

6. FRAGMENTATION OF LARGE POLITIES

Of the Megatrends raised by the Arab Strategy Forum, two concerned potential changes at the global strategic level. The first asked, after the external empires fell apart in the 20th century, will countries now fragment in the 21st? Superforecasters tackled this Megatrend by forecasting on the question of whether China, Russia, the United States, or the EU will lose 0.5% or more of their territory or population before 2030. After analysis and discussion, Superforecasters see a 5% likelihood that the EU will lose 0.5% or more of its territory or population before 2030, a 2% likelihood that Russia or China will, and 1% likelihood that the US will.

This is a particularly complex topic, and a key principle in Superforecasting is to break down complex topics into smaller, more tractable constituent parts. This Megatrend stands out for having many moving parts indeed, as reflected in the extensive commentary of the Superforecasters. But what would have to happen for any of those regions actually to secede?

Secession is the goal of many regions in China, Russia, the US, and the EU. The United Kingdom's (UK) departure from the EU is now expected (and that event is excluded from consideration in this question), but what about elsewhere? The Brexit precedent raises the possibility of other EU member states, including Greece and Italy, leaving the EU before 2030. Some newer EU members, like Romania, Poland, and Hungary, are among the former Warsaw Pact states that are frequently criticized by older EU members for perceived corruption and deficiencies in the rule of law, leading to growing pressures within those countries for increased political distance from Brussels. There is also the less likely, but growing, possibility of EU territorial loss in a conflict with Russia. To the extent that US support for NATO is seen to be weakening, Moscow could be emboldened to make a grab for a region of a Baltic state under the stated justification of protecting ethnic Russians who live there. Based on these and other considerations, more than half of Europeans surveyed see it as

“realistic” that the EU will fall apart within 20 years. Superforecasters note that some reasons European and Eurasian sovereigns have lost territory include: secession (Kosovo); breakup (Yugoslavia); mutual agreement (Czech Republic and Slovakia); force (Crimea); treaty (British departure from Hong Kong); and purchase (Russian sale of Alaska). Beyond the EU, it might be hard to imagine the fragmentation of China or the US, or even the further fragmentation of Russia. However, Superforecasters noted that in recent history, states which seemed utterly stable one year have disappeared the next – and the question is focused on the next *decade*. Ten years before the collapse of the Soviet Union, few serious forecasters predicted that empire would break apart. But by 1989 the Berlin Wall had fallen, followed soon thereafter by the dissolution of the Soviet Union itself. In the aftermath, Yugoslavia fractured into multiple polities, Czechoslovakia split, and Eritrea seceded from Ethiopia. Elsewhere, Namibia declared independence from South Africa, East Timor from Indonesia, and South Sudan from Sudan. Even the United States saw a decrease in its size and population as Palau, Micronesia, and the Marshall Islands all declared independence. In each case, few observers identified these pivot points a decade beforehand.

So while Russia's further disintegration is not likely, it is also not impossible. Superforecasters and other observers see Vladimir Putin as a powerful center of gravity, and his unexpected departure from the leadership could open multiple pathways toward weakened central control over minority regions like Chechnya or Dagestan, or even Karelia or Tuva. Further east, hundreds of millions of resource-poor Chinese live in provinces bordering the lightly populated, resource-rich Russian Far East. In a post-Putin era, might Beijing seek to reassert control over Manchurian lands it says were stolen by the czar during a period of Chinese weakness? After all, it was disputes over this territory that led to armed conflict between the Soviet Union and China in 1969. And while Moscow and Beijing currently maintain an anti-US *entente*, it is important

to contextualize the present state of affairs against the broader history of Sino-Russian relations. In the seven decades since the founding of the People's Republic of China, Moscow, and Beijing were wary adversaries of each other for at least half the time.

The case for further fragmentation of China seems relatively weak, but here too forecasters need to hedge their confidence about China's trajectory over the next decade. Inside China, restive minorities have called for independence in Tibet, Xinjiang, and even Inner Mongolia. Beijing has declared these regions to be "core interests" and sworn to use all its power to maintain sovereignty over them, and over the South China Sea as well. But some scholars have argued that Beijing has only occasionally exercised power over these regions in the last millennium, and that when it did it was more a function of non-Chinese invaders (Mongols, Manchus) invading both China *and* the outer regions at the same time. So keeping in mind expert views of Soviet longevity in the 1980s, and the fact that the People's Republic of China has already lasted one year longer than the Soviet Union did, good forecasters will watch for signs of the weakening of an authoritarian regime, and the subsequent loss of the center's control over parts of the periphery, over the next decade.

China's relations with other states are also fraught. In Chinese President Xi Jinping's own lifetime, his country has gone to war against neighbors in all cardinal directions: Korea and Vietnam, Tibet and Burma, and India and Russia. China and the US fought each other mightily in the Korean War, skirmished over Taiwan twice in the 1950s, and engaged again in Vietnam in the 1960s. Washington and Beijing formed a truce, and then an anti-Soviet partnership in the 1970s, but the basis for that strategic alignment fell apart when the Soviet Union collapsed in 1991. Good forecasters will note a troublesome base rate with years of conflict roughly equaling years of cooperation in Sino-American relations.

AFTER THE EXTERNAL EMPIRES FELL APART IN THE 20TH CENTURY, WILL COUNTRIES NOW FRAGMENT IN THE 21ST?

Secession is the goal of many regions in China, Russia, the US, and the EU. Here, the UK leaving the EU would not count.

IGNITION QUESTION: WILL CHINA, RUSSIA, THE US, OR THE EU LOSE 0.5% OR MORE OF ITS TERRITORY OR POPULATION BEFORE 2030?

Q6 | PAGE 50

The last three years have seen significant changes in both US and Chinese declaratory policies, with Washington identifying China the key objective in strengthening American military forces and singling it out as the US's primary strategic competitor, and with Beijing responding that the US and China are now competing superpowers, and China's growing military forces are developing to the point where they will be able to challenge the United States. If the two sides are on edge, there are many issues that could spark conflict: a fatal accident in the South China Sea akin to the April 2001 crisis; Sino-Japanese confrontation over the Senkakus that bring US forces into the fray; or Taiwan publicly rejecting the "One Country, Two Systems" model after seeing how it has failed in Hong Kong. And while it is hard to imagine how such conflict would turn out, population or even territorial loss on both sides would be certain.

So if the next decade will see political fragmentation, further breakup of the EU is, in this context, the least-worst case. For all the trouble Brexit might bring, it is at least a peaceful process. Fragmentation of China or Russia, if either were to occur, would involve violence.

7. THE FUTURE OF OPEC

Another more regional Megatrend is whether OPEC can survive a decarbonizing world economy. The related Ignition Question focuses on whether OPEC's share of global crude oil production will remain above 33% in 2030. Superforecasters believe it is 90% likely that OPEC will be supplying more than a third of global crude supply a decade from now – though possibly earning significantly less money from that production.

In light of the many challenges ahead, some experts question whether OPEC will be able to maintain its internal structure in the next decade. However, the base rate shows that OPEC has adapted to multiple challenges in past decades, including wars, revolutions, global recessions, membership changes, and internal disagreements. Given this resilience, OPEC should be able to survive in a decarbonizing world, but new and innovative adaptations should be expected along the way.

The Superforecasters observe that even if OPEC maintains a high level of market share, it could be a share *in a shrinking market* if Western nations continue to subsidize non-carbon alternative energy sources and related technologies (such as increasingly efficient batteries). Lower global oil prices from decreasing Western demand or increased global supply should not impact OPEC's *market share*, even if it impacts price; Iran, Iraq, and Saudi Arabia have production costs that are less than half of the rest of the world, and so they would be among the last producers to leave the market. Also, many Superforecasters believe it is likely that growing middle classes in China and India will drive continued demand for OPEC oil, more than making up for any decreased demand in the West.

CAN OPEC SURVIVE IN A DECARBONIZING WORLD ECONOMY?

What are the implications for Arab economies of OPEC being under enormous pressure, from fracking and new discoveries outside of the MENA region, and from governmental policies worldwide that aggressively discourage fossil fuels? OPEC's current share is about 40%.

IGNITION QUESTION: WILL OPEC'S SHARE OF GLOBAL CRUDE OIL PRODUCTION REMAIN ABOVE 33% IN 2030?

Q7 | PAGE 58

8. WATER SCARCITY

Overall, the potential for water scarcity to act as a causal driver in one or more regional conflicts over the next decade is 8%, according to the Superforecasters. Asked whether water scarcity will cause a deadly conflict between Jordan and Israel, Egypt and Ethiopia, or Turkey and Iraq before 2030, Superforecasters see an overall one-in-nine chance of war across those scenarios. Conflict between Jordan and Israel was seen as only 1% likely, but conflict between Egypt and Ethiopia or Turkey and Iraq were both forecast as 3% likely in the next decade.

Hydropower projects by the upper riparian states of Turkey and Ethiopia are to be expected, given that neither nation has many other choices for internal power generation. Decreased water flow in the Nile Delta and Fertile Crescent, however, lead to real challenges for the millions of Iraqi and Egyptians who depend on agriculture for their livelihoods. For instance, at least 70% of Iraq's water comes from rivers and marshes shared with its neighbors, Iraq is heavily reliant in particular upon water from the Tigris and the Euphrates rivers, both of which originate in Turkey.

The same dynamic is seen thousands of miles to the east, where multiple Chinese dams on the upper reaches of the Mekong River are severely impacting Vietnamese farmers in the Mekong Delta. But while the military imbalance between China and Vietnam mitigates the probability of conflict, the correlation of forces between Ethiopia and Egypt, and between Turkey and Iraq, are such that regional leaders are more likely to countenance the possibility of military success in a short, sharp conflict over water. The National Academy of Sciences argued persuasively in 2015 that extended drought in Syria, exacerbated to record levels by global warming, pushed social unrest in the nation across a line and into an open uprising against the Assad regime in 2011.

WILL WATER SCARCITY HEIGHTEN SECURITY RISKS FOR THE MENA REGION?

With development and climate change, fresh water is only becoming more important in the MENA region. There are many existing flashpoints: will water scarcity mark a turn to open conflict or will paths forward to resolve these issues be found?

IGNITION QUESTION: WILL WATER SCARCITY CAUSE A DEADLY CONFLICT BETWEEN JORDAN AND ISRAEL, EGYPT AND ETHIOPIA, OR TURKEY AND IRAQ BEFORE 2030?

Q8 | PAGE 64

9. EASTERN MEDITERRANEAN GAS FIELDS

According to the Superforecasters, there is a nearly one-in-two chance of war between Lebanon and Israel by 2030 without significant gas development, but that probability drops all the way down to a one-in-ten chance of war with significant gas development.

To address this Megatrend, the Ignition Question has a slightly different structure from the other questions. It is a conditional question that asks about the probability of an event (in this case, the gas fields promoting regional stability) if another event happens beforehand (in this case, significant new production of natural gas). It is in effect two questions: will regional stability improve if there is significant gas production, and will regional stability improve if there is not significant gas production.

In their assessment, Superforecasters see the likelihood of major military conflict between Israel and Lebanon as much lower by 2030 – *if* Lebanon is able to reap the benefits of significant energy production off their coast in their section of the sizable Eastern Mediterranean gas fields. If Lebanon does *not* produce a significant amount of energy by 2030 (defined as 50 or more billion cubic feet of natural gas per year), Superforecasters see a 41% chance of war between Lebanon and Israel. However, if Lebanon *is* able to produce a significant amount of energy by 2030, Superforecasters see the chance of war between Lebanon and Israel plunging to just 14%.

While Superforecasters indicate that there is a risk that the offshore fields could cause friction between nations regarding contested drilling rights, the potential energy revenues would be worth the effort, leading to greater economic stability, a more stable domestic situation, and a reduced risk of war. The potential of these reserves suggests that developing this resource should be a priority for those seeking to improve regional stability.

WILL THE EASTERN MEDITERRANEAN GAS FIELDS OFF THE COASTS OF CYPRUS, LEBANON AND EGYPT PROMOTE REGIONAL STABILITY?

It is estimated that Lebanese reserves in the Levant Basin are approximately 100 trillion cubic feet of natural gas, which has the potential to revolutionize politics in the Levant. The Levant and Nile Delta basins also reaches into the territorial waters of Cyprus, Turkey, and Egypt. The question remains: will this bounty promote or impede regional stability? Will this economic opportunity be a driver for stability or conflict and confrontation? A “major military conflict” would have a large number of casualties or territorial impacts.

IGNITION QUESTION: WILL LEBANON AND ISRAEL HAVE A MAJOR MILITARY CONFLICT BY 2030?

Q9 | PAGE 70

10. THE OUTLOOK FOR IRAN

Another Megatrend that impacts MENA regional, political, and economic issues is concerned with economic sanctions against Iran and whether the regime will collapse as a result.

Superforecasters have considered whether Iran will have a Supreme Leader in 2030 and forecast 88% likelihood that the position will still exist at that date. Superforecasters observe that the Islamic Republic of Iran has lived under economic sanctions since its inception in 1979, so those strictures alone are not likely to cause the collapse of the current form of government. Rather, sanctions are more likely to lead to behavior change than regime change: they can drive Iran to the negotiating table (as they did for the nuclear agreement), or possibly mitigate some of the regime's more aggressive behaviors in the MENA region.

Still, the MENA region has seen the sudden and unexpected collapse of several long-term leaders in the past decade. Few foresaw that the 2010 protest of a poor Tunisian fruit seller would mark a pivot point for multiple regimes. In the event, a Supreme Leader might survive a change of regime anyway; he is not only a seat of political power in Iran, but also a religious leader of Shia Muslims.

Meanwhile, the base rate shows that Iran has managed to survive many challenges through the ebbs and flows of international and regional tensions. Plus Iran has oil. Given the ongoing need for carbon energy in the global economy and the unlikely prospect for another Great Recession within this time frame, the Iranian economy should be able to muster along. While there is a case to be made that Iran needs a more diversified economy and higher productivity, a continuation of the status quo is heavily favored for the immediate future.

WILL ECONOMIC SANCTIONS LEAD TO THE COLLAPSE OF THE IRANIAN REGIME?

Forty years after the Iranian Revolution, there are signs of regime fatigue in the country.

IGNITION QUESTION: WILL IRAN HAVE A SUPREME LEADER IN 2030?

Q10 | PAGE 76

11. NUCLEAR PROLIFERATION

Asked how many nuclear powers there will be in the MENA region in 2030, Superforecasters overwhelmingly agree that Israel will remain a nuclear power in the region. If any MENA regional state other than Israel gains nuclear weapons capabilities, other powers in the region would begin active pursuit of matching capabilities.

But any MENA state starting down this path would risk sparking turmoil in an already tumultuous region. Israel has repeatedly declared that it would attack Iranian facilities if it thought the regime were about to cross the weaponization threshold. Turkey acquiesced to the 2007 Israeli attack against a nearly completed covert Syrian reactor by allowing Israeli warplanes to cross its territory en route to their targets; how many other MENA military powers (and their extra-regional partners) might also engage in the use of force to prevent a perceived adversary from gaining a nuclear weapons capability?

While the key pivot points here involve Iran and its actions to enrich, to weaponize, and to perfect delivery systems, other actors are also in play. For instance, evidence of a robust effort on the part of Turkey to develop ballistic missiles capable of delivering a nuclear weapon would be an early warning sign. President Erdogan has indicated intent, as in early 2012 when, as prime minister, he instructed the military to develop a ballistic missile. Thus far, evidence that the Turkish military has done so is lacking but will bear monitoring.

WILL NUCLEAR PROLIFERATION ACCELERATE?

There are nine nuclear powers in the world – one from the MENA region (Israel). Iran and Turkey have recently expressed interest in developing nuclear capabilities.

IGNITION QUESTION: HOW MANY NUCLEAR POWERS WILL THERE BE IN THE MENA REGION IN 2030?

Q11 | PAGE 82



INTERACTIONS BETWEEN AND AMONG MEGATRENDS AND IGNITION QUESTIONS

Across all Megatrends, several themes emerge in the Superforecaster commentary and analysis.

- First, if the next decade will see political fragmentation, further breakup of the EU is the least-worst case. Fragmentation of China or Russia, on the other hand, would be brought on through violence if it occurred. In 1981, the fall of the Soviet Union was not seen as a serious possibility, even though that empire collapsed a decade later. Are Russia and China today more resilient, more antifragile, than the Soviet Union was in 1981?
- The relatively high likelihood of crippling cyberattacks occurring in the next decade is a special concern. While not yet clearly defined as a casus belli, there is a danger that emerging norms in the West will define cyberattacks as such, before the accompanying understandings are manifest elsewhere.
- Superforecaster commentary makes clear that Iran lies at the center of the likely conflict scenarios in the Middle East. If Iran were to actively resume its pursuit of a nuclear weapons capability, pivot points would be likely in Israeli strategic thinking, and possibly also in the strategic thinking of the other regional powers. Iranian pursuit of nuclear weapons increases the probability of armed conflict.
- China and Russia are largely out of the Superforecaster discussion of MENA regional Megatrends and are only infrequently discussed with regard to the majority of global Megatrends. In the Middle East context, the prime movers are the regional powers, the US and Russia. The latter is in Syria and at times backing Iranian and Turkish policies. China currently is largely absent, sitting quietly in Djibouti and biding its time.
- On global Megatrends related to economic prosperity or recession, or related to the worldwide trading regime, Moscow and Beijing appear rather more as fixed objects than dynamic moving pieces. Global prosperity or recession is seen as something that Western economies will determine, and the coherence of the WTO and other global trading regimes are things the West will uphold or cast away.
- As regards the Megatrend on the continuation of the American century, Superforecaster discussion focuses more on the ways the US is hurting itself rather than the ways it is being hurt by potential adversaries. That is, Superforecaster commentary suggests it is up to Washington decision-makers and the US voters to determine whether American cultural and political soft power will continue to be seen as attractive around the world, and it is up to them to determine whether the US will continue to support a global trade and financial architecture that has delivered decades of global prosperity.

Finally, several observations are warranted from the totality of Superforecaster commentary across all Megatrends

First, risk and uncertainty abound. The 21st-century world is a world of rapid change. Leaders appear stable and secure until they suddenly get overthrown (Tunisia, Libya); technologies develop at a steady and predictable rate until an unexpected revolutionary leap changes an entire field of research (CRISPR synthetic biology technology, quantum computing); global interconnectedness is such that decision-makers often no longer have warning before a problem emerging overseas impacts home (Ebola, cyberattacks).

Also, warning times are shorter, even as chaotic and poorly understood interconnections multiply. The task of forecasting what is heading our way becomes all the more difficult. No single observer will have the range of vision and understanding of complexity to be able to forecast with precision.

This report highlights the need for disciplined, accurate watchfulness – for careful monitoring of indications that the globe or the MENA region might be headed down an undesirable path. Diverse teams – comprised of individuals with diverse cognitive styles and multiple pieces of the puzzle, and aggregating their discrete forecasts using the best methods to boost accuracy – will stand a far better chance of filling in the forecasting mosaic that captures the complexity of what is coming. It will be ever more important for good forecasting teams using the best methods to give leaders early warning, with enough time to take corrective actions to steer the future to a better destination.

THIS REPORT HIGHLIGHTS THE NEED FOR DISCIPLINED, ACCURATE WATCHFULNESS – FOR CAREFUL MONITORING OF INDICATIONS THAT THE GLOBE OR THE MENA REGION MIGHT BE HEADED DOWN AN UNDESIRABLE PATH.

Q1

MEGATREND

Will the global business cycle return to the pattern of steady growth with brief downturns?

After a decade of recovery, indicators of a new recession are accumulating. It could mark the return to the pattern of steady growth with brief downturns seen in recent decades; or it could be another deep, longer-lasting downturn, as was the case with the Great Recession of 2008-13.

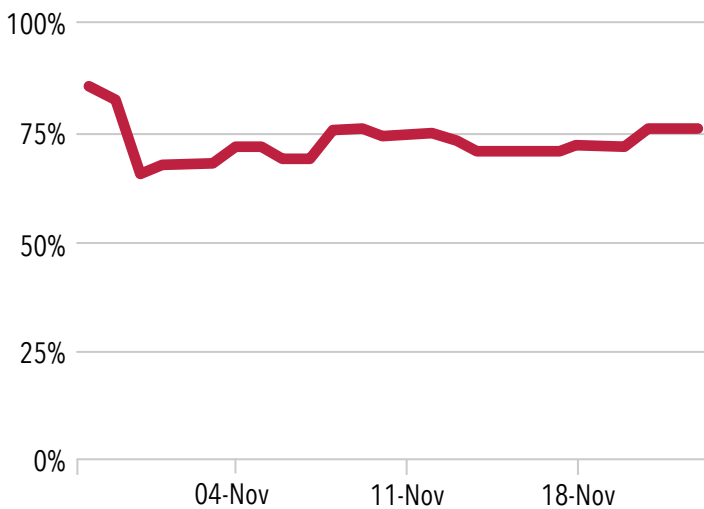
IGNITION QUESTION

Will the world avoid another Great Recession through 2030?

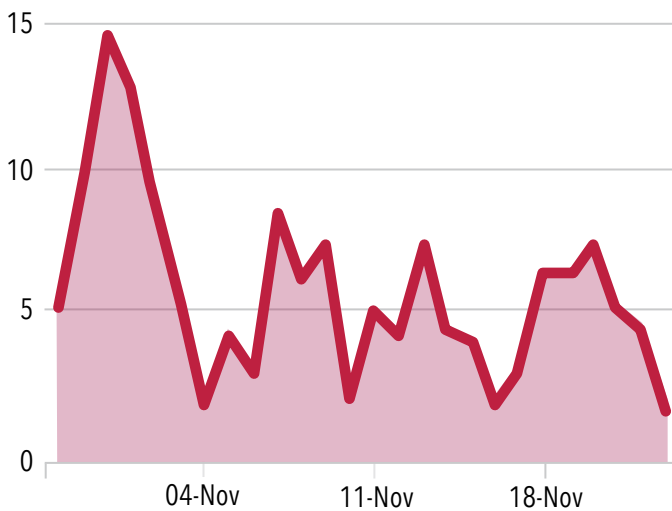
YES
76%

NO
24%

Daily Forecast



Forecast Volume



source: <https://goodjudgment.io/agpe/1b39e0/current.png>

SUMMARY

This Megatrend is focused on the global business cycle and whether the next recession will be a repeat of the Great Recession or if it will witness a return to the earlier pattern of a brief economic downturn followed by a resumption of steady growth. Superforecasters give roughly three-to-one odds that the world will avoid another great recession in the next decade.

According to the IMF, global recessions occur about once a decade. Against that backdrop, Superforecasters acknowledge a very high probability of at least one global recession in the next decade, but they are skeptical that it will be as deep or long-lasting, or affect as many economies, as the Great Recession. While some economies face difficult times ahead, the global economy as a whole is more resilient than it was in the mid-2000s. Some Superforecasters argue that global central banks have become more skilled at steering skidding economies out of trouble, and others suggest emerging technologies will serve to lift major large economies in coming years.

Indications of coming trouble would include a dramatic worsening of US-Chinese trade tensions, a major interstate conflict that disrupts global trade, or a failure by governments to respond aggressively and swiftly to early indicators of an economic downturn – none of which are currently on the radar. To the contrary, government and monetary authorities have responded quickly to such challenges, from China, to the EU, to the US.

While a typical recession of the sort seen in recent decades can be safely expected, another great recession isn't in the cards.

Q1

Will the global business cycle return to the pattern of steady growth with brief downturns?

ANALYSIS

“Concerns that could lead to another Great Recession type of event include:

1) mismanagement of individual, business, and government debt levels relative to the levels reached during the recent Great Recession; 2) an expansion of the trade war between China and the US that leads to a situation that gets out of control and a collapse in global trade; and 3) an international conflict/war that disrupts major trade routes or supply chains.”

“There are also mitigating factors to keep in mind: 1) debt levels can be better managed with the availability of more data and information than ever before; 2) expansion of a trade war is not in anyone’s best interest (think Mutually Assured Economic Destruction that could lead to an actual war); and 3) potential conflicts that could disrupt trade have been around for many years.”

“Possibilities that are very low probability include terrorists or non-governmental actors disrupting the global economy, or a solar storm that takes down our 21st century, electronics-based global economy.”

“Japan’s lost decade of economic stagnation that began in the early 1990s is something to keep in mind. A record period of economic growth gave way to a sputtering economy with stubborn deflation and weak labor force activity. Parts of the EU seem to be especially vulnerable to this scenario.”

“While recent decades have seen relatively modest global business cycles apart from the Great Recession, going back further in time, deeper downturns were the norm. It is not entirely clear that the Great Recession represented a deviation from the longer-term trend, which was characterized by a series of brief downturns and punctuated by occasional severe downturns, which could be the pattern that remains in effect today.”

“Although the overall economic cycle is different now than it was 15+ years ago, central banks have become more skilled at managing economic cycles (but systemic risk may have increased with globalization). Growth seems to have slowed in advanced economies, which seem to be suffering from some kind of secular stagnation, although I wouldn’t rule out some new technological burst of productivity starting sometime in the next decade.”

“Historically, there are two ways to get out of ‘stagflation’:
1) Increase foreign demand for products and services made domestically, typically accomplished through innovation, increasing loans to foreign companies/governments linked to export-based purchases, or war; or 2) increase the efficiency of the economy with the same or fewer resources, typically accomplished through innovation, making people more productive or work longer hours, or using equipment longer than originally intended.”



↑ DRIVERS

- While cyclical recessions are common, Great Recessions are not and require an event that is mostly unexpected coupled with a lack of remedies capable of stopping it.
- Extreme levels of debt depress future economic growth. We will have lower growth until debt is reduced or world economies grow sufficiently to reduce in proportion. Developed countries seem willing to reduce the debt accumulation rate, so debt adjustment may be forced by inflation or defaults.
- The economy is driven by consumer spending. A recession based on the changing demographics of employability will be a slow leak. This employability will be based on the demand of technologically driven jobs. It will be a "survival of the fittest" and the fittest will be the most employable.
- Inflation expectations are muted, reducing economic cyclicality, and the global economy is more balanced. Crashes are becoming less frequent due to accommodative monetary and fiscal policy, and investors who buy the stock market dips.
- The world is more interconnected now than ever before. Never in world history have countries been so dependent on each other.
- Central banks have more levers to pull to prevent a prolonged crisis, so economic downturns are less frequent. Central banks are better equipped to prevent the next recession turning into a great recession through the use of the accommodative monetary and fiscal policy.
- Cheap energy prices are a driver for the global economy and labor market in more developed economies.

RECESSION IS LIKELY, BUT A GREAT RECESSION WILL REQUIRE BOTH NEGATIVE SENTIMENT AND A LARGE, UNEXPECTED CATALYST TO DRIVE IT TO FRUITION.

Q1

Will the global business cycle return to the pattern of steady growth with brief downturns?

RISKS

- A key risk is actual war or other major political event, especially if it involves China or the US. The potential of a war widening beyond those two actors increases dramatically if they are the principal antagonists.
- Spiraling debt, such as bankrupt states or companies, could impact global growth leading to a major recession.
- Lack of information sharing or sharing of misinformation are the key risks. The subprime crisis was caused in large part because no one knew how much debt institutions were carrying or in which forms.
- A key risk is that we accept a false sense of complacency, assuming that current conditions are somehow normative because we have a state of relative economic stability. Central banks and governments are engaged in extreme actions to eke out a very small level of growth. This is not normal or sustainable.
- Increased population growth and the need for food and water will cause changes in society. Extended drought in Syria drove thousands of farming families into already crowded cities, adding to unrest and discontent, and ultimately to civil war. If societies struggle for sustenance, nations' rulers may opt for risky measures to gain economic power.
- The rise of civil tensions in Asia and most recently in Latin America (Venezuela, Ecuador, Chile, Brazil).
- Self-fulfilling prophecy, in the form of expectations of an imminent recession on the back of deteriorating economic indicators.

A KEY RISK IS MORE TRADE WARS BETWEEN MAJOR POWERS, SUCH AS THE CURRENT SITUATION BETWEEN THE US AND CHINA.



 **GREY SWANS**
(LOW PROBABILITY/HIGH IMPACT)

- China's zombie banks and companies are an unquantified risk.
- Private debt, such as student and consumer loans, could produce a snowball effect should a very large number of defaults take place during a "normal" recession.
- A massive acceleration of debt accumulation driven by populist demands for public assistance, such as Universal Basic Income. This, along with the public demand of an aging society, could result in massive increases in debt and high rates of inflation or even monetary collapse.
- Environmental catastrophe or a nuclear accident that could cause huge losses of infrastructure, mass flows of refugees, or shortages of food, water, or energy.
- Growth of populism and nationalism causing an unexpected surge in isolationist protectionist policies.
- The bankruptcy of major global banks, companies, or states with a domino effect leading to a great recession.

**ADOPTION OF
ARTIFICIAL
INTELLIGENCE
LEADING TO MASS
UNEMPLOYMENT,
FROM TRUCK
DRIVERS TO LEGAL
CLERKS STRUGGLING
TO FIND JOBS.**

Q2

MEGATREND

Will the post-WWII world trade system survive the present populist trend?

In recent years, the WTO-based system has been under strain. After decades of nearly steady growth, world trade began a sharp decline in mid-2018.

IGNITION QUESTION

Will China, Russia, or a G7 country leave the World Trade Organization by 2030?

YES

China

1%

YES

Russia

1%

NO

95%

YES

A G7 country

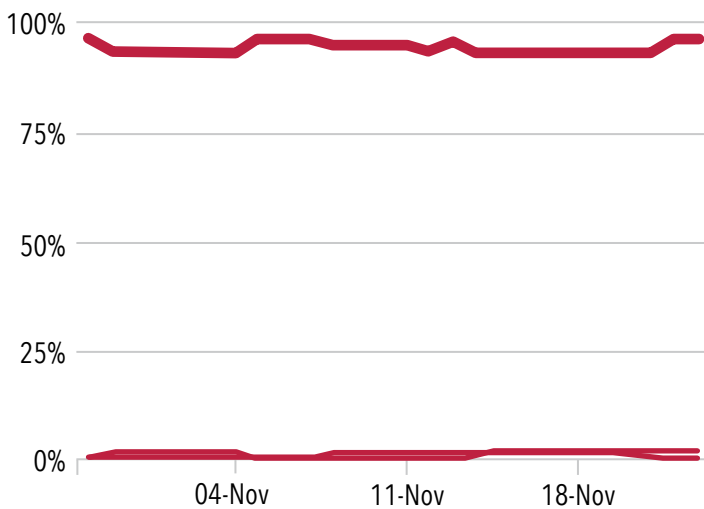
2%

YES

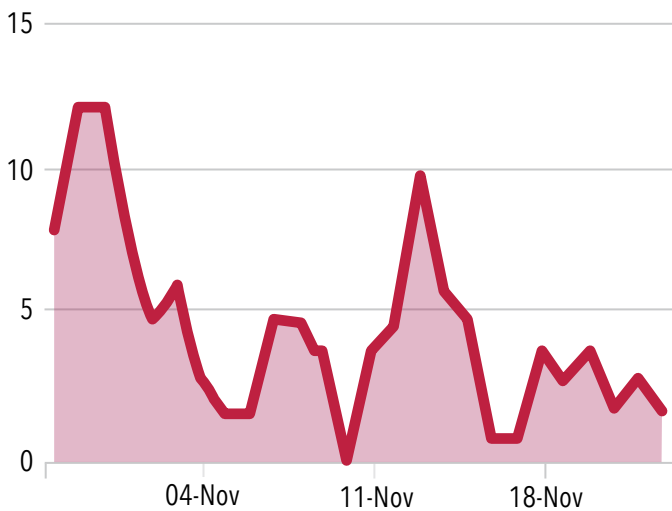
Two or more of these countries

1%

Daily Forecast



Forecast Volume



source: <https://goodjudgment.io/agpe/1b5f56/current.png>

SUMMARY

Superforecasters see a low likelihood of any of these countries exiting the WTO, and several Superforecasters argued that China and Russia enjoy greater benefits than costs from their WTO membership.

Potential pivot points do exist. Several G7 countries, including the US and Italy – and perhaps even France and the United Kingdom – are slightly more likely to consider exiting the WTO in response to populist pressures from the electorate or populist tendencies in governing political parties.

Superforecasters note that there are other threats to global trade regimes, including the growing proclivity of pairs of states or groups of states to try to establish new regional trade regimes, like the Russia's desired Eurasian Economic Union or the Trans-Pacific Partnership. Accordingly, several Superforecasters see the global trade regime under threat even if no country formally exits the WTO in the next 10 years.

ANALYSIS

“There are serious issues within the WTO that have resulted in many multilateral agreements that are outside of the WTO but between WTO members. China and Russia do not seem to have much incentive to leave the WTO and they actually benefit from its appeal process to make it seem like they are ‘good actors’. Key Western players are more likely to continue pushing for WTO reform as well as alternative multilateral or bilateral options, and are less likely to leave the WTO.”

“Being a member of the WTO has great trade importance in history, but in the current market, one could argue that with many of the larger players and regions agreeing to their own trade agreements, benefits of a one-globe trade agreement are diminished. Perhaps as supply chains merge further, the more specific deals will become more important than a general global set of rules. As is evidenced with the whole TPP (Trans-Pacific Partnership) and TTIP (Transatlantic Trade and Investment Partnership) sagas, electoral support for new trade agreements can be extremely hard to get. Also, many industries claim that they are going to be worse off if the new agreement is passed. This voice of dissatisfaction is louder than the voice of the proponents.”

“The WTO simplifies trade rules and enhances the predictability of the trading environment and therefore reduces the cost of trading. For example, an effective trade dispute settlement system is valued. What would be the alternative to the WTO dispute settlement?”

“Without the World Trade Organization, countries would end up with a large body of rules and regulations which may or may not work in synchronization with each other, a multitude of regional trade agreements, RTAs, with their differing rules. Without the WTO, countries could end up in a world of mega-regional agreements that would favor stronger countries over the weaker ones, with greater divergencies in the types of rules applied, often incompatibly with one another.”



↑ DRIVERS

- Even with Doha stalled, WTO talks have continued. Most of the developed countries are benefiting from the organization. The economy is still globalized and most of the world countries are members of the WTO. This makes the WTO the most important forum for trade.
- Recent instances of nationalism, such as India electing Hindu nationalist Narendra Modi in 2014, Vladimir Putin rallying Russians to invade Ukraine on behalf of ethnic Russians in 2014, and the United Kingdom voting for Brexit in 2016, arguably were triggered by the economic uncertainty of the Great Recession. It seems this trend has receded based on more recent elections.
- The benefits of remaining in the WTO for each participant outweigh those of leaving. It took ages to get the WTO into its current role, so it's unlikely that countries would leave to join something else. Trade nationalism appears to be a (slowly) passing trend, even as a number of countries form separate trade alliances outside of the WTO in the meantime.
- Once a big bureaucratic organization is formed it's more likely to continue to exist than to fall apart.
- Nations with smaller levels of trade need the protection.

CHINA, RUSSIA, AND THE G7 BENEFIT FROM WTO MEMBERSHIP, AND FOR CHINA AND RUSSIA, OBTAINING THE MEMBERSHIP WAS A LONG AND PAINFUL PROCESS, WHICH REQUIRED UNPOPULAR DOMESTIC REFORMS.

Q 2

Will the post-WWII world trade system survive the present populist trend?

RISKS

- A key risk is a Trump re-election, and a continued mandate for his push to isolate the US, which could plausibly lead to the US leaving the WTO.
- Protectionism, perhaps led by currency wars. To boost growth and encourage investment, the European Central Bank has turned to negative interest rates, which effectively means that companies no longer receive interest on many of their deposits, but instead must pay banks to hold their cash. Lower interest rates tend to weaken an economy's currency, so what if these negative interest rates in the EU are really about euro devaluation, and policymakers are using this strategy to gain a competitive edge in global trade and reduce sovereign debt burdens? If successful, other central banks will be tempted to follow suit.
- Loss of faith in the WTO as an institution: failure to implement arbitration decisions, biased and prolonged dispute resolution.
- Income inequality leads to calls for changing the existing free market system leading to dysfunctional regulation and protectionism. Tech and AI developments allow more jobs to be done remotely, causing trade backlash.
- If another organization were able to solve a trade dispute that the WTO was unable to solve.
- Alternatively, some feel that internal politics in some countries are fostering a growing isolationism that place a limit on the WTO's reach. Similarly, China has been expanding its international outreach (New Silk Road).
- Another cautious observation comes from those who conclude that US leaders are in tacit

consensus that China is a dangerous competitor, that commercial and cultural engagement has produced disappointing results, and that China is unwilling to accept Western institutions and agreements. Therefore, increased polarization and trade restrictions are more likely.

POPULISM'S IDEOLOGICAL POSITION OF NATION-FIRST TRADE WILL LEAD TO A CHAIN REACTION OF TRADE RESTRICTIONS THAT DEPRESS WORLD ECONOMIC CONDITIONS FOR A GENERATION. LARGE TRADE AGREEMENTS MAY BE DIFFICULT TO ENACT IN A HIGHLY MULTIPOLAR WORLD.



GREY SWANS

(LOW PROBABILITY/HIGH IMPACT)

- Extension of trade disputes to other forms of geopolitical confrontation, leaving a higher probability of differences being settled by military aggression.
- Blockchain, Bitcoin, and cryptocurrencies will change international trade. Blockchain is said to be “tamper-proof, decentralized, and resilient.”
- A severe global recession could change the calculus and increase the chances that countries leave the WTO.
- China and Russia could come up with an alternative system that they reveal to smaller countries in an effort to further undermine Western leadership.
- A solar flare knocking out the world electrical grid, which would leave at least half the globe in a resource fight such that cooperation could be harmful.
- A global existential risk event, such as nukes or a pandemic, that could impact global trade to the extent that the WTO loses its importance and some of the major parties leave.

THERE IS A RISK THAT SOME WILL UNDERESTIMATE THE VALUE OF A DISPUTE SYSTEM WITH AN INDEPENDENT APPEAL FUNCTION, AND ONLY VALUE IT WHEN IT HAS GONE.

Q3

MEGATREND

Will technology conflicts between the US and China become opportunities for collaboration?

IGNITION QUESTION

Will a "splinternet," with one Internet led by the US and one led by China, be avoided as of 2030?

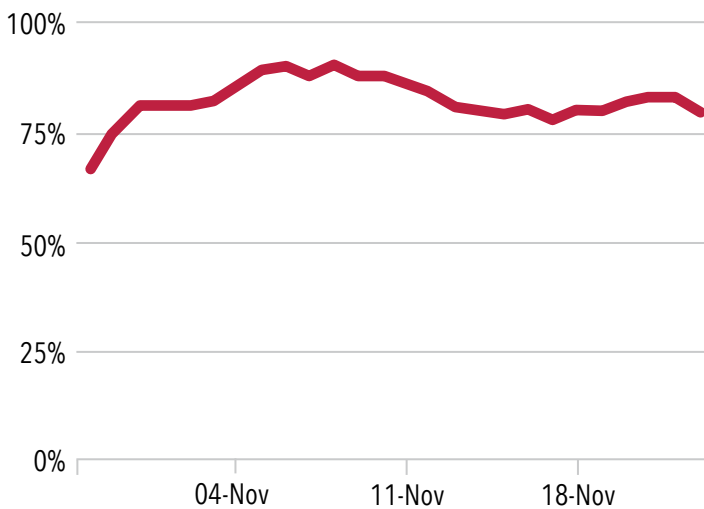
YES

80%

NO

20%

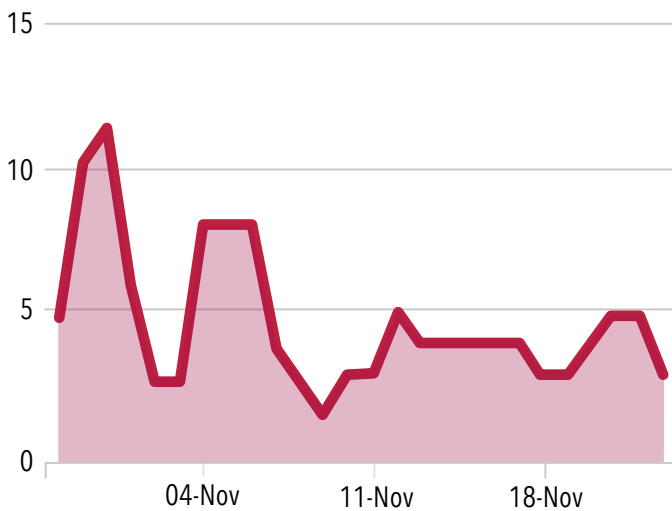
Daily Forecast



SUMMARY

Superforecasters see it 80% likely that a “splinternet” – one Internet led by the US and one led by China – will not be in place by 2030. Much information will continue to flow across global networks, even as some types of political or ideological information will be blocked. To some degree, however, a “splinternet” already exists in China’s great firewall and very different Internet service providers. Increasing barriers to the full and free flow of information are likely, but not a completely separate Chinese Internet with zero connections to the rest of the world.

Forecast Volume



source: <https://goodjudgment.io/agpe/1b54a2/current.png>

Q 3

Will technology conflicts between the US and China become opportunities for collaboration?

ANALYSIS

“Though there is technology conflict between the US and China, there is also innovation leading to developmental, if not physical, collaboration by proxy. Both cooperation and opposition are working together between these ‘frenemies’ to maintain world dominance in many areas, but especially the Internet. The ‘splinternet’ seems unlikely from an economic standpoint as both countries, while rivals, are well aware that they now have a vast amount of inter-dependencies that are needed to keep both economies healthy.”

“As technologies like blockchain requiring a decentralized stance evolve, that would put pressure on some countries to remain in, or have full access to, a shared, open space. It is possible that China will operate its own Internet separate from the World Wide Web, but it will consist of a local Internet system plus access to a global system governed by a great firewall. People will choose local because it’s faster and more relevant to their day-to-day lives. We already see this occurring with WeChat in some way.”

“Digital information is very hard to keep a lid on. So, in that sense, information will flow, splinternet or no splinternet. Within 10 years it is planned to have in place a low-cost global satellite-based Internet (see SpaceX plans). While access to it may be illegal in some places, there is no doubt that it will be much harder to control access than by using a great firewall on a few high-bandwidth light pipes.”

“It has also been suggested that even if China does completely split off with a new Internet, it is not a given that the alternative will be ‘led by the US.’ The US transitioned control of the remaining pieces of Internet infrastructure that were still US-based in 2016 when ICANN (Internet Corporation for Assigned Names and Numbers) agreed a plan to end direct US government oversight control of administering the Internet and commit to a model of shared global responsibility.”

“The new technology being developed by the Chinese will be for sale and readily adaptable for other countries wishing to regulate their people’s access and use. Perhaps the question isn’t if this will happen, but how many splinternets will there be? There is a difference between using the Chinese Internet itself and adapting the technology developed by China for your own version. This would give any country with the means and motivation to ‘personalize’ the Chinese technology the ability to launch their own version of the Internet.”



↑ DRIVERS

- I think there is a fair chance of this Internet separation deepening or staying close to where it currently stands. However, a completely separate Internet is unlikely to emerge.
- A splinternet is unlikely given the increasing reliance between the US and China on each other and a recognition by both that they need each other. The general public underestimates how entwined the economies have become, from the ever-growing US demand for China's mass production of consumer goods to preferences by China's growing middle class for Western brands.

A SPLINTERNET WILL BE AVOIDED BECAUSE OF THE OVERALL EXPENSE AND EFFORT IT WOULD TAKE TO DEVELOP A TOTALLY SEPARATE SYSTEM. BUT COOPERATION BETWEEN THE US AND CHINA IS ALSO NOT LIKELY TO INCREASE. DIGITAL STATUS QUO WILL PROBABLY REMAIN.

Q 3

Will technology conflicts between the US and China become opportunities for collaboration?

RISKS

- China developing its own standards group with like-minded countries.
- A more engaged China in the global regulatory sphere, which is already underway as Beijing seeds the bureaucracies of international and multilateral agencies involved in rule-making with its own cadre.
- Internal Chinese social instability potentially caused by income inequality and/or a slowdown or contraction in domestic economic growth.

CHINA-US RELATIONS DETERIORATING BADLY WITH EACH OPENLY THREATENING EACH OTHER. THIS MAY BE DUE TO THEM TAKING OPPOSITE SIDES IN SOME DISPUTE THAT ORIGINALLY DID NOT DIRECTLY AFFECT THEM, FOR EXAMPLE VENEZUELA.



GREY SWANS

(LOW PROBABILITY/HIGH IMPACT)

- Ramifications of other countries, who would have to choose which Internet to subscribe to. Will they subscribe to both? Can they integrate at their level? Will the systems be too disparate to “talk to each other” in any useful way?
- Splinternet pressures could also come from the West, as some countries have also tried to create walled gardens. The EU’s GDPR (General Data Protection Regulation) rules could also create an opportunity for another Internet space if these regulations get too onerous.
- China leading a multinational coalition, likely to include Russia and potentially India, to challenge the US-influenced information technology systems, such as operating systems, microprocessor standards, and networking standards.
- What if Western countries go the other direction and decide to adopt the Chinese system of controlling, censoring, content editing, and limiting the Internet?

**A MAJOR POLITICAL,
FINANCIAL,
OR ECONOMIC
CYBERATTACK ON
CHINA COULD CAUSE
A CHORUS OF NON-
WESTERN COUNTRIES
TO DECIDE THEY
WANT THEIR
OWN INTERNET.**

Q4

MEGATREND

Are the large economies increasingly vulnerable to cyber warfare?

Examples of systems include governments, central banks, energy grids, and capital markets. A cyberattack would cost billions of dollars.

IGNITION QUESTION

Will a cyberattack shut down a major infrastructure system in a G7 country for one or more days before 2030?

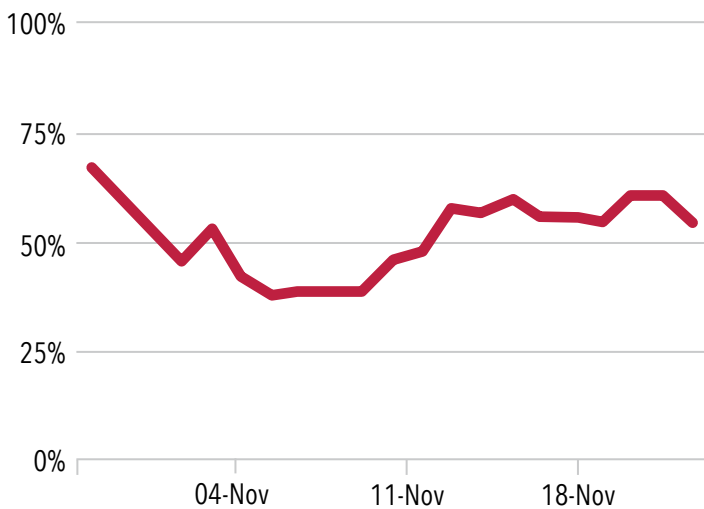
YES

66%

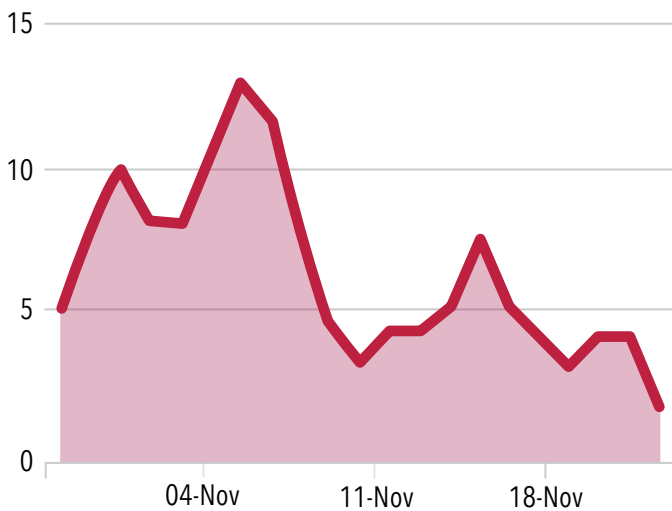
NO

34%

Daily Forecast



Forecast Volume



[source: <https://goodjudgment.io/agpe/1b49ee/current.png>]

SUMMARY

Superforecasters see a 66% probability of a cyberattack shutting down a major infrastructure system in a G7 country for more than one day before 2030. Satellite systems are highly vulnerable to cyberattacks, but they are so valuable to developed economies that they have robust cyber defenses. Energy grids have proven vulnerable to cyberattacks; Italy is particularly vulnerable here as it has only two energy companies, whereas other G7 states have multiple and mutually disconnected companies.

Otherwise, government operations, capital markets, and banking are at the forefront of cyber defense. While all three sectors will face significant attacks, they are seen as being sufficiently prepared to prevent a country-wide shutdown for over a day. To take out a major system for a G7 country would require the national assets of a major nation, such as China or Russia, which is mitigated by the fact that NATO would presumably consider such a move to be an act of war.

Q4

Are the large economies increasingly vulnerable to cyber warfare?

ANALYSIS

“There are vulnerable systems: water systems and traffic light systems that are managed locally, railroad switching systems are mostly operated by private enterprises and understand their importance to the bottom line, and the Domain Name System for the Internet that is already under constant attack. While the exploitation of these systems may cause serious difficulties in smaller nations, they would not result in the shutdown of major infrastructure in a G7 country.”

“Overall, the most vulnerable systems involve space assets; many of those systems have been in geosynchronous orbit a very long time indeed. These large systems have several points of failure. The GPS satellite constellation in particular has some very old assets and present a critical risk for global telecommunications.”

“Cyber defense and hardening has been on everyone’s radar for a while. Ukraine and Georgia received a valuable lesson on cyber security from Russia several years ago. Everyone everywhere is trying to become more sophisticated with cyber defense. Unfortunately, defense is not the strongest form of warfare. Offense is.”

“To compound the issue is that the list of infrastructure targets not listed include very old systems, such as satellites and airplane guidance systems. The air traffic control network in the US probably still has vacuum tube systems in a few spots. The replacement NexGen Traffic system still has until 2025 before it is complete. Given how government IT projects go, it will not be the most secure system.”



↑ DRIVERS

- The sheer size of the landscape within large economies makes a cyberattack more likely. Motivations can be anything from hostile foreign powers to ransomware hackers. Since attribution and verification is so difficult, cybercrime is a stealthy method for creating havoc and shutting down adversaries.
- Increasing democratization and cheapness of cyberattacks. Every time someone has access to a weapon, the probability it will be used goes up.
- More and more services are moving online. As more services move to cloud computing they add to the vulnerability footprint. There is inherent risk when using computers to deliver services. Even something that's only nefarious-adjacent could bring down a service for a day or more.
- Cyber ops are a race and the advances in artificial intelligence should make it less likely, as they can be used for defense as well as for offense. G7 countries still have a lead in technology. China is the one country that has the ability to develop technology which can surpass G7 countries, but it would be very slow to use it to carry out an operation such as this unless the relationship with G7 countries deteriorates dramatically.
- The most vulnerable area to cyberattacks is the air traffic control (ATC) system. It is often overlooked as "major infrastructure," but it is in fact a major domestic and global infrastructure system. The vulnerability lies at the local airport system level allowing unauthorized players into those systems as a back door into the FAA (the United States Federal Aviation Administration) or other foreign ATC system.
- Ransomware attacks on cities (like Baltimore) are already occurring regularly. Law of large events says that we'll see bigger attacks.
- The plausible deniability of cyberattacks and the reduced likelihood that the response will be a physical attack might mean that they're likely to get worse and be used more often by governments, as well as criminal groups. So incentives to use this mode of attack may be part of the reason economy vulnerability could be seen as increasing.
- The easy availability of easily "weaponizable" hardware to implement a cyberattack.

POINTS OF VULNERABILITY ARE OLD SYSTEMS THAT CANNOT BE UPDATED.

Q 4

Are the large economies increasingly vulnerable to cyber warfare?

RISKS

- Deteriorating relations, equivalent to the 1950s Cold War, between the US and China or Russia. Widespread migration of infrastructure software to cloud networks versus “air gaps.” Widespread adoption of “the Internet of things” connectivity given the introduction of 5G networks.
- Substantial under-investment in cybersecurity, especially as infrastructure systems in developed countries come under increased cost strains due to other exogenous factors such as climate change.
- Strain on services. Aging populations will cause some services to be used more than they are now. It’s unlikely that the sharp increase in users is being accounted for in the shift of services to online, making them more susceptible and more important to stay online.

AWARENESS OF THE RISK MAY LOWER THE ATTACK SURFACE OVER THE NEXT DECADE, BY BUILDING IN ANALOG FAIL-SAFE MECHANISMS ON IMPORTANT INFRASTRUCTURE, FOR EXAMPLE.



GREY SWANS (LOW PROBABILITY/HIGH IMPACT)

- Increasingly sophisticated computer systems present new potential risks, such as artificial intelligence (AI) and machine learning (ML) that rely on complex algorithms and processes. There may not be sufficient protections in place to defend these systems from being influenced by fake patterns or signals, which would trigger erratic behavior and cause them to shut down and fail. These are trends which will be hard to avoid going forward but have an impact because of the lack of security expertise in these fields.
- The privatization/outsourcing of the management of infrastructure systems, such as water or electricity, to for-profit corporations. Once an element of profit is introduced, cybersecurity becomes a “cost center” and a tempting target for the bean counters, given short-termism in corporate governance. If they feel they are able to reduce their costs by effecting the lowest-cost cyber protections, this becomes the most preferred option to increase the bottom line.
- AI/ML is as “smart” as the human that created it. A human designing AI/ML in 2020 is liable to be “outsmarted” by a human in 2025, notwithstanding updates to the AI/ML.
- If international cyber law continues to be in a semi-Wild West condition, and if there is not a general consensus that such attacks are acts of war, then it is more likely that they will occur in situations short of general war. It is tempting for states or terror groups to think this is a tool they can actually use and get away with minimal consequences, as opposed to physical attacks using the military.
- It’s possible that this kind of thing has already happened (maybe not for 24+ hours, though), where a cyberattack has taken down a major piece of infrastructure. One of the pervasive themes surrounding cyberattacks is the reluctance to announce that there was a successful cyberattack – to admit that it has happened is to admit vulnerability. What is to be gained, what are the incentives, to a G7 country publicly admitting that their defenses were helpless against a cyberattack and key infrastructure was down for many hours? This would be viewed as an open invitation to further exploit a vulnerable system or may reveal weaknesses in similar systems.

Q5

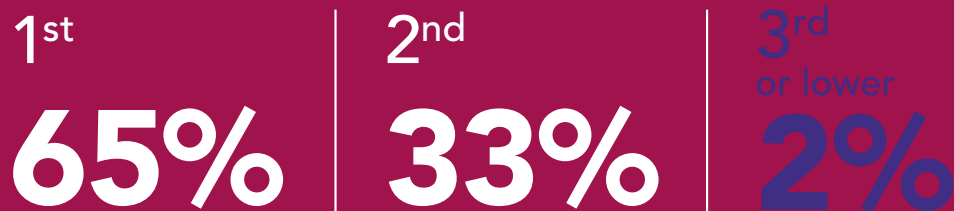
MEGATREND

Are the political, cultural, military, and economic aspects of the American century weakening?

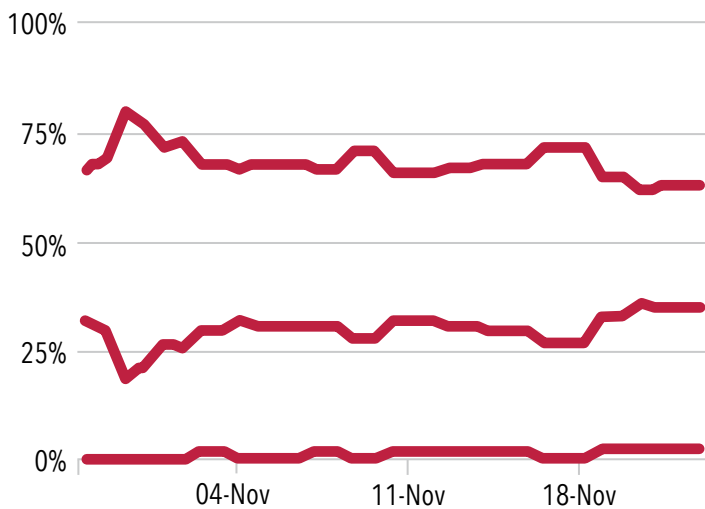
The United States became the largest economy at the dawn of the 20th century, which influenced much of its trajectory thereafter. The 21st century is shaping up as a multipolar system, with many countries and regions making major contributions to world society. The main nominal GDP contenders are China, the EU collectively, and India. The more the US economy is eclipsed in size by other countries, the less the US will be able to project hard and soft power around the globe.

IGNITION QUESTION

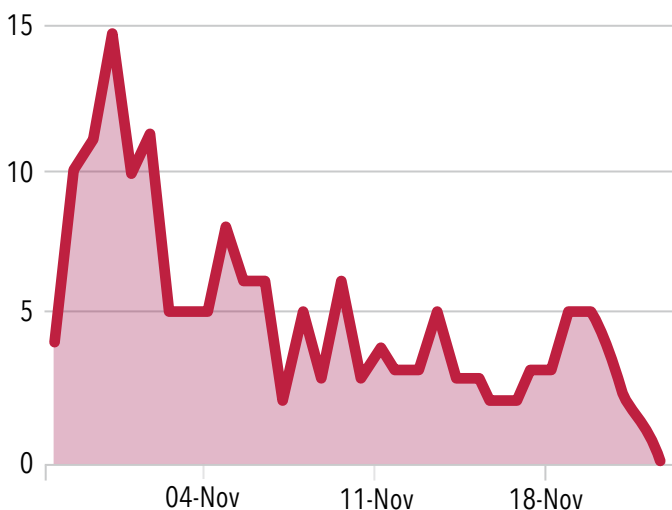
Will the US economy be ranked first, second, or third in 2030?



Daily Forecast



Forecast Volume



source: <https://goodjudgment.io/agpe/1b3f3a/current.png>

SUMMARY

Superforecasters see a 65% chance that the US economy will still be the world's largest a decade from now, and a 33% chance it will be number two after China. They argue the US economy is 1.5 times larger than the Chinese economy at nominal GDP, and even at modest US growth rates and accelerated Chinese growth, it would still take more than a decade for the two to swap their relative rankings.

Superforecasters see a 65% probability of this Megatrend continuing on the same trajectory, though fine-tuned in the following ways:

- **Military.** The US spends more on its military than the next seven countries combined. Out of those seven, five are allies and one is a major trading partner. The US is the leader in all things military (for better and worse).
- **Culture.** In a definition widely endorsed by the Superforecasters, "culture is the characteristics and knowledge of a particular group of people, encompassing language, religion, cuisine, social habits, music, and arts," and includes the "outlook, attitudes, values, morals, goals, and customs shared by a society." While there are many aspects of American culture that do not live up to the expectations of those values, cultural inertia is likely to continue in the short run.
- **Politics.** With regard to the common use related to governance and how decisions are made, the US is still a leader when it decides to be. Withdrawal from the Paris Climate Accord, the Trans-Pacific Partnership and Joint Comprehensive Plan of Action on Iran are recent indicators of waning US leadership, though Washington helped develop each of these agreements before pulling out.
- **Economics.** US GDP growth is still mostly positive, and innovation (tech in particular) has been dynamic.

Q5

Are the political, cultural, military, and economic aspects of the American century weakening?

ANALYSIS

“The Megatrend of the 21st century is shaping up as a multipolar system, with many countries and regions making major contributions to world society. The 20th century was multipolar for about 70 of 100 years. The main period of time it was unipolar was after the fall of the Soviet Union in the 1990s.”

“The more the US economy is eroded in size by other countries, the less the US will be able to project hard and soft power around the globe. US military spending has been at a very high level for a long time, and the US economy would have to decrease by a large factor to change this. The US advantage on soft power has been based on ideology and values. Although money and economics influence soft power, there are certain things that money can't buy.”

“Overall, the US has an emerging competitor (China) that will be difficult to neutralize militarily, but key alliance partners in Asia (Japan, South Korea, India, and potentially Vietnam) are fairly strong. Europe has been less relevant through its disinclination to engage at a superpower level. Africa could be interesting long-term, but probably not key in a 2030 time frame.”

“Pollution levels and China's necessary reaction to it may be a big unknown in the longer term, but at some point the Chinese government will simply have to act, and even a small action that reduces economic growth has knock-on effects.”

“Another significant factor in how the US is conducting business globally involves the unpredictable nature of the current US president relative to other recent office holders. There is a potential that the US president could severely weaken the US economy due to some dispute that causes the country to default on debt or weaken the dollar beyond repair.”

“In order to really change the long-term rankings, a war or depression would have to be local or at least affect countries differentially. A catastrophe or spectacular breakthrough (along the lines of the invention of artificial superintelligence) that affects one of these could radically change our projections. But the chance of this is small over this time frame.”

“It seems like the US GDP is inflated in nominal terms by the strong dollar. Since the Chinese economy is larger in purchasing power terms, that suggests exchange rates dramatically inflate the value of the US economy. My major uncertainty is what happens if the yuan begins to replace the dollar as the main reserve currency as the US economy shrinks and its status declines (I'm assuming the euro has less room to grow). Do shifting terms of trade vault China ahead? I think the yuan is unlikely to replace the dollar while China's political system remains fundamentally authoritarian, however.”

↑ DRIVERS

- The historical trend. The US has been the leading economic, military, and cultural power in recent decades. And a recent unexpected boost for the US has been the rapid expansion of its shale oil and gas industry.
- A key driver here is the continued rise of China, more than the decline of the US. There is less margin for events on the US side to push growth up or down more than 1%, while on the Chinese side, the system allows for larger scale changes.
- The American century is fading, but not rapidly, and the successor situation is probably a multi-power rivalry.
- The US will remain in its current position, assuming that the comparison is exchange rates rather than purchasing power parity. That forecast is based on projected growth rates. If Chinese growth decelerates to around 4% and US growth remains at 2%, then China would not take the top spot. Even at modest US growth rates and accelerated Chinese growth, it would take a bit over a decade to overtake the US.

THE US HAS RELIED ON PRODUCTIVITY GROWTH TO DRIVE THE ECONOMY. LOWERED SPENDING ON R&D STAGNATES GROWTH WHILE REVERSE BRAIN DRAIN ALLOWS CHINA TO BECOME THE CENTER FOR INNOVATION AND TECHNOLOGICAL DEVELOPMENT.

Q 5

Are the political, cultural, military, and economic aspects of the American century weakening?

RISKS

- A great recession. Depending on the political situation in the US, a major global downturn could prove more disruptive to the US economy than in 2008, although it would impact China as well.
- The outbreak of a major conflict and the direct impact it has on the US or China could drive a change. If China takes a commanding lead in AI and automation, driving increasing economic growth over the next several years, that would increase the likelihood that the US would be number two.
- A Trump re-election with his brand of nationalism could cause the US to continue walking away from world leadership. Ignoring the effect of climate change on economic systems, plus the short-term orientation of US firms, could cause the US to fall behind in technology.
- Culture always changes; this can be seen viewing history backwards. American culture and political behavior are becoming less popular in the world, which can raise the likelihood of terror attacks on American soil. If an attack of dramatic proportion occurs, it could damage financial markets.
- Rapid technology change and an Internet that makes whole industries obsolete could hurt US growth, and could hurt Chinese growth too. The US rode the manufacturing wave, but new growth keeps coming from different places that could skip the US.
- Shock economic or natural disaster events that affect either the US or China, but not both.
- Escalation of the US-China trade war, particularly where China dumps US debt.

SUSTAINED INFLATION IN CHINA OR DEFLATION IN THE US WOULD MAKE A DIFFERENCE. CHINA'S FOOD PRICES COULD RISE DRAMATICALLY IF SWINE FLU AND RELATED PROBLEMS BECOME A PERSISTENT PROBLEM. IF US INTEREST RATES REMAIN NEAR ZERO, BANKS COULD HAVE LESS REASON TO LOAN AND INVEST.



GREY SWANS (LOW PROBABILITY/HIGH IMPACT)

- If there is a major conflict where China steps in as a peacemaker, this would strengthen China's position vis-à-vis the US. For example, if China steps into the Mid-East peace process and makes constructive/positive change, this would provide that kind of boost.
- Possible secession of several US states from the union, or of provinces from China.
- Any major war within this 10-year window that draws in the US could be an unappreciated risk (Africa, Middle East, Eastern Europe, South China Sea) to its global economic standing.
- A major cyber war between the US and Russia and/or China.
- Chinese investment in Africa leading to high growth.
- A solar flare or an electromagnetic pulse attack destroying the electrical grid and computer infrastructure.
- The expansion of the European Union by admitting more states and/or the UK ends up staying in the EU (i.e. a non-Brexit situation) leading to a larger combined European economy than there is today.
- The EU could recover much more quickly and at a stronger pace after the next downturn, which could impact the rankings.
- The US has always prided itself as an R&D leader, but immigrants (primarily Chinese) disproportionately represent the leaders of R&D in top journals and universities. As China invests in New Silk Road and climate change technology, there could be switch in roles, where China will worry about the US stealing its technology rather than the other way around.

**AN ECONOMIC
CRISIS COULD SLOW
CHINA'S GROWTH
MORE THAN IT
SLOWS US GROWTH.**

Q6

MEGATREND

After the external empires fell apart in the 20th century, will countries now fragment in the 21st?

IGNITION QUESTION

Will China, Russia, the US, or the EU lose 0.5% or more of its territory or population before 2030?

YES

China

2%

YES

Russia

2%

NO

90%

YES

US

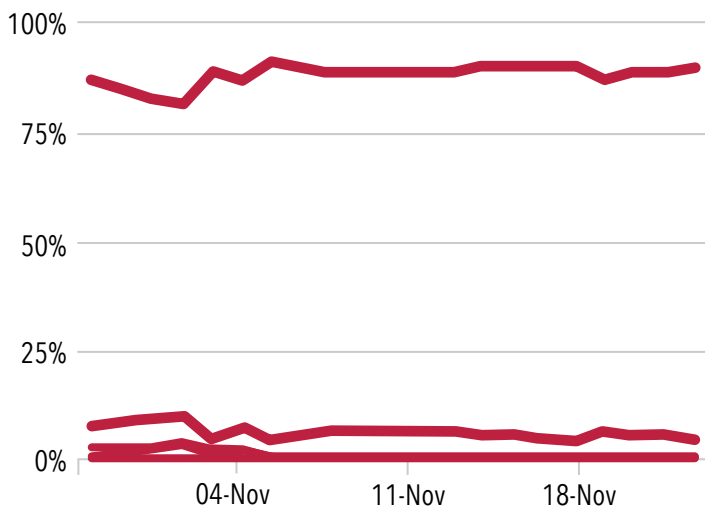
1%

YES

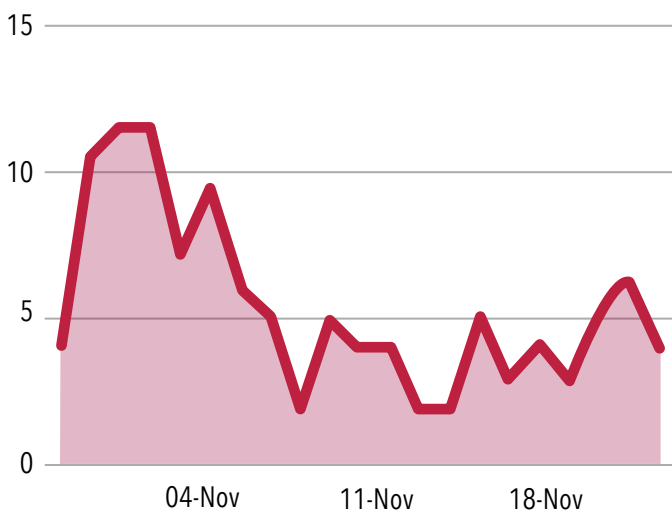
EU

5%

Daily Forecast



Forecast Volume



source: <https://goodjudgment.io/agpe/1b64b0/current.png>

SUMMARY

Questions related to war, political stability, and populism all come together in the Megatrend question that asks whether, after the external empires fell apart in the 20th century, countries now fragment in the 21st. Some reasons that sovereigns have lost territory include: secession (Taiwan); breakup (the USSR); mutual agreement (Czech Republic and Slovakia); force (North Ossetia and Crimea); treaty (Hong Kong); and purchase (Alaska).

But whether those events will recur in the next decade is a different question. Superforecasters see it as 5% likely that the EU will lose 0.5% or more of its territory or population before 2030, 2% likely that either Russia or China will, and only 1% likely that the US will.

While it is assumed that Brexit will occur, that event is specifically excluded from consideration in this question. Nonetheless, the precedent being set by Brexit raises the possibility of other EU member states, including Greece and Italy, leaving the Union before 2030. Russia's population declined at an annual rate of 0.5% for several years during the 1990s, and for some Superforecasters it is not a small likelihood that the phenomenon could repeat in the next decade.

Please see a list of all areas that could witness fragmentation at the end of this section.

Q6

After the external empires fell apart in the 20th century, will countries now fragment in the 21st?

ANALYSIS

"Four sovereigns that break down into 22 republics, 28 member states, and 50 states not including territories. Each one has to be examined for population and square mileage. After that, possible scenarios for each region must be drafted for consideration with attention paid to population movement and territory loss. Overall, the area of highest risk is the European Union. Losing a member state is not nearly as dangerous and costly as Russia, China, or the US losing territory or suffering a mass migration. Leaving the EU can be seen as politics as usual. Not so, for the others."

"Looking at each decade stretching back to 1900, it is possible to see relevant changes to establish a baseline. Examining these shows that it is not a far-fetched notion. The 2010s see Brexit, which is deliberately excluded for convenience but would qualify. The 2000s see economic upheaval, but not one that would resolve the question for one of the areas mentioned. The 1990s would resolve, yes, because of the UK's loss of Hong Kong, which meets the population requirement."

"International institutions contribute to stability and makes the big swings of the past less likely. One area of concern, and the second biggest risk, is the stability of Russia under Putin. Should he exit the scene there will be a rebalancing of power within the Russian Federation with a window of opportunity for a republic to leave."



↑ DRIVERS

- A key driver is the remarkable territorial stability since WWII among most countries and especially the major powers. Really no secessionist movements have succeeded; arguably only Kosovo, with major outside help.
- How the other EU countries see Britain's experience leaving the EU, both at the elite level, and among the anti-establishment types who aren't deluged with news and narratives. Leaving seems generally unpopular now and so is unlikely in each individual candidate.
- Current technology favors consolidation. Centralization of data will lead to states gaining strength relative to individuals. So instead of a trend for the large countries to fragment, we'll see them become more centralized.
- The EU is the most likely to see changes whether from another country choosing to exit, although Brexit will likely scare most countries off of this path in the near term. The successful secession of a major part of a country, like Spain's Catalonia, or a country being forced out for refusal to enact fiscal reform.
- Drivers of internal secession: (a) a lack of popular consent regarding the legitimacy of the central government often correlated with (b) income/wealth inequality, often driven by an economically dominant ethnic minority given an opening by (c) a central government unwilling or unable to use police or military force to maintain the extant government.

EUROPE IS THE MOST IN FLUX. COUNTRIES MAY DECIDE TO LEAVE, EVEN AS DIFFICULT AS BREXIT HAS PROVEN THAT TO BE, OR BE PUSHED OUT BY COUNTRIES WHO ARE TIRED OF SUPPORTING THOSE WITH ECONOMIC PROBLEMS.

Q 6

After the external empires fell apart in the 20th century, will countries now fragment in the 21st?

RISKS

- Any member state using the euro interested in secession from the EU by 2030 ideally would be preparing to issue its own native currency as soon as possible, at the risk of causing a capital flight depending on the market's opinion of the relative value of any superseding currency.
- China occupied Kashmir, Aksai Chin.
- There is a chance for Puerto Rican independence from the US, though the momentum there seems to be behind statehood.

THE KEY RISK IS THE EU. IF BREXIT SEEMS TO WORK FOR THE UK, WHENEVER IT ACTUALLY TAKES PLACE, OTHERS COULD WELL WANT TO FOLLOW SUIT, SUCH AS CATALONIA OR SCOTLAND.



GREY SWANS (LOW PROBABILITY/HIGH IMPACT)

- Some of the key countries in the EU may consolidate more power, perhaps allied with far-right parties in Germany and France. If that happens, countries might be more inclined to leave the EU.
- We'll probably see a couple countries fragment anyway, just not the ones we're looking at here. Maybe India? This could happen for any number of reasons: war, famine, invasion, water scarcity, climate change, and so forth, and could be seen through loss of life, population migration, or annexation of land.
- The unlikely event where Denmark "sells" Greenland, or Greenland seeks independence and then aligns with North America. Unlikely odds here through.
- What happens after Putin? There could be another (a la Yeltsin) "time of troubles" in which sovereignty in some territories is absolutely for the taking – whether within (a la Tatarstan) or without (a la Chechnya de-facto) the Russian Federation. The North Caucasus (especially, but not only, Chechnya) is clearly the place to watch, as the one

region with a long history of separatist sentiment, one in which the former ethnic Russian population has now departed almost in its entirety. There are other territories inhabited mostly by non-Russian ethnic groups such as Tatarstan or Tyva, with some of the numerous Finno-Ugric territories somewhere behind them in order of probability, that might aspire to greater control over their affairs. New policies implemented in the last decade, such as those restricting the use of local languages in schools, may add to this aspiration.

Q 6

After the external empires fell apart in the 20th century, will countries now fragment in the 21st?

ANNEX

AREAS THAT WOULD WITNESS FRAGMENTATION:

CHINA

Population: 1,403,500,365
Territory: 3,705,407 square miles
0.5% Population: 7,017,502
Equivalent: Hong Kong has 7,482,500
Tibet has 3,180,000
Hainan has 9,257,600
0.5% Territory: 18,527 square miles
Equivalent: Hong Kong is 428 square miles
Tibet is 474,300 square miles
Hainan is 13,650 square miles

RUSSIA

Population: 146,793,744
Territory: 6,601,670 square miles
0.5% Population: 733,968
Equivalent: Buryatia has 972,021
0.5% Territory: 33,008 square miles
Equivalent: Buryatia is 135,651 square miles

EUROPEAN UNION

Population: 513,481,691
Territory: 1,728,099 square miles
0.5% Population: 2,567,408
Equivalent: Greece has 10,700,000
Croatia has 4,000,000
Lithuania has 2,700,000
0.5% Territory: 8,640 square miles
Equivalent: Slovenia is 7,800 square miles
Greece is 51,000 square miles

UNITED STATES

Population: 327,167,434
Territory: 3,796,742 square miles
0.5% Population: 1,635,837
Equivalent: Idaho has 1,600,000
Hawaii has 1,400,000
0.5% Territory: 18,983 square miles
Equivalent: Idaho is 83,797 square miles
Hawaii is 10,931 square miles

SUPPLEMENTAL DATA

UNITED STATES TERRITORIES

Only Puerto Rico has sufficient population to qualify.

PUERTO RICO

Population: 3,200,000
(already lost 500,000)
Territory: 3,515 square miles

GUAM

Population: 162,772
Territory: 210 square miles

AMERICAN SAMOA

Population: 50,826
Territory: 76 square miles

NORTHERN MARIANNA ISLANDS

Population: 51,994
Territory: 179 square miles

VIRGIN ISLANDS

Population: 106,977
Territory: 134 square miles

CHINA

Hong Kong has sufficient population to qualify.
Tibet has sufficient territory to qualify.
Hainan has sufficient population to qualify.

RUSSIA

22 RUSSIAN REPUBLICS

13 OUT OF 22 QUALIFY

Altai (T)

Bashkortostan (TP)

Buryatia (TP)

Chechnya (P)

Chuvash (P)

Dagestan (P)

Kabardino-Balkaria (P)

Komi (TP)

Mordovia (P)

Yakutia (TP)

Tatarstan (P)

Tuva (T)

Udmurtia (T)

North Ossetia does not count according to the rules.

EUROPEAN UNION

28 EU MEMBER STATES

Austria (TP)

Belgium (TP)

Bulgaria (TP)

Croatia (TP)

Czech Republic (TP)

Denmark (TP)

Estonia (T)

Finland (TP)

France (TP)

Germany (TP)

Greece (TP)

Hungary (TP)

Ireland (TP)

Italy (TP)

Latvia (T)

Lithuania (TP)

Netherlands (TP)

Poland (TP)

Portugal (TP)

Romania (TP)

Slovakia (TP)

Spain (TP)

Sweden (TP)

UK (Not applicable)

THE ONLY STATES THAT DO NOT MEET THE CRITERIA ARE:

Cyprus

Luxembourg

Malta

Slovenia

(T) means territory qualifies

(P) mean population qualifies

Q 7

MEGATREND

Can OPEC survive in a decarbonizing world economy?

What are the implications for Arab economies of OPEC being under enormous pressure, from fracking and new discoveries outside of the MENA region, and from governmental policies worldwide that are aggressively discouraging fossil fuels? OPEC's current share is about 40%.

IGNITION QUESTION

Will OPEC's share of global crude oil production remain above 33% in 2030?

YES

OPEC's share will be above 37%

71%

NO

OPEC's share will be between 29% and 33%

7%

YES

OPEC's share will be between 33% and 37%

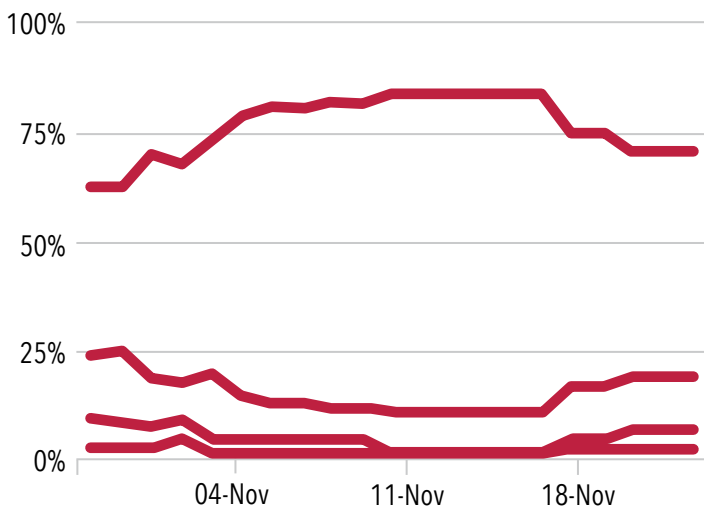
19%

NO

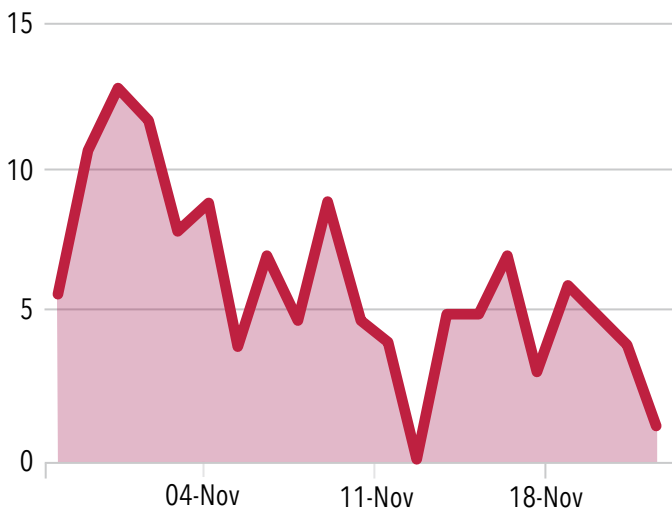
OPEC's share will be below 29%

3%

Daily Forecast



Forecast Volume



source: <https://goodjudgment.io/agpe/1b6a0a/current.png>

SUMMARY

Superforecasters think it 90% likely that OPEC will be supplying more than a third of global crude supply a decade from now, though possibly earning significantly less from that production. They observe that even if OPEC maintained a high level of market share, it could be a share in a shrinking market if Western nations continue to subsidize non-carbon alternative energy sources and related technologies, such as increasingly efficient batteries.

Lower global oil prices from decreasing Western demand or increased global supply should not impact OPEC market share, even if it impacts price; Iran, Iraq, and Saudi Arabia have production costs that are less than half of the rest of the world and so would be among the last producers to leave the market. Many Superforecasters think it more likely that growing middle classes in China and India will drive continued demand for OPEC oil, more than making up for any decreased demand in the West.

ANALYSIS

“There will always be a need for fossil fuels in all economies, even if supply and demand dynamics change pricing. For example: 1) poor, developing countries may not have access to other resources or technologies; 2) militaries, large companies, and wealthy individuals may use fossil fuels as part of strategic planning to manage risks; and 3) wealthy individuals may maintain a market for ‘old tech’ for various reasons.”

“New discoveries, technology, and government policies will impact fossil fuel economics. On the supply side, there seems to be a recurring theme of ‘peak oil’ supply being only 10 to 20 years away. The reality is that companies have no need to plan longer than that, so they don’t spend money on exploration beyond that time frame.”

“New technologies create efficiencies throughout the supply chain as well as on the end-use side of the equation. Government policies and spending will inevitably lead to companies working toward meeting expectations. Government may or may not be an efficient way of getting to a solution, but it would be a mistake to overlook products and services that were created through these policies, and then transitioned into private markets.”

“Alternative energy options are becoming more mainstream and economically viable but are still mainly for the wealthy. There are also more transportation options, for the individual and for companies, that are based on electricity versus fossil fuels. And governments are always playing with both the carrot and the stick to try to impact demand, ie, subsidies and taxes.”

“The ‘Death of Oil’ theme has been around a long time. Even with a welcome push to renewable energy, oil usage is going to be around as long as oil is around.”



↑ DRIVERS

- Normalizing relations between Iran and Saudi Arabia, as well as other ex-OPEC members who may want to rejoin the cartel, could increase the chances of OPEC maintaining the status quo.
- OPEC countries have the largest oil reserves and have the means to produce crude oil more cheaply than other suppliers. If decarbonization becomes the norm, then their share should increase as other suppliers drop out.
- OPEC is market-share driven and, as lowest-cost suppliers, can keep market share at will. The Aramco IPO also means they will not want this domination to end so they can keep valuation high.
- A key driver here is the increased decarbonization itself. On the demand side, slowing consumption will mean that oil prices will likely not reach record highs. On the supply side, unconventional sources with higher production costs, such as oil sands, tight oil, and oil shale fracking, will not be explored to their full extent, which should keep OPEC's share above 33%.

OPEC IS AS POWERFUL AND AS RELEVANT AS EVER. IT HAS SUCCESSFULLY STABILIZED OIL PRICES SINCE 2009 AND PROVED MORE EFFECTIVE THAN FRAGMENTED SHALE PRODUCERS. THERE IS ALSO THE POSSIBILITY OF NEW MEMBERS JOINING OPEC, FOR EXAMPLE, BRAZIL AND RUSSIA.

Q7

Can OPEC survive in a decarbonizing world economy?

RISKS

- Major geopolitical events in OPEC producing countries (war, civil war, riots).
- Major producing countries may leave the organization.
- Reserve capabilities might be proven wrong.
- Movement to green sustainable fuels and (non-plastic) economics could accelerate, perhaps strongly incentivized by government requirements to use non-petrochemical alternatives in far more instances.

**DISCOVERY
OF MAJOR OIL
DEPOSITS IN
NON-OPEC
COUNTRIES.**



GREY SWANS (LOW PROBABILITY/HIGH IMPACT)

- The recent facility attacks on Saudi Arabia, multiplied many times over, and for a longer time period.
- Open and ongoing warfare in the Gulf region, which inflicts major damage on oil infrastructure and transportation, such as pipelines and tanker shipments.
- A more aggressive and definitive global trend to invest in alternative energies growing fast enough in the next 10 years:
 - ▶ Electrification of the shipping industry
 - ▶ Electric passenger vehicles
 - ▶ Liquified natural gas as a marine fuel
 - ▶ New technological breakthroughs
 - ▶ 'Green New Deals' across the developed world
 - ▶ Public shaming over air flights and 'unethical' spending
- A member of OPEC with vast oil reserves (such as Venezuela) aligns with other non-OPEC nations and decides to leave OPEC.
- A non-OPEC nation with vast oil reserves (such as Canada) aligns with partnering countries to create an alternative to OPEC.
- Completely new non-conventional sources for fossil fuels could be developed, for example in the Arctic or Antarctic, that are currently not considered viable.
- The technology to extract the shale oil becomes much cheaper.

IF THE EFFECTS OF CLIMATE CHANGE VISIBLY ACCELERATE, SUCH AS SERIOUS CATASTROPHES ATTRIBUTED TO CLIMATE CHANGE, THAT COULD DRAMATICALLY IMPACT THE OIL MARKET.

Q 8

MEGATREND

Will water scarcity heighten security risks for the MENA region?

IGNITION QUESTION

Will water scarcity cause a deadly conflict between Jordan and Israel, Egypt and Ethiopia, or Turkey and Iraq before 2030?

YES
Jordan and Israel
1%

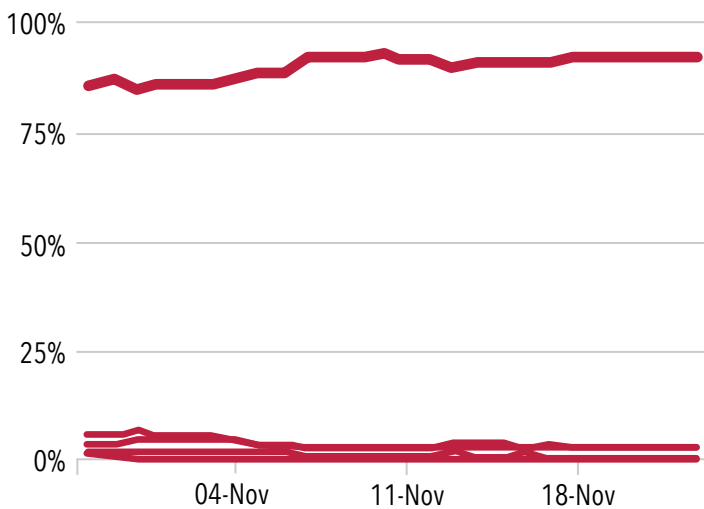
YES
Egypt and Ethiopia
3%

NO
92%

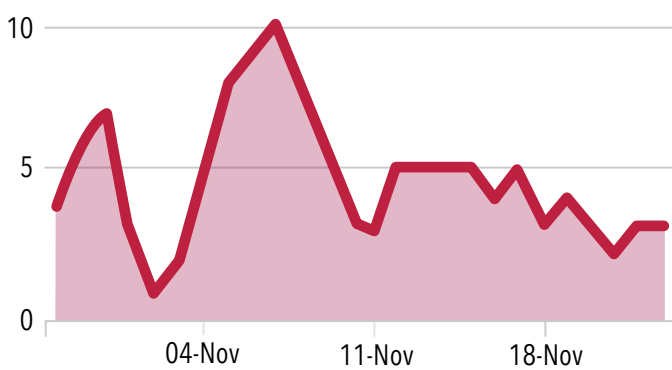
YES
Turkey and Iraq
3%

YES
Two or more of these conflicts
1%

Daily Forecast



Forecast Volume



source: <https://goodjudgment.io/agpe/1b4f48/current.png>

SUMMARY

Asked whether water scarcity will cause a deadly conflict between Jordan and Israel, Egypt and Ethiopia, or Turkey and Iraq before 2030, Superforecasters see an overall one-in-nine chance of war. Conflict between Jordan and Israel is seen as only 1% likely, while conflict between Egypt and Ethiopia, or Turkey and Iraq are both forecast as 3% likely in the next decade. The overall potential for water scarcity to act as a pivot point in one or more regional conflicts over the next decade is 8%, according to the Superforecasters.

Hydropower projects by the upper riparian states of Turkey and Ethiopia are understandable given that neither nation has many other choices for internal power generation. But the consequent decreased water flow in the Nile Delta and Fertile Crescent lead to real challenges for the millions of Egyptians and Iraqis who depend on agriculture for their livelihoods. The same dynamic is seen thousands of miles to the east, where multiple Chinese dams on the upper reaches of the Mekong River are severely impacting downstream Vietnamese farmers in the Mekong Delta.

But while the military imbalance between China and Vietnam mitigates the probability of conflict, the correlation of forces between Ethiopia and Egypt, and between Turkey and Iraq, are such that regional leaders are more likely to countenance the possibility of military success in a short, sharp conflict over water. The US National Academy of Sciences argued persuasively in 2015 that extended drought in Syria, exacerbated to record levels by global warming, pushed social unrest in the nation across a line and into an open uprising against the Assad regime in 2011.

ANALYSIS

“In general, ‘water wars’ have been forecast to occur in the future because of increased demand from growing populations and reduced supply overall due to climate change, exacerbated by development needs and relations between traditionally hostile neighbors. Fresh water is only becoming more important in the MENA region. While the Superforecasters do not see a Megatrend of water scarcity as the prime driver for a deadly conflict, it will increasingly become a contributing factor in the escalation of hostilities.”

“Typically water wars start between upper riparians and lower riparians – or upstream versus downstream users. The upper riparians control the water and can dam at will or simply siphon off larger amounts of water than they should (eg, historical usages which have power under international law). In those situations, lower riparians have few options other than the use or threat of force.”

“The real security risks are likely to be due to domestic destabilization rather than manifesting in cross-border conflicts. It is possible that domestic destabilization could entice other nations into an open conflict, though this doesn’t usually occur between nations in the MENA region, but rather between proxies inside of one nation. This has already started in MENA since the Syrian civil war has a large water component. At present, there is a serious dispute between Egypt and Ethiopia. Ethiopia’s Nobel Peace Prize-winning prime minister warned that if there’s a need to go to war over a dam project disputed with Egypt, then his country could ready millions of people. He has said, however, that only negotiation can resolve the current deadlock.”

“Israel relies primarily on the River Jordan along with desalination for its water supply, and also has a very efficient drip irrigation system for agriculture. I think Israel and Jordan will continue to cooperate and won’t go to war over this issue.”

“A deadly conflict that resolves this question will need to be larger than a minor border skirmish with a few fatalities – which have occurred in the past and undoubtedly will occur in the decade ahead. A deadly conflict on a scale consistent with the Megatrend would need to involve state actors. With this in mind, I think there is a very low probability of a conflict occurring on that scale.”

“A conflict between Turkey and Iraq is possible, since Iraq gets almost all of its water from the Tigris and Euphrates rivers, both of which originate in Turkey and on which Turkey has built several dams already. Both have large military forces, even though Iraq’s is currently fragmented and weakened.”

↑ DRIVERS

- Water scarcity is more likely to promote internal civil unrest than cross-border conflict. That said, populations that cross borders and share water resources could spark conflict. That makes Turkey and Iraq with the Kurds the most volatile.
- Water scarcity has already had an impact on MENA stability. However, instability is most likely within a country (eg, Syrian civil war). For two of the pairs, the upper riparian has both the power and the access, thus war is unlikely.
- In two of the three cases, the weaker power is downstream, so conflict is highly unlikely. Egypt and Ethiopia are working towards an agreement and Egypt holds the winning hand as Ethiopia's benefits from the operation of the Renaissance Dam exceeds the cost of spreading the filling of the reservoir over seven years.
- All the countries mentioned in the question have completed or are building large scale, high volume desalination plants that are reducing their reliance on rivers, aquifers, etc., and that reduces the likelihood of conflict.
- This region is expected to be negatively impacted by climate change and several parts of it have been over-pumping their aquifers (for example, Israel and Lebanon among others). Within the question time frame, failure of water sources could result in greater stress on domestic governments and on relationships between countries.
- No two countries alone can solve a problem that is a shared problem of many nations within a region, all with different agendas and motivations. Water scarcity is regional in nature and political instability prevents the necessary steps to negotiate communal solutions regarding water usage amounts and protect the quality of these limited water resources.
- Water scarcity will heighten security risks, but Jordan and Israel have too large of a power imbalance combined with both receiving major US aid. Egypt and Ethiopia is the area of greatest concern with the dam project and lack of significant outside pressure moderating a potential conflict.

WATER SCARCITY IS OVER-EMPHASIZED AS AN INTERNATIONAL ISSUE. NEW DESALINATION PLANTS AND WATER TECHNOLOGY WILL, IN THE NEXT 10 YEARS, MAKE WATER SCARCITY EVEN LESS OF AN ISSUE THAN IT IS TODAY.

RISKS

- Egypt and Ethiopia: failure of Egyptian agriculture and lack of money to import food (maybe); Turkey and Iraq: violent instability in eastern Turkey centered on Kurdish irredentism and some kind of deal between Turkish Kurds and Iraq (deal unlikely).
- A civil war in Ethiopia.
- Egypt against Ethiopia is the only case where a more powerful downstream country may lose water. A conflict could come from a significant drought in combination with a deteriorating economic situation in Egypt.
- Risk is misattribution or lazy attribution of journalists of conflict causation to water. Actually, conflicts are always multi-causal and caused by people, not resources.
- While technological advances can serve as a driver for making water more available by making water desalination cheaper and more environmentally friendly, they can also serve as a risk for a variety of reasons, such as use of technology to control a resource or to monopolize a resource through technological superiority.
- One key risk would be military buildups by any of these countries that appear aimed at the other country. Israel and Jordan and Egypt and Ethiopia have been de-escalating tensions recently, but it's worth monitoring for a change.
- An erosion of diplomatic efforts. One-sided extreme policy choices by an upstream state at the expense of a downstream state. Delayed efforts to employ technological solutions. Unexpected droughts experienced in upstream states and/or downstream states.
- Worsening climate conditions or a major natural disaster in the region could put such a strain on the limited water resources that nations become so intransigent that military action seems the only viable solution.
- All these countries expect substantial population growth over the next decade and it is not clear that desalination can be the long-term solution to water scarcity problems.
- Public protests regarding water scarcity, especially if near a border through which the water flows, might increase the probability of a low-level deadly conflict. This could occur in a riparian area (Egypt and Ethiopia) where the upper riparians use more water than they should, thus putting the lower riparians at such a disadvantage that they set about to draw attention to it or rectify it. It could also happen in the Euphrates-Tigris Basin that is shared between Turkey, Syria, and Iraq, with Iran comprising parts of the Tigris Basin. Since the 1960s, unilateral irrigation plans altering the flows of the rivers, coupled with political tensions between the countries, have strained relations in the basin. Disputes have prevented the three governments from effectively co-managing the basin's rivers. Although cooperation efforts were renewed in the 2000s, these have yet to result in a formal agreement on managing the basin waters. Police or border guards firing on rioters would resolve the question, though not the Megatrend.



GREY SWANS (LOW PROBABILITY/HIGH IMPACT)

- Failure of a dam, which gets attributed to sabotage (because the regime can't admit a colossal mistake) leading to armed conflict.
- If the leadership of a downstream country fears it is losing support from its own populace (eg, due to economic hardship), it may seek to divert attention and blame an upstream country for water scarcity, thus uniting the public behind a war.
- The contamination of a watercourse could result in a military reprisal regardless of whether it was state-sponsored, the act of a terrorist organization, or a large-scale industrial accident.
- Potential for accelerated global warming and drought to challenge the ability of even well-run nations to respond to water scarcity via internal measures (desalinization, reuse, etc.), forcing nations to push the envelope when it comes to use of shared resources.
- There are emerging environmental problems with large scale desalination, such as returning concentrated salts to the body of water from which plants are drawing saltwater. If severe enough, these problems could make very large-scale desalination impractical or impossible.
- Israel is forced to ration its water distribution to Jordan, leading to violent protests spilling over from Jordan to Israel, requiring Israeli security forces to fire upon protesters.
- Turkey, Israel, or Ethiopia waging war against downstream states due to an opportunity created by water suppression; in an imbalance of power, the use of water as a weapon.
- Missing altogether is recognition of the Western penchant for diplomatic intervention in conflicts. Russia could also attempt to propose/impose a solution. None of these conflicts would take place in a vacuum, and wars are rarely fought to a conclusion with clear winners and losers these days.

**MASS MIGRATION
DUE TO WATER
SCARCITY
THAT LEADS TO
CONFLICT.**

Q9

MEGA-TREND

Will the Eastern Mediterranean gas fields off the coasts of Cyprus, Lebanon, and Egypt promote regional stability?

It is estimated that Lebanese natural gas reserves in the Levant Basin total approximately 100 trillion cubic feet, which has the potential to revolutionize politics in the Levant. The Levant and Nile Delta Basin also reaches into the territorial waters of Cyprus, Turkey, and Egypt. The question remains: will this bounty promote or impede regional stability? Will this economic opportunity be a driver for stability or conflict and confrontation? A "major military conflict" would have a large number of casualties or territorial impacts.

IGNITION QUESTION

1. Will Lebanon and Israel have a major military conflict by 2030
If Lebanon produces 50+ billion cubic feet per year by 2030?

| | |
|------------|------------|
| YES | NO |
| 14% | 86% |

2. Will Lebanon and Israel have a major military conflict by 2030
Lebanon does not produce 50+ billion cubic feet per year by 2030?

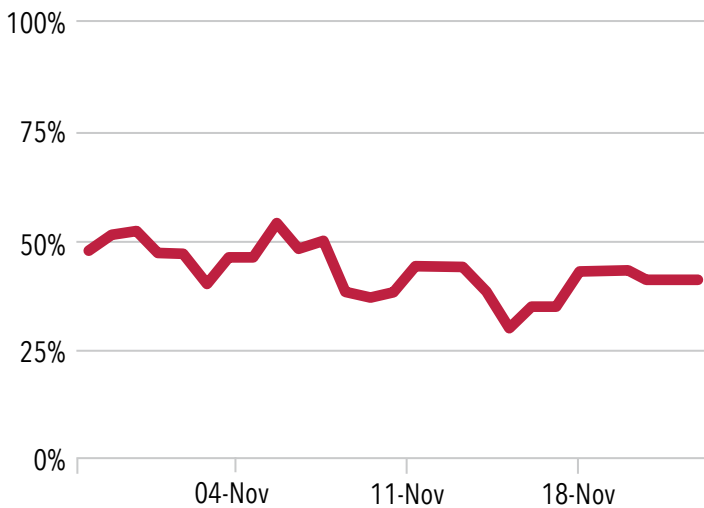
| | |
|------------|------------|
| YES | NO |
| 41% | 59% |

Daily Forecast

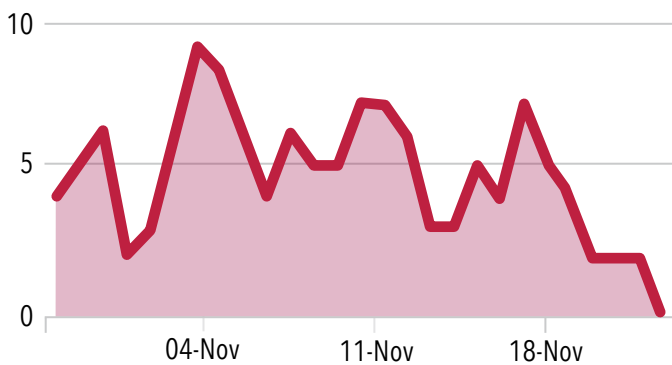
1



2



Forecast Volume



source: <https://goodjudgment.io/agpe/1b74be/current.png>

SUMMARY

Superforecasters see the likelihood of major military conflict between Israel and Lebanon as significantly reduced if Lebanon's offshore gas fields become a major source of new production. The probability of conflict is 41% if Lebanon produces less than 50 billion cubic feet per year by 2030, which drops to just 14% if Lebanon's production rises above that threshold.

The odds are low that Lebanon will be producing 50 billion cubic feet per year by 2030. But if Lebanon reaches that threshold, it will indicate greater economic stability and a more stable domestic situation, thereby reducing the risk of war, indicating this energy development outcome should be a goal for those seeking to improve regional stability.

Superforecasters also note that significant Israeli-Hezbollah conflicts tend to occur once a decade, but Israel and Lebanon can benefit if Lebanon is stable while Hezbollah is weakened and Iran's influence usurped.

Q9

Will the Eastern Mediterranean gas fields off the coasts of Cyprus, Lebanon, and Egypt promote regional stability?

ANALYSIS

"It would certainly be in Lebanon's interest to develop its gas resources, and if that requires internationally recognized demarcation, Lebanon will be all for it. If there is a conflict over gas, it seems to me, given the military disparity, more likely to be Israel opposing Lebanon drilling in what Israel regards as its patch. That would happen before Lebanese production ramped up."

"For the 10-year time frame, a better question might be if they will promote regional instability or instead be neutral in that respect. Lebanon has entered into an agreement with Cyprus that includes a potential gas pipeline, which might seem like a stabilizing common goal, but this sort of thing angers Turkey, which doesn't recognize the Republic of Cyprus."

"The gas fields are more likely to encourage disputes between nations regarding contested drilling rights and disputes within nations regarding who gets to profit. In the long term, the money from sales of natural gas may be beneficial, but that will take a while to work itself out, not to mention taking a while to show a profit or to fully replace Lebanon's imports."



↑ DRIVERS

- The involvement of other countries in the gas exploration will strongly encourage both Lebanon and Israel to handle the disputed territory diplomatically.
- If Lebanon reaches the gas production threshold, it will indicate greater economic stability and better management, reducing the risk of war due to a more stable domestic situation.
- If there is a conflict, it will be between Hezbollah and Israel, not Lebanon and Israel. Cyprus, Lebanon, and Egypt have no quarrels with each other.
- It seems they are due for conflict, but the next will be unlikely on the scale of 2006. The conflict will almost certainly not be over natural gas. Hezbollah is the most likely cause.
- A key driver on the Megatrend is that extractive resources don't promote stability in the short term, as they can intensify corruption of the wrong sort and give nations cause for conflict, both domestically and with their neighbors.

THE PRESENCE OF GAS FIELDS IS MORE LIKELY TO PROMOTE STABILITY PROVIDED THAT ALL THE BORDERING COUNTRIES HAVE A SHARE. IT WILL BE IN THE ECONOMIC INTEREST OF ALL TO AVOID CONFLICT.

Q 9

Will the Eastern Mediterranean gas fields off the coasts of Cyprus, Lebanon, and Egypt promote regional stability?

RISKS

- A substantial find in a disputed block could result in Lebanon and Israel negotiating an agreement to share the expenses of development and the resulting proceeds; an unlikely partnership, but one that could contribute to peace between the two countries.
- Hezbollah has been careful over the last decade not to cross any of Israel's red lines. But Hezbollah is now acquiring sophisticated missile technology that is making Israel nervous and may lead to conflict.
- Ending of the civil war in Syria frees Hezbollah. Coupled with domestic unrest in Lebanon, this could cause a splinter or follow-on conflict.
- If Lebanon and Egypt can somehow put together their own consortium (possibly with Russian help) for extracting gas that excludes European partners. Without their moderating influence, Israel might feel threatened or resort to coercive diplomacy to settle disputes with Lebanon.

LEBANON'S GOVERNMENT - IT IS REMARKABLY UNSTABLE, CONTROLLED BY MANY EXTERNAL AND CONFLICTING FORCES, AND IS GENERALLY DIFFICULT TO PREDICT.



GREY SWANS

(LOW PROBABILITY/HIGH IMPACT)

- Israel staging an attack on Iran's nuclear program and Iran responding in part via Hezbollah-led attacks from Lebanon.
- The breakup of Hezbollah through continued loss of internal and external funding would ease tensions between Lebanon and Israel and perhaps encourage joint efforts to develop the natural gas fields.
- A low-probability factor is a US invasion of Iran, triggering Iranian use of its proxy Hezbollah to expand the conflict to Israel.
- Very rapid expansion and adoption of solar power and green technologies could result in reduced demand for (and price of) natural gas so these countries don't receive the revenue they are hoping for.
- If Israel feels Lebanon is "stealing" its share, it may use its superior military capacity to start a major conflict.
- One high-impact change would be Israel choosing to develop offshore natural gas resources near those being developed by Lebanon. That creates an increased potential for resource conflicts.
- Lebanon devolves into civil war and the gas fields remain relatively undeveloped. Israel suffers no major attacks beyond the scale of the small incursions that Syria committed against Israel during their civil war.

**IF THERE WERE
TO BE A REGIME
CHANGE IN IRAN,
THAT MIGHT HAVE
SOME EFFECT
ON HEZBOLLAH
AND LEBANON.**

Q10

MEGATREND

Will economic sanctions lead to the collapse of the Iranian regime?

Forty years after the Iranian Revolution, there are signs of regime fatigue in the country.

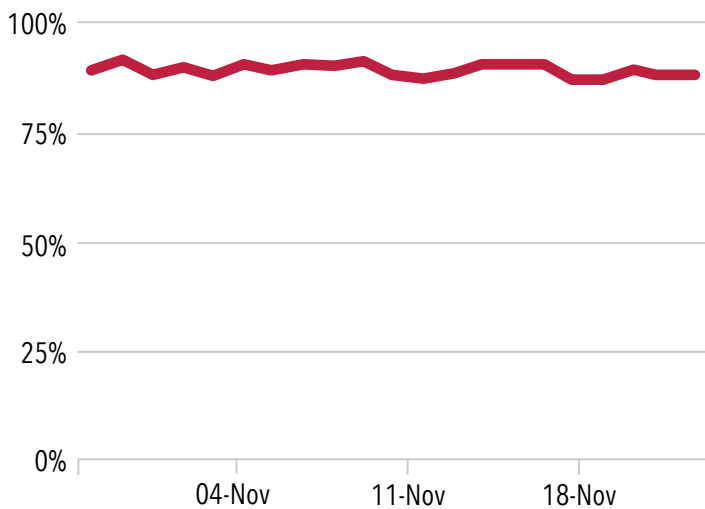
IGNITION QUESTION

Will Iran have a Supreme Leader in 2030?

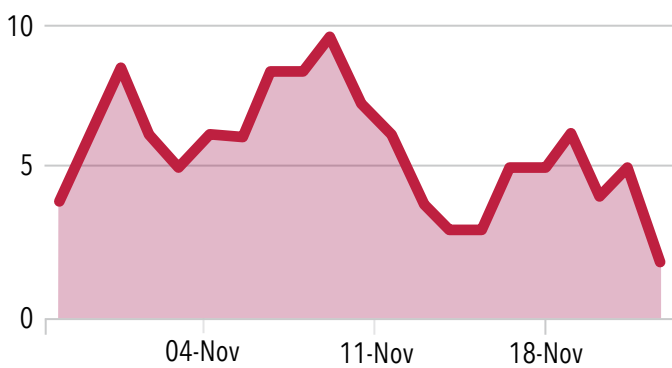
YES
88%

NO
12%

Daily Forecast



Forecast Volume



source: <https://goodjudgment.io/agpe/1b4494/current.png>

SUMMARY

Superforecasters considered whether Iran will have a Supreme Leader in 2030 and forecast an 88% likelihood that the position will still exist. Superforecasters observed that the Islamic Republic of Iran has effectively lived under US economic sanctions since its inception in 1979, so those strictures alone are unlikely to cause the collapse of the current form of government. Rather, sanctions are more likely to lead to behavior change than regime change: they can induce Iran to the negotiating table (as they did for the nuclear agreement), or possibly mitigate some of the regime's interventions in the MENA region.

Still, the MENA region has seen the sudden and unexpected collapse of several long-term leaders in the past decade. Nobody foresaw that the 2010 protest of a poor Tunisian fruit seller would mark a pivot point for multiple regimes. In the event, a Supreme Leader might survive a change of regime anyway; he is not only a seat of political power in Iran, but also a religious leader. Even if stripped of political power, the office might continue as a locus of religious and moral authority.

A much more significant economic issue than sanctions is the nature of Iran's rentier economy. The center of power in Iran is the Iranian Revolutionary Guard Corps (IRGC) and the country has oil. The IRGC controls the flow of legal and black-market income in the country, which arguably limits economic growth more than sanctions do. Iran needs a more diversified economy and higher productivity, but the IRGC does not have a track record of supporting major economic reform.

ANALYSIS

“The Islamic Republic of Iran has lived under US economic sanctions for most of the time since its inception in 1979, so it is hard to anticipate them directly causing the collapse of the current form of government in the next 10 years. Economic hardship is clearly increasing dissatisfaction and dissent, but the uniquely powerful IRGC seems more than capable of maintaining authority with its 125,000-strong corps, control over as much as one-third of the economy, and its vast paramilitary organization, Basij.”

“A much more significant economic issue than sanctions is the fact of Iran’s rentier economy. The center of power in Iran is the IRGC and the country has oil. The IRGC controls the flow of legal and black-market income in the country. This limits economic growth more than sanctions do. Iran needs a more diversified economy; it needs more productivity. But the IRGC is obviously not going to support any major economic reform.”

“Repressive authoritarian regimes tend to collapse suddenly without too much warning; see the Soviet Union. It also seems that the young and urban in Iran aren’t happy with the restrictions imposed on their cultural freedoms.”

“Iranians are well educated and have a history going back centuries, and will eventually find a way to express themselves again. As for the Supreme Leader, he is 80 years old. He is likely to die or become incapacitated within the next 10 years. The IRGC is undoubtedly already contemplating his replacement. Even if there is disagreement over the succession, I don’t know why or how it would result in the abolition of the position of Supreme Leader.”

“The Supreme Leader is not only a seat of political power in Iran, but he is also a religious leader of Shia Muslims. He is an important religious and moral authority. There is every reason to believe that Iran would maintain a Supreme Leader even if there were a regime change and he no longer had any political power. Turkey under Ataturk made the mistake of abolishing the Sunni Caliphate in 1924 rather than separating it from the Sultanate, when the nation was secularized, which left a lot of Sunnis feeling rudderless with the result of many attempts to re-establish the caliphate.”

“It’s possible that instead of a Supreme Leader there will be a theocratic council of religious elders, such as the present Council of Guardians, without a single figure above them, which could overrule the elected parliament and president.”

“There are currently quite a few active protest movements around the globe, and they seem to have spread to Iran as well.”

“It could be that the current parliamentary and presidential system is replaced rather than the religious leadership.”

“The current regime is not a monolith. It has sufficient elasticity to cope with internal dissent and disagreement. It is not precisely the system that the Ayatollah Khomeini envisaged; it had to adapt to function in the real world, as all systems of government must if they are to survive. It can adapt some more if necessary. The balance of power between elected and religious authorities can change without a change in regime. The Guardian Council can loosen or tighten its criteria for candidates who wish to run for office. Policies can be more liberal or more conservative, more religious or more secular, without major disruption.”

"Although urban populations are more liberal and often show discontent with the current system, it appears that most of the non-urban population supports the Principles of the Revolution, if election results are any indication. The fact that the Principles of the Revolution enjoy support among a large part of the population and the inherent flexibility in the political system indicate that it is not likely going away within the next 10 years."

"Sanctions are more likely to lead to behavior change than regime change. They can drive Iran to the negotiating table (as they did for the nuclear agreement), but their track record in tossing out governments is poor and there are many academics who believe the sanctions are more likely to increase internal regime cohesion than cause collapse."

↑ DRIVERS

- The Supreme Leader's powers and the qualifications and method of choosing a successor are carefully defined in the Iranian constitution. As long as the constitution remains in effect, there will continue to be a Supreme Leader.
- The incumbent has been very successful consolidating power in the position of Supreme Leader, and both he and the IRGC are invested in seeing this role continue. The IRGC will keep dissent in check with its large corps, economic strength, and vast paramilitary organization.
- Iranian nationalism will blunt popular discontent stemming from economic hardship, particularly if the sanctions at the root of that hardship are perceived as being imposed largely from the outside.
- The status quo can be maintained through powers dispersed to align subordinates. Subordinates hold key positions and have the power to purge dissent. Sanctions may be used as propaganda to foster citizen support by Iranian leaders.

SANCTIONS HAVE NEVER HAD A MAJOR IMPACT ON THE CORE NEEDS OF ANY IMPACTED COUNTRY.



Q10

Will economic sanctions lead to the collapse of the Iranian regime?

RISKS

- Signs that that leadership of the IRGC was decoupling itself from the institution of the Supreme Leader.
- Iran may more aggressively pursue nuclear weapons in the next 10 years. This could lead Europe to impose even harsher sanctions, which might lead to regime collapse.
- News that Iranian politicians were gathering to write a new constitution would increase the risk that the constitutional office of the Supreme Leader might be eliminated.
- The rise of an undisputed leading cleric from the new generation who could assume the office, or a general accommodation to the regime by its domestic opponents.
- Public opinion. Specifically, will the regime retain enough support during a long-term economic downturn.

YOUNG PEOPLE ARE DISPROPORTIONATELY UNEMPLOYED, WHILE WEALTH IS CONCENTRATED AMONG A CLERICAL ELITE. A POOR ECONOMY HAS DRIVEN ALL PROTEST MOVEMENTS TO DATE.



 **GREY SWANS**
(LOW PROBABILITY/HIGH IMPACT)

- Protests and revolutions in Iran's neighbors have potential spillover effects. The current protests among Shia populations in Iraq and Lebanon demonstrate a new religious leadership taking on powerful political interests. If those influences hit Iran, it would impact the Supreme Leader position.
- Hostile internal power grabs at the highest level within the regime would be a surprise if they are instigated to dismantle the coupling of religion and state. A citizen uprising overcoming the regime to install democracy.
- A collapse in the price of oil due to new discoveries and productions causing a glut in supply.
- If Iran does develop, perhaps even test, a nuclear bomb, the US may invade the country and overthrow the government, in which case there won't be a Supreme Leader anymore.
- The potential for green technology breakthroughs to rapidly accelerate a global transition from a carbon-based economy.

THE POTENTIAL FOR ISRAEL TO INVADE OR CONDUCT MILITARY STRIKES IS UNDER-DISCUSSED RIGHT NOW.

Q11

MEGATREND

Will nuclear proliferation accelerate?

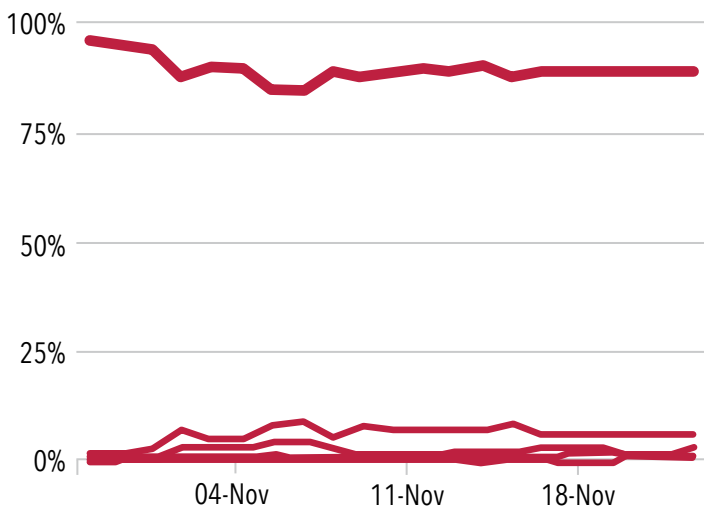
There are nine nuclear powers in the world – one from the MENA region (Israel). Iran and Turkey have recently expressed interest in developing nuclear capabilities.

IGNITION QUESTION

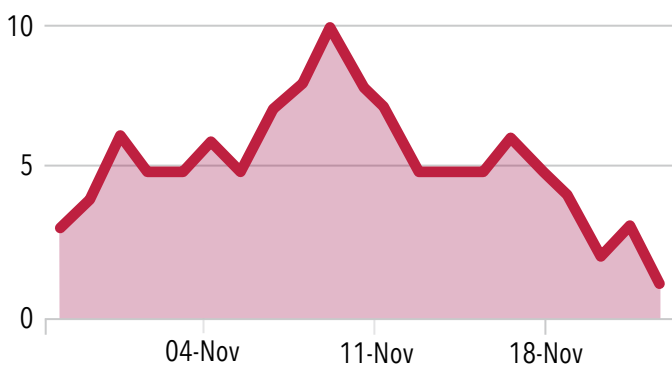
How many nuclear powers will there be in the MENA region in 2030?



Daily Forecast



Forecast Volume



source: <https://goodjudgment.io/agpe/1b59fc/current.png>

SUMMARY

Asked how many nuclear powers there will be in the MENA region in 2030, Superforecasters overwhelmingly agree that Israel will remain a nuclear power. If any MENA regional state other than Israel gains nuclear weapons capabilities, other powers in the region are likely to begin active pursuit of matching capabilities. But any MENA state starting down this path would risk sparking turmoil in an already tumultuous region.

Israel has repeatedly declared that it would attack Iranian facilities if it thought the regime was about to cross the weaponization threshold. Turkey acquiesced to the 2007 Israeli attack against a nearly completed covert Syrian reactor by allowing Israeli warplanes to cross its territory en route to those targets. Other MENA military powers (and their extra-regional partners) might also engage in the use of force to prevent a perceived adversary from gaining a nuclear weapons capability.

ANALYSIS

“Although some might argue that Iran is a special case, there is a case to be made that any MENA country would probably get the same world reaction if it seriously attempted to acquire nuclear weapons, particularly since that area is viewed as already volatile and politically unstable. And economic sanctions have become a very effective alternative to war. Against that backdrop, any MENA country thinking about acquiring nuclear weapons will think twice about it because of what has happened to Iran.”

“Speaking at a United Nations (UN) General Assembly meeting in New York, Iran’s deputy UN ambassador, Eshagh Al Habib, insisted that his country’s moves are all ‘reversible.’ They provide ‘opportunity for remaining JCPOA participants either to take serious practical steps to preserve the JCPOA or, along with the US, accept the full responsibility for any possible consequences.’ Although Iran may yet make a strategic decision to become a nuclear power, the recent violations are not decisive evidence that such a decision has been made. They are seen as negotiating tactics.”

“The Global Zero movement has set a 2030 target for zero nuclear weapons, although they do not appear to have a huge chance of convincing nuclear powers to give them up.”

“Are we currently experiencing a Megatrend that harps back to the nuclear arms race anticipated during the Cold War? A number of countries have started to move towards being nuclear capable.”

“Countries that have become nuclear powers (date deemed ‘nuclear’ in parentheses): US (1945), USSR/Russia (1949), UK (1952), France (1960), China (1964), India (1974), Israel (1979?), Pakistan (1998), DPRK (2006).”

“A key element in this question is to think about the world’s reaction to Iran’s attempt to produce a nuclear weapon. The US, the EU, Israel, and most of the world were horrified by the idea of Iran possessing nuclear weapons and took strong and effective action in the form of sanctions to prevent it.”



↑ DRIVERS

- Proliferation pivots primarily on Iran's nuclear program. If Iran is able to develop a weapon, then other regional powers will follow. If Iran doesn't pursue, then there is no rush among others in MENA to complete a program within the next 10 years.
- MENA has several powers which are rivals for local hegemony. Thus, acquisition of a bomb by one is likely to lead to acquisitions by others. For instance, in the view of one Superforecaster, Iran is probably one to two years away from a bomb based on their current stage of nuclear development, while Turkey and Saudi Arabia are probably four to five years if they were to develop them themselves, although there is concern that they may obtain them "off the shelf" from a nuclear-capable country such as Pakistan.
- If Iran gets the bomb, proliferation will accelerate. If Iran does not get the bomb, it is possible that proliferation will remain on hold for the time being. Following Iran in acquiring nuclear weapons would be Turkey, and maybe Saudi Arabia and Egypt. Although Egypt is currently a member in good standing on the Treaty on the Non-Proliferation of Nuclear Weapons (NPT), they have harbored nuclear weapons ambitions in the past (especially under Nasser in the 1960s), and there are concerns that Iran's nuclear activities could cause a reversal of current Egyptian policy.
- Since China joined the nuclear club in 1964, four countries have followed suit (including Israel), averaging about 14 years per new country. Now technology enables much greater surveillance, making it much more difficult for any other country to cross the threshold.
- Very careful International Atomic Energy Agency (IAEA) monitoring of nuclear materials, super sophisticated monitoring by intelligence agencies, and effective sanctions successfully applied against Iran will all give MENA countries pause about nuclear weapons. Nuclear proliferation is decelerating.

THE HUGE COST AND LONG TIMELINE TO DEVELOP NUCLEAR WEAPONS, THE OVERALL WEAK ECONOMIC OUTLOOK IN MENA, AND THE THREAT OF FURTHER ECONOMIC HARDSHIP THROUGH SANCTIONS MINIMIZE THE CHANCE THAT NECESSARY RESOURCES WILL BE PUT TO THE DEVELOPMENT OR DIRECT ACQUISITION OF NUCLEAR WEAPONS IN THE NEAR TERM.

RISKS

- If the US were to rejoin the JCPOA, the odds of proliferation would go down. If Turkey leaves NATO, the odds would spike.
- The moment it is clear that a MENA nation (other than Israel) has, is thought to have, or is perceived to be near to having nuclear weapons, there will be a rush of other nations in the region vying to join the elite club by any means possible.
- If Trump wins the 2020 US election, the JCPOA will likely further unravel and Iran will pursue a nuclear weapons program. Iran's pursuit of a nuclear weapons program may lead to a regional nuclear arms race.
- Instead of trying to build a nuclear weapon, which is very likely impossible to keep secret, countries may try to buy them.
- A risk factor would be a potential alliance between Iran and another nuclear state (like Pakistan or North Korea). A third party wanting to destabilize the region will supply a weapon or technology to a state in the region.
- Countries in the MENA region will closely watch North Korea after Trump leaves office. North Korea may overstep prior to him leaving, but how the next administration (Democrat or Republican) handles it may give justification to others to follow or not.

CURRENT US SANCTIONS PROVE TO BE A MORE EFFECTIVE DETERRENT THAN THE JCPOA, AND LEAD TO A CHANGE OF IRAN'S NUCLEAR POLICY.



GREY SWANS (LOW PROBABILITY/HIGH IMPACT)

- A nuclear weapons-sharing program between two or more MENA nations could pool scientific and economic resources to more quickly achieve the capability.
- The public underestimates the chance of an Israeli military strike once Iran is on the brink of obtaining nuclear weapons in any form.
- Sales by Pakistan to Turkey. The sale of a complete working weapon is historically unprecedented, even among NATO allies. But if it happens it is instant proliferation and completely changes the timetable for breakout to nuclear status.
- The use of a nuclear weapon in a conflict anywhere in the world, including North Korea, India, or Pakistan. No nuclear weapon has been used since 1945, meaning that countries are building weapons to not use them. That calculus changes if one is used and will push other countries to build one.
- Many countries in the UN are pressing for the complete elimination of nuclear weapons. If the US and/or countries of Europe agreed to eliminate their nuclear weapon stockpiles, other nuclear power countries would be under pressure to follow suit.
- Iran experiences a change in regime, or even a change in governance, that results in a suspension or abandonment of their current nuclear agenda.

IRAN MAY ALREADY HAVE ONE OR MORE NUCLEAR WEAPONS, OR BE CLOSER TO BUILDING THEM THAN CURRENT INTELLIGENCE INDICATES. IF TRUE, THIS MAY LEAD TO A REGIONAL NUCLEAR ARMS RACE.

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