

# Market Insights

July 2022

## Emerging markets risk dashboard



## About us

Frontier has been at the forefront of institutional investment advice in Australia for over 25 years and provides advice on \$600 billion of assets across the superannuation, charity, public sector, insurance and university sectors.

Frontier's purpose is to empower our clients to advance prosperity for their beneficiaries through knowledge sharing, customisation, technology solutions and an alignment and focus unconstrained by product or manager conflict.



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Junior Quantitative Analyst

Fisher joined Frontier in 2021 as a Junior Quantitative Analyst. Working within the investment strategy team, he conducts quantitative research to drive new investment analytics solutions. Prior to joining Frontier, Fisher worked as a finance researcher at RMIT University, where he conducted research on asset pricing and capital markets. Fisher has a Bachelor degree in Civil Engineering from Tongji University in China and a PhD in Finance from RMIT University. He has passed the CFA level three exam.

# Emerging markets risk dashboard

In this paper, we introduce a new dashboard we have developed for monitoring various aspects of 'risk' in emerging market countries.

The dashboard incorporates over twenty raw risk measures, as well as five aggregate indexes that have been constructed covering inflation, external stress, financial stability, government effectiveness and geopolitical risk.

The web application, which has been initially developed as an internal tool, can be customised so Frontier can produce analysis specific to certain countries and regions.

In this report, we use the emerging markets risk dashboard to analyse geopolitical risk in Russia and China. Specifically, we show there are take-aways from Russia in that sovereign risk can be accumulated for several years before it is reflected in the market.

# Key features of the emerging markets risk dashboard

The emerging markets risk dashboard covers a variety of countries, regions and risk measures

## Key features include:

- covers around 11 emerging market countries, from a range of regions
- more than 20 raw risk indicators
- five composite indexes that aggregate information from the raw risk indicators.

The full list of raw and composite risk indicators can be found in the appendix.

## To reflect the aggregate risk level of different geopolitical regions:

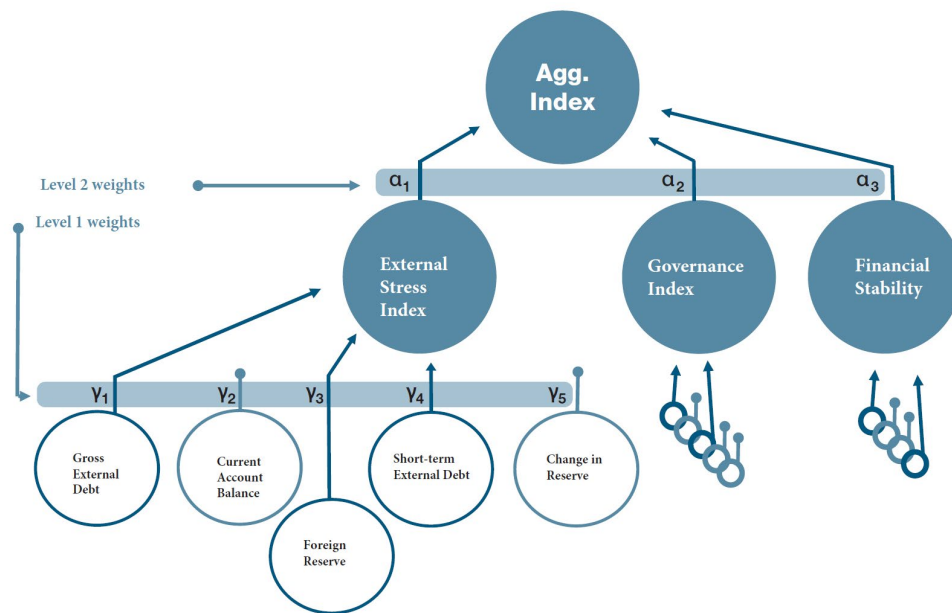
- we created regional and a global emerging markets risk index
- the index is the weighted average of each indicator values for each country
- the weight for each country is based on its weight in JPM EMBI (Bond) index.

## Other features/functions of the App in development include:

- one-button click to 'expand' the composite index to see the underlying components
- user-defined breakpoints to highlight extreme numbers
- the ability to customise the output by selecting countries, risk indicators and time horizons
- access to the raw data via the data table
- the ability to define and create new custom composite indexes.

# Construction of composite risk indices

To understand the drivers of emerging markets risk, we constructed several composite risk indexes



Source: IMF

- To create the composite index, the raw indicators are first standardised (converted to percentile numbers) in order to make the raw indicators comparable.
- We then take the weighted average of the standardised raw indicators to form a composite index.
- A higher level of the index is built by further aggregating the existing composite indexes.
- The list of the composite indexes and their subcomponents can be found in the appendix.

# Geopolitical risk

## Measures of geopolitical risk have been rising, driven recently by Russia and China

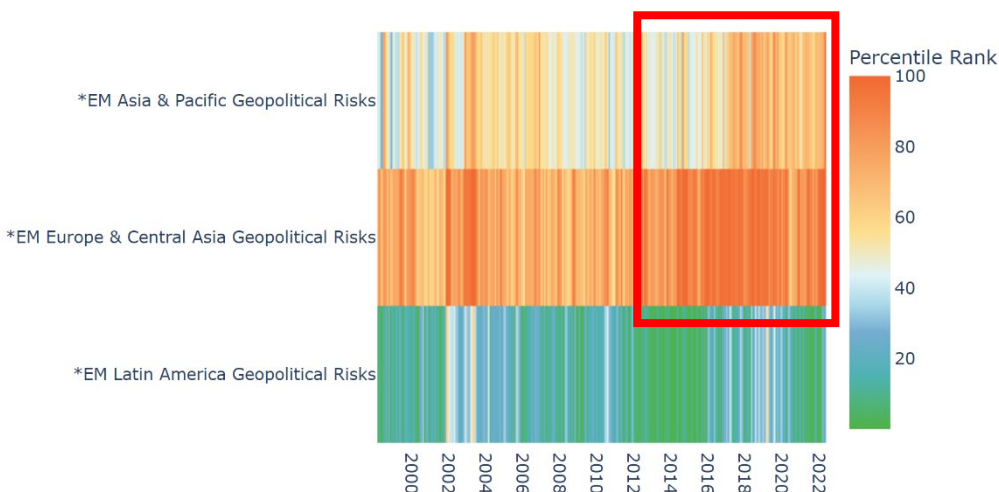
The country-specific geopolitical risk (GPR) index is sourced from <https://www.matteoiacoviello.com/gpr.htm>. It reflects automated text-search results of the electronic archives of major US newspapers.

Each index is expressed as a monthly share of newspaper articles. The resulting indices capture the US perspective on risks posed by, or involving, the country in question.

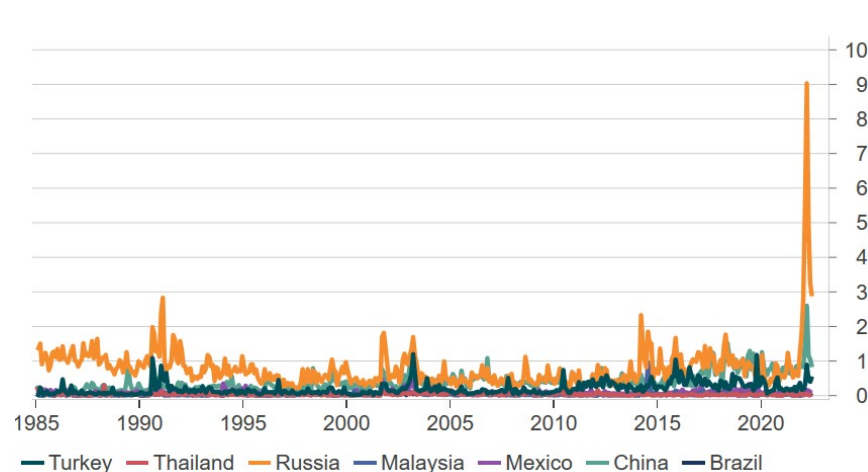
### Key observations:

- This measure suggests an increase in geopolitical risks in European emerging markets since around 2014 and in Asian emerging markets since 2017 (higher number = higher risk).
- The country-level chart shows the increase is mainly driven by Russia and China.

Emerging markets geopolitical risk across regions



Geopolitical risk in select emerging market countries



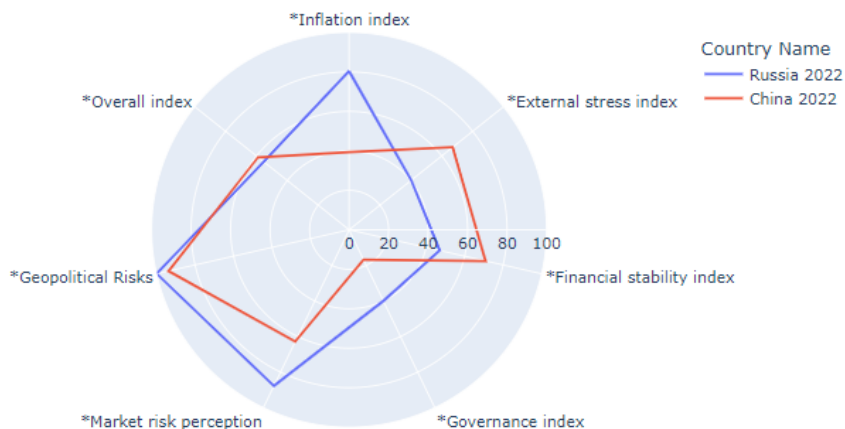
Source: Frontier, Refinitiv Datastream, Caldara, Dario and Matteo Iacoviello (2022)

\* Caldara, Dario and Matteo Iacoviello (2022), "Measuring Geopolitical Risk," American Economic Review, April, 112(4), pp.1194-1225.

# The current risk profiles of Russia and China

Russia and China currently show difference sources of risks

Risk measures across composite indexes

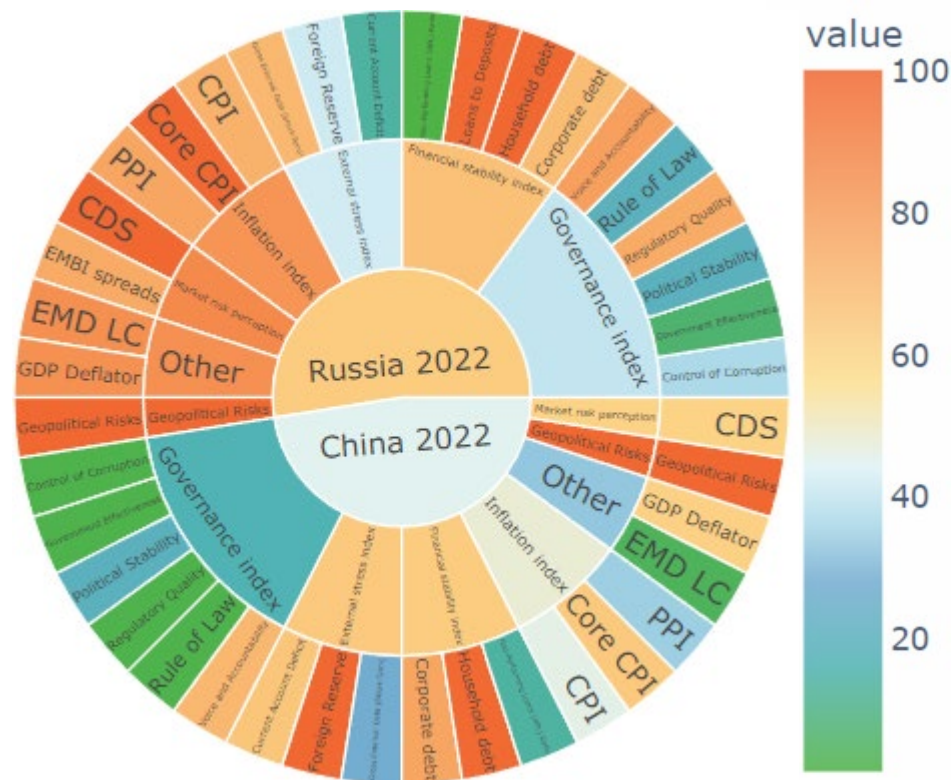


Source: Frontier, Refinitiv Datastream, Caldara, Dario and Matteo Iacoviello (2022)

## Key observations:

- Overall risk, when aggregated, is similar using these measures for both Russia and China.
- China has higher levels of risk when considering financial stability and external stress. Whereas, Russia has higher inflation and governance risk than China.
- The market perception of risk in Russia, as measured by credit default swaps (CDS), is currently very high following the invasion of Ukraine.

Detailed breakdown of risks in Russia and China

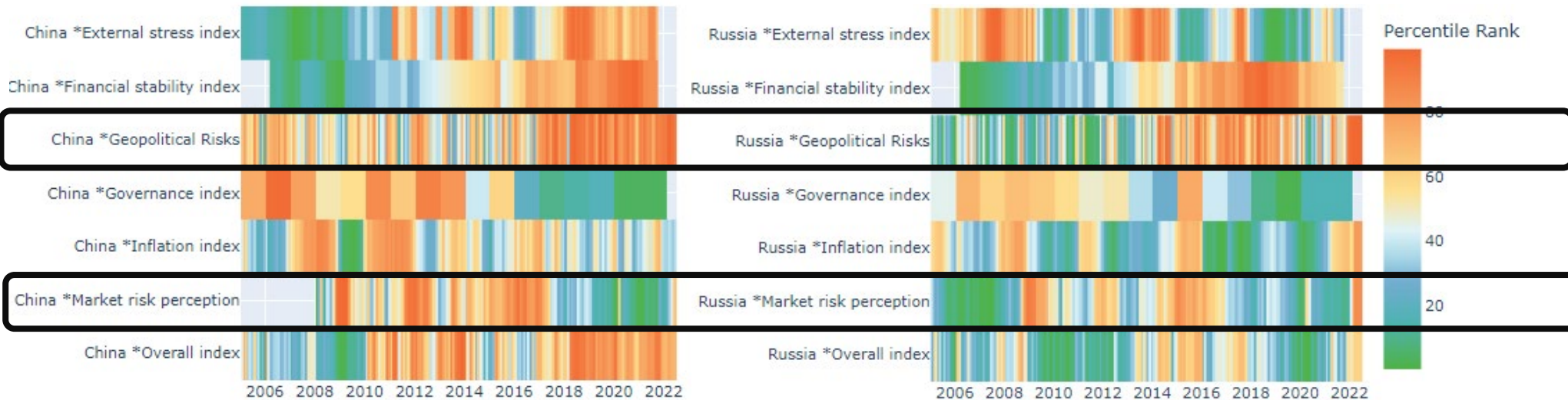


Source: Frontier, Refinitiv Datastream, Caldara, Dario and Matteo Iacoviello (2022)

# The evolution of risks in Russia and China

Geopolitical risks can build over time before effecting market perceptions of risk

Risk measures across composite indexes for China and Russia



Source: Frontier, Refinitiv Datastream, Caldara, Dario and Matteo Iacoviello (2022)

## Key observations:

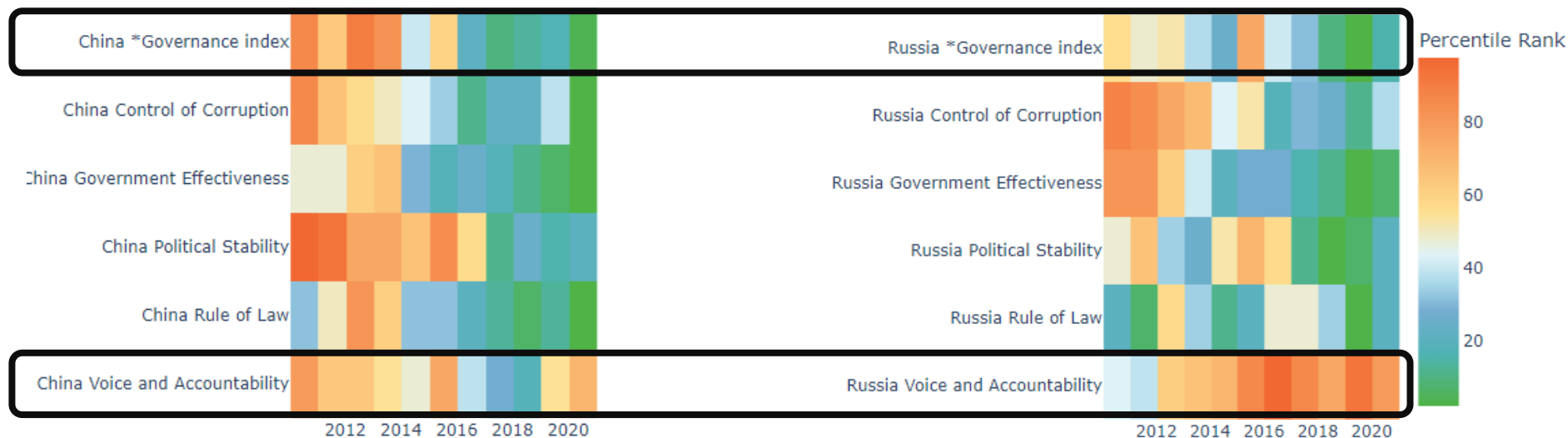
- Many indicators of risk are currently very elevated for both Russia and China compared to in previous periods.
- The example of Russia shows geopolitical risks can build over an extended period of time without necessarily immediately impacting market perception of risks.
- Surprisingly, measures of 'governance' have been improving in these two countries over the last decade. However, the interpretation of this is somewhat complex (see next page).



# Breakdown of governance risks in Russia and China

An improvement in 'governance' masks a deterioration in voice and accountability

Details for governance risk for China and Russia



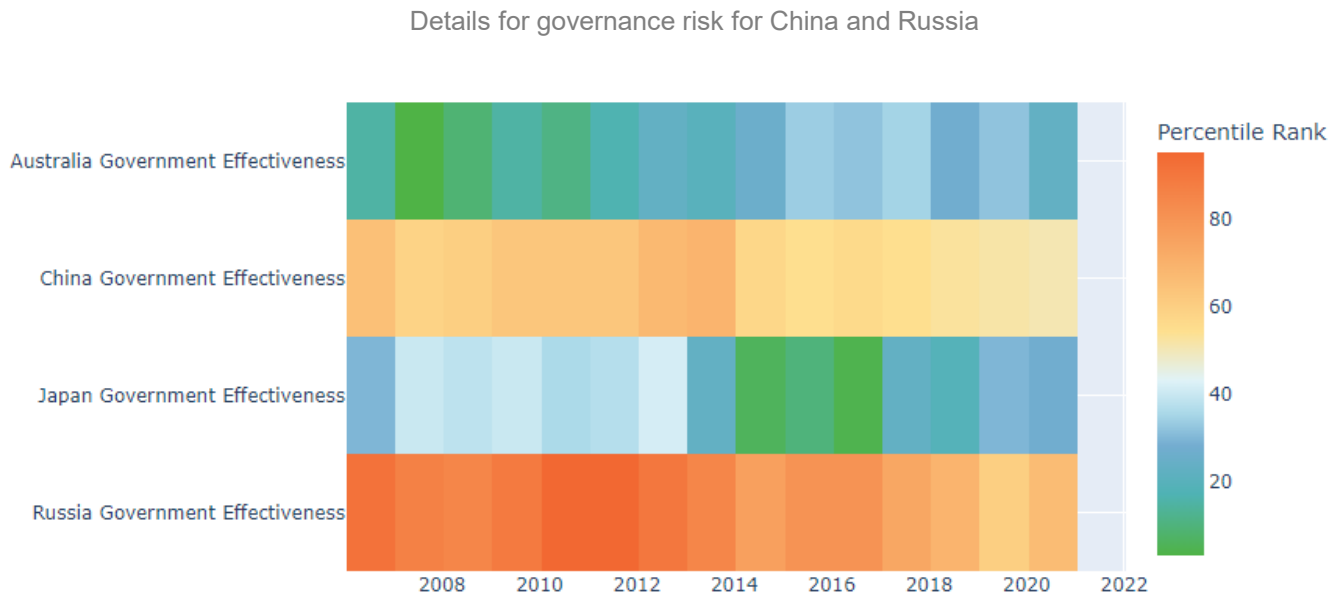
Source: Frontier, Refinitiv Datastream, Caldara, Dario and Matteo Iacoviello (2022)

## Key observations:

- As noted, surprisingly, the 'governance' score has been improving in Russia and China over the last decade.
- However, our emerging markets risk dashboard highlights why it is important to consider many different aspects of 'risk' when it comes to interpreting these results. For example, one of the inputs to governance, 'voice and accountability' has been deteriorating.

# Breakdown of governance risks in Russia and China (continued)

Some measures improving from a low base when compared to advanced economies



Source: Frontier, Refinitiv Datastream, Caldara, Dario and Matteo Iacoviello (2022)

## Key observations:

- The improvement in some measures of governance in Russia and China can further be explored in the context of developed market countries
- Specifically, it highlights the improvement in governance is moderate from a very low base and the score remains a long way below advanced economies.

# Conclusion



The recent invasion of Ukraine by Russia highlights that institutional investors must be cognisant of the evolution of risks in emerging market countries. This problem is particularly complex as ‘risks’ are multifaceted.

To aide investors navigate this issue we have recently developed a comprehensive emerging markets risk dashboard, which brings in a multitude of different indicators of risks for many countries and regions.

Using this new tool, we show that risks in China and Russia are, unsurprisingly, currently very high. However, the sources of risk in these countries could be manifesting in different ways.

We show for aspects like geopolitical risk that it is possible risks can build, or accumulate, over long periods of time – which is different to the way market measures of risks (like credit default swaps) evolve.

Further, it is possible some risk measures can at times give ‘false positive’ readings.

Overall, this underscores, that when considering risks in emerging market countries, examining a wide range of inputs (like we have done in our emerging markets risk dashboard) is preferable to obtain a comprehensive overall view on risk.



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# Appendix

# List of raw indicators (1)

Reference	Raw indicators	Composite index level 1	Composite index level 2 (highest level)
	CPI	Inflation index	Overall index
	Core CPI	Inflation index	Overall index
	PPI	Inflation index	Overall index
	Inflation expectation	Inflation index	Overall index
	GDP deflator	Inflation index	Overall index
Sudden Stops Model, IMF	External debt	External stress index	Overall index
Sudden Stops Model, IMF	Reserve	External stress index	Overall index
Sudden Stops Model, IMF	Current account	External stress index	Overall index
	Short-term external debt	External stress index	Overall index
growth decline vulnerability index (GDVI), IMF	Government debt	Financial stability	Overall index
Sudden Stops Model, IMF	Household debt	Financial stability	Overall index
	Corporate debt	Financial stability	Overall index
Financial Soundness Indicators, IMF	Non-performing loans	Financial stability	Overall index
Financial Soundness Indicators, IMF	Loan to deposits	Financial stability	Overall index

## List of raw indicators (2)

Reference	Raw indicators	Composite index level 1	Composite index level 2 (highest level)
J.P. Morgan Emerging Market Bond Index (EMBI)	EMBI spreads	Market perception index	
	CDS	Market perception index	
The Worldwide Governance Indicators (WGI), World Bank	Voice and Accountability (Democracy)	Government Effectiveness	Overall index
The Worldwide Governance Indicators (WGI), World Bank	Political Stability	Government Effectiveness	Overall index
The Worldwide Governance Indicators (WGI), World Bank	Government Effectiveness	Government Effectiveness	Overall index
The Worldwide Governance Indicators (WGI), World Bank	Regulatory Quality	Government Effectiveness	Overall index
The Worldwide Governance Indicators (WGI), World Bank	Rule of Law	Government Effectiveness	Overall index
The Worldwide Governance Indicators (WGI), World Bank	Control of Corruption	Government Effectiveness	Overall index
Geopolitical risk (GPR) index, Federal Reserve Board		Geopolitical Risk index	Overall index

# Governance index and its subcomponents

Governance index consists of the traditions and institutions by which authority in a country is exercised. This includes the process by which governments are selected, monitored and replaced; the capacity of the government to effectively formulate and implement sound policies; and the respect of citizens and the state for the institutions that govern economic and social interactions among them.

The Worldwide Governance Indicators report on six broad dimensions of governance for over 200 countries and territories over the period 1996-2020:

- [Voice and Accountability](#)
- [Political Stability and Absence of Violence/Terrorism](#)
- [Government Effectiveness](#)
- [Regulatory Quality](#)
- [Rule of Law](#)
- [Control of Corruption](#)

Follow the links above for a definition of each of the six dimensions of governance and a list of the individual indicators on which each aggregate indicator is based. The Worldwide Governance Indicators (WGI) are composite governance indicators based on over 30 underlying [data sources](#). These data sources are rescaled and combined to create the six aggregate indicators using a statistical [methodology](#) known as an unobserved components model. A key feature of the methodology is that it generates margins of error for each governance estimate. These margins of error need to be taken into account when making comparisons [across countries](#) and [over time](#).

An overview of the WGI methodology and use of the WGI data is provided below. For a full description of the WGI methodology, [click here](#).

The measures are useful for broad cross-country comparisons and for evaluating broad trends over time. However, they are often too blunt a tool to be useful in formulating specific governance reforms in particular country contexts. Such reforms, and evaluation of their progress, need to be informed by much more detailed and country-specific diagnostic data that can identify the relevant constraints on governance in particular country circumstances.

The WGI are complementary to a large number of other efforts to construct more detailed measures of governance, often just for a single country. Readers are also encouraged to consult the disaggregated individual indicators underlying the composite WGI scores to gain more insights into the particular areas of strengths and weaknesses identified by the data.

Via <http://info.worldbank.org/governance/wgi/Home/Documents>



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