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PARTISANSHIP IN THE US CONGRESS SINCE 1789

Has the US reached peak political fragmentation?

Executive Summary

In this paper we quantitatively investigate the degree of political partisanship in the US legislative chambers. Not only is political fragmentation in the US agreed to be high, but there is broad consensus that excessive levels of political fragmentation can have negative knock-on effects for the economy and much besides.

We leverage a novel dataset of Congressional representatives' ideological scores and propose proxies to quantify intra-party partisanship in the US through its Congressional history. We find, irrespective of proxy, that the US is at or near peak polarisation in both chambers of Congress.

We also find heightened inter-party fragmentation and note that the recent, post-WW II increase in partisanship is at least partly explained by conservatives becoming more conservative, and not symmetrically matched by liberals.

We finally determine what, if any, relationship exists between political partisanship and financial markets using a look-back period that extends to the founding of the Republic. We generally find no relationship between partisanship proxies and returns, all else being equal, but observe a relationship with the volatility of US bonds (equities) which tends to be higher (lower) during periods of elevated levels of partisanship, albeit with unconvincing statistical significance.

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Introduction

Partisanship or polarisation refers to a state in which the “opinions, feelings, behaviours, or interests of a group or society become more bimodal and the two modes move further apart.”¹ In the context of the US political landscape, concluding that its politics have become more polarised is a merited conclusion based on data from polling campaigns; prevalence of tight election races; as well as sentiment in mainstream and social media.

It is furthermore reasonable to argue that a greater focus on political (and geopolitical) risk for investors stems in part from its current, and notoriously polarised nature.

There are many rich data sources one can leverage to extract non-traditional information as it relates to politics. News, and by extension, sentiment amongst these. There are also various politics-specific data sources to be explored.

In this paper we will look at one such source.

Using this dataset, we first propose various alternatives to quantify *intra-party* partisanship and track these over the entire Congressional history of the US. We additionally present statistical features of each and highlight certain stylised facts of the political ideological landscape of the US and its politicians. We then narrow in on the period of Republican-Democratic party dominance from the 1860s onwards and explore *inter-party* dynamics. We finally investigate if any relationship exists between partisan politics and financial markets.

First, is political partisanship material?

Political science serves up a vast literature on the intersection of politics and economics, with universal agreement about the joint determination of political and macroeconomic outcomes. A subset of this literature explores political fragmentation and its effects on the economy, among other things, with most studies concluding that increased fragmentation typically acts as a negative economic drag.

This is borne from the key symptom of increased partisanship: a lack of ideological consensus. This makes for less effective and progressive governance, (too much) political bargaining and strained compromise. Some studies, for example, have shown that a more polarised Congress enacts less pieces of significant legislation.²

Other studies have shown that “weak governments, as measured by their degree of fractionalization” are typically associated with more regulation of product markets as well as lower levels of privatisation – hampering free enterprise.³ Some have considered how high levels of partisanship affect fiscal policy, finding that legislative fractionalisation is associated with increased budget deficits.⁴ Some focus on current, prescient challenges, and find that political partisanship – especially vis-à-vis environmental policy – can “have serious implications for public health”.⁵

There are also implications beyond domestic policy, one study showing that “the highly contentious forces of domestic politics in some policy areas, such as international economics, have incentivized the president to rely more heavily on other instruments, such as military deployments and defence procurement.”⁶ This could have serious spill over effects globally given the cliché, and especially in the case of the US – still the pre-eminent global power – that politics does not stop “at the water’s edge.”

Then there is the effect a highly polarised Congress can have on political appointments. A variety of key positions in the US, e.g., the Federal Reserve Chair, requires confirmation in the Senate. A highly fractionalised chamber can cause

¹ Lee, C. A. 2022. Polarization, casualty sensitivity, and military operations: evidence from a survey experiment. *International Politics*

² Pildes, Richard H., Political Fragmentation in Democracies of the West (October 2, 2021). NYU School of Law, Public Law Research Paper No. 21-50. <http://dx.doi.org/10.2139/ssrn.3935012>

³ Galasso, V. (2014). The role of political partisanship during economic crises. *Public Choice*, 158(1/2), 143–165. <http://www.jstor.org/stable/24507731>

⁴ Elgie, R., McMenamin, I. (2008). Political fragmentation, fiscal deficits and political institutionalisation. *Public Choice* 136, 255–267 <https://doi.org/10.1007/s11127-008-9294-x>

⁵ DeNicola, E., & Subramaniam, P. R. (2014). Environmental attitudes and political partisanship. *Public Health*, 128(5), 404–409. <https://doi.org/10.1016/j.puhe.2014.03.005>

⁶ Milner, H.V., and D. Tingley. 2015. *Sailing the water's edge: the domestic politics of American foreign policy*. Princeton University Press: Princeton

nominations to be stymied by the opposition, with positions remaining unfilled or a nomination process stalled, with preferred nominees even being discarded altogether.

How to quantify partisanship

Political science has ventured into many directions to quantify the political persuasions of representatives as well as the general public. It is a rich field that leverages, most often, survey data. Examples include the wide variety of opinion pollsters as well as dedicated non-profit think tanks that crunch data from all manner of inputs such as e.g., the Pew Research Centre.

There are besides, within the realm of the burgeoning 'alternative data' market, various niche datasets that are leveraged within the field of quantitative and analytical political science and gaining more interest from asset managers.

For this piece we leveraged one such dataset, 'Voteview,' hosted by the Political Science Department at UCLA.⁷ We chose this dataset for its complete historical look-back period to the founding of the Republic, as well as its computation – using Congressional voting records – of individual ideological scores of both House members and Senators. Along with these scores, the dataset also contains detailed metadata such as biographical information, party descriptions and affiliations, etc. This is immensely useful, since one can construct a holistic political polarisation picture over the entire Congressional history.

While a full methodological explanation of deriving these ideological scores is beyond the scope of this paper, interested readers can review the Voteview website for a detailed explanation and references to relevant resources. For the purposes of this paper, it suffices to know that ideological scores are computed using a technique called 'NOMINATE,' or Nominal Three-Step Estimation (and variations thereof, principally DW-NOMINATE – or 'Dynamically Weighted NOMINATE'). The technique, developed by political scientists Keith T. Poole and Howard Rosenthal, analyse Congressional roll call voting records to place representatives on a two-dimensional ideological map (economic and social). This produces a score, assigned to each member of the House and Senate on a conservative-liberal plane for each dimension bounded between 1 and -1, where the most conservative (liberal) member or senator is assigned 1 (-1), with a score of 0 considered centrist.

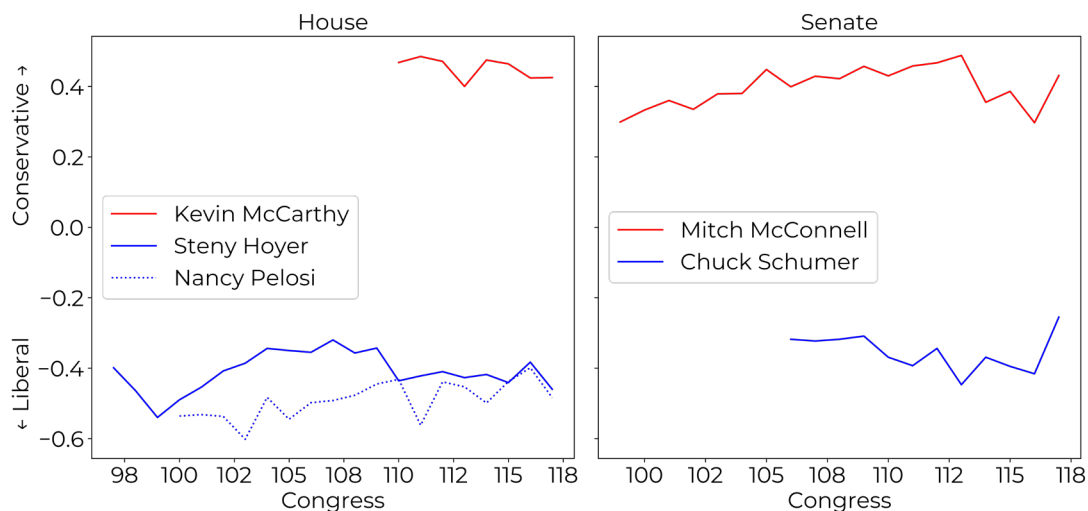
In this paper we focus on the economic or 'socio-economic' ideological dimension of representatives, as this is more likely to impact policy making and political confirmations that have a bearing on the economy and financial markets. We moreover specifically use 'Nokken-Poole' ideological scores (named after Timothy Nokken and Keith Poole) who assume adaptive as opposed to fixed legislator ideology. Simply put, these scores are not static for representatives throughout their tenure but are updated from Congress-to-Congress based on their ongoing voting behaviour.⁸

For illustrative purposes, we plot the Nokken-Poole economic dimension ideological scores of the ranking members in both the House and the Senate for the most recent, 117th Congress, in Fig 1.⁹

⁷ Lewis, Jeffrey B., Keith Poole, Howard Rosenthal, Adam Boche, Aaron Rudkin, and Luke Sonnet (2021). Voteview: Congressional Roll-Call Votes Database. <https://voteview.com/>

⁸ Nokken, Timothy P. and Keith T. Poole. 2004. "Congressional Party Defection in American History." *Legislative Studies Quarterly*, 29:545-568

⁹ Data for the 118th Congress that commenced in January 2023 was not available at time of writing



Source: Voteview, CFM

Fig 1. The ideological scores of ranking members in both the House and Senate over the length of each of their respective tenures. The representatives are coloured according to their party affiliations, with the Democratic (blue) and Republican (red) representatives leaning more liberal and conservative, respectively.

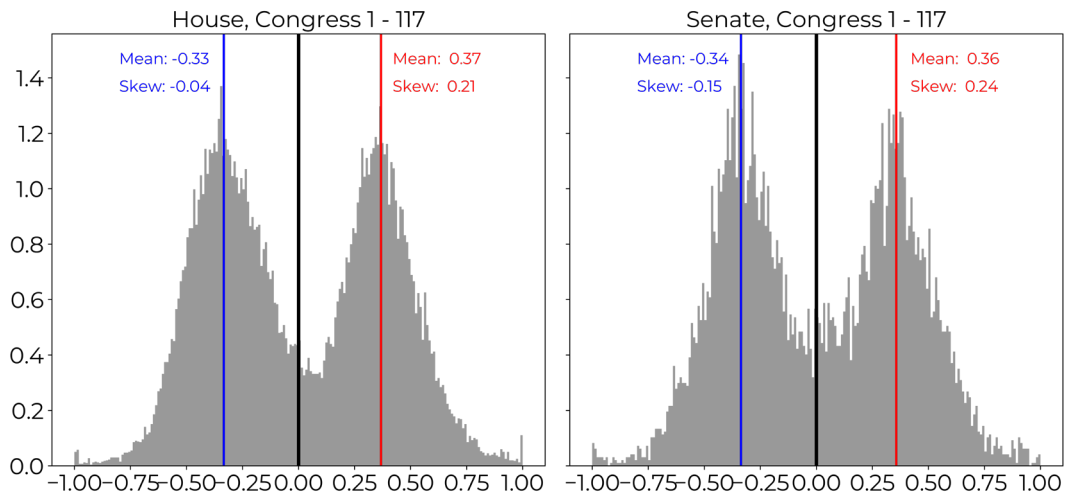
These ideological scores are available for every House member and Senator that have ever served since the founding of the Republic and provide a rich playground for constructing a global picture of the US political landscape.

The challenge, however, is to home in on what could be reliably considered a robust, holistic partisanship proxy that can be tracked through time. Using the ideological scores of all individual representatives in both the House and Senate since the 1st US Congress which debuted on March 4, 1789, we considered multiple alternatives to capture partisanship.

The standard deviation of ideological scores for instance across the whole of Congress or alternatively conditioned to liberal or conservative association, measures the spread of scores around a mean. Alternatively, measuring the mean (or median) score conditioned and unconditioned to political party gives further insight. We also considered percentiles of the distributions, measuring, and comparing means of those representatives falling in the n^{th} percentile.

However, ultimately, we settled upon a measure of partisanship that we believe yields the most appropriate proxy, that we have named the '**ideological overlap**' measure. The ideology scores of both chambers features a 'bimodal distribution,' two distinct peaks for each of the groups. This bimodal distribution feature is present both when one takes the distribution over the entire history of the US, as well as a snapshot of any specific Congressional period. In Fig 2 we plot the distribution of the ideological scores of *all* representatives over the entire Congressional history,¹⁰ House on the left and the Senate on the right.

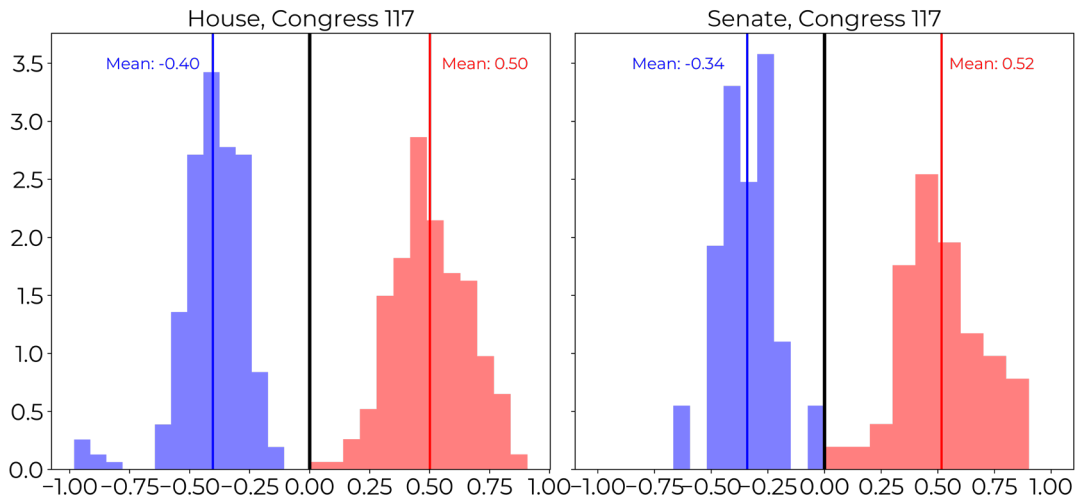
¹⁰ As of the 117th Congress, a total of 40,155 and 9,918 House members and Senators have served in the US Congress.



Source: Voteview, CFM

Fig 2. There is a distinct bimodal distribution of ideological scores in both chambers, with two distinct peaks for each of the ‘liberal’ and ‘conservative’ blocs which lies either side of the centre (0). Over the full Congressional history, there has been – for the most part and aside from the unique ideological bias of each – a non-insignificant overlap around the centre, 0. The distribution also features, over the full history, an approximately equal distance between 0 and the means of the liberals and conservatives in both chambers. Moreover, the means of the respective sets in both chambers are all but the same distance from the centre, with the conservative mean slightly further from the centre compared to the liberal mean in both chambers. We also highlight the skew of the distribution for each of the blocs, i.e., the asymmetry of the distribution. In the House, over the entire history, the conservative bloc featured a slight positive skew (the tail of the distribution is fatter on the right side of the distribution – representatives are more regularly found to be more conservative), while liberals not having any distinctive skew. In the Senate, this feature remains, while the liberals here have a slight negative skew (the tail of the distribution is fatter on the left side of the distribution – representatives more regularly found to be more liberal).

Now, however, when the ideological distribution is limited only to the current (117th) Congress for both the House and the Senate – in Fig 3 below – the ideological overlap around the centre is non-existent.



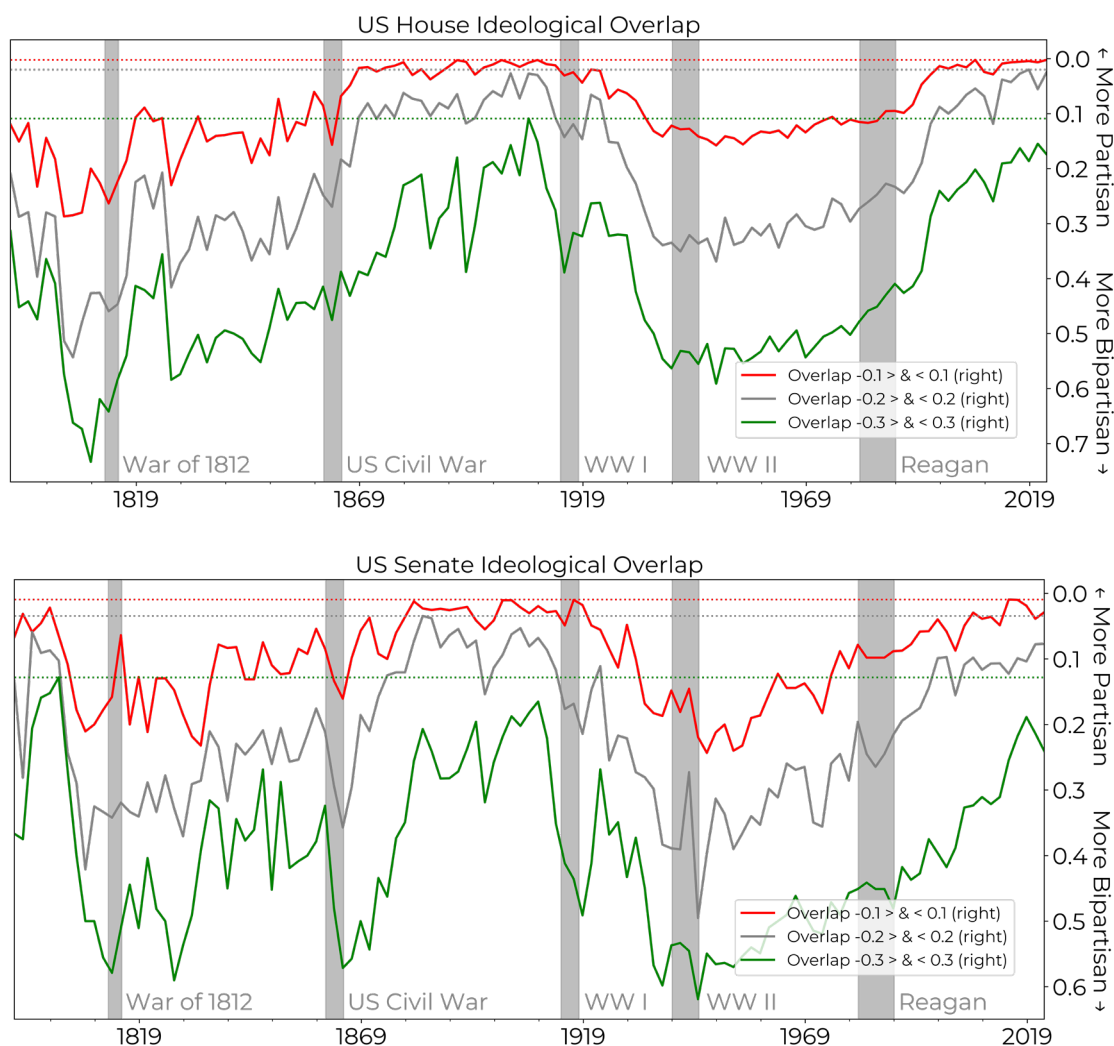
Source: Voteview, CFM

Fig 3. The ideological distribution limited to the 117th Congress. The picture looks starkly different. Here, the members are coloured to their respective party affiliations, with a clear divide between the two sides, and no overlap between the two parties to be found. A few additional observations to highlight: If one compares the mean of the representative on each side of the political spectrum in this Congress, the mean of the left (or liberal) leaning representatives in both the House and the Senate are comparable to their long-term mean (see again Fig 2 above). However, the right (or conservative) leaning members in both chambers have shifted more outward, thus currently being more conservative than compared to their long-term mean.

There is clearly an elevated level of partisanship in the current Congress compared to the overall history of the US legislative chambers, with practically no overlap in the centre. However, this does not present any information as to the dynamics over time. In order to find an ideological overlap as a function of time, we proceed as follows:

We set various ideological score thresholds, -0.1 to 0.1; -0.2 to 0.2 and up to -0.3 to 0.3 (the final threshold which approaches the long term mean of the overall distribution in both chambers). We count all those members which, for each Congress, fall within each of the overlap areas, taken as a ratio to the overall members of each chamber.¹¹

We plot this ideological overlap ratio for both the House and Senate in Fig 4.



Source: Voteview, CFM

Fig 4. Our ideological overlap ratio, of all three thresholds, for both the House (top plot), and Senate (bottom plot). A first observation is that the ideological overlap of the House and Senate broadly follows the same pattern, despite the overlap measure for Senators being more volatile. Using this partisanship proxy, the overlap in both chambers, and for each threshold, has reached or hovers close to historical low levels of ideological overlap, especially in the House.

Irrespective of the partisan proxy used, the US, today, in the 117th Congress, is clearly much more polarised than the average through the history of Congress.

¹¹ It is crucial to calculate the ratio since the total number of representatives in each Congress is not static.

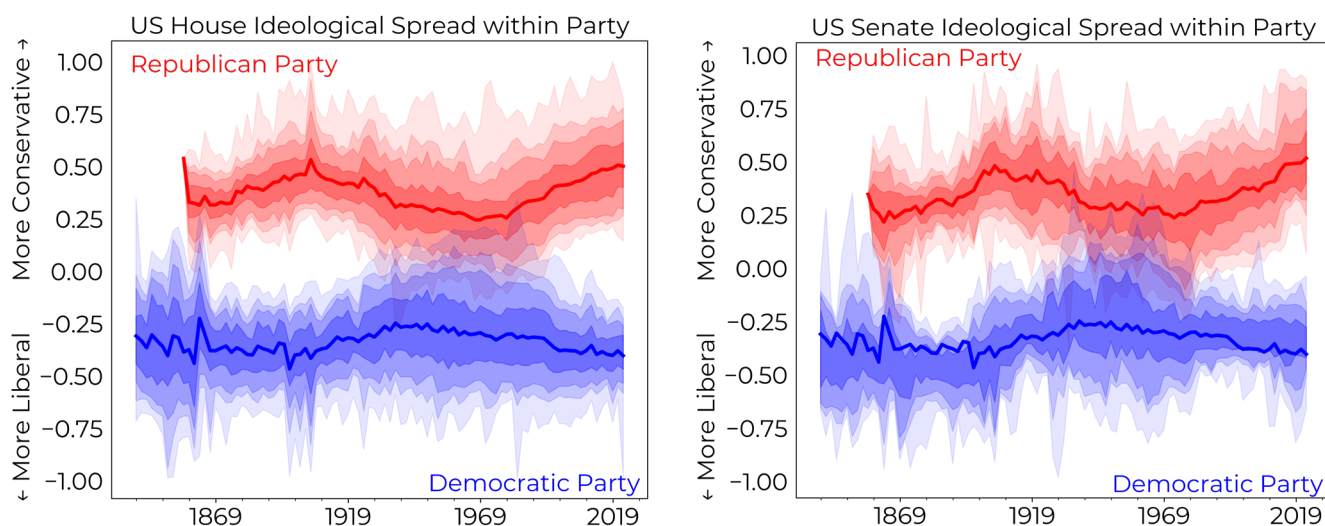
And what about partisanship within parties?

All the above pertains to finding partisanship proxies between the distinctive sides of the economic conservative-liberal spectrum agnostic to individual political party affiliations. US political history commonly featured periods of two-party dominance, but also, most notably during the founding years and up to the US civil war, a more splintered political landscape. This makes it appropriate to ignore party affiliation when estimating a global partisanship proxy.

This can be considered an *inter-party* ideological spread.

However, evaluating the *intra-party* ideological spread is equally significant, as this relays information as to the political fragmentation *within* each party.

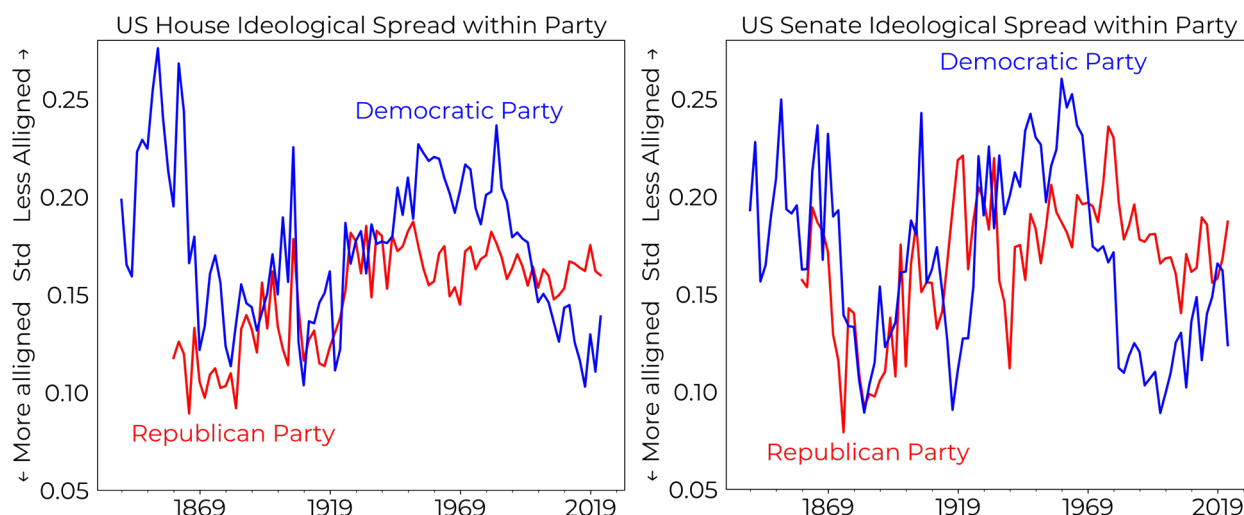
In Fig 5 below, we plot the mean ideological score of all representatives that are affiliated to the Republican and Democratic parties in both chambers, wrapped around with the top and bottom 75th, 90th, 95th, and 99th percentiles.



Source: Voteview, CFM

Fig 5. The inter-party spread of the Republican and Democratic parties respectively for both the House (left) and Senate (right). Notably, the Democratic party, in the House, is more consistent in its ideological persuasion on average over time, with the average ideology of the Republican party showing a larger magnitude of change – the volatility (or standard deviation) of the mean changes through time of the Republican and Democratic parties are 4.8% and 7.6% respectively and confirms this point. However, in the Senate, the volatility of changes is more evenly balanced: 8.2% and 7.6% for the Democrats and Republicans respectively. The mean spread proxy – one of the measures discussed above, picked up after WW II and accelerated from the 1970s onward. Now, looking at the individual means of each party, it seems the increase in the spread in both chambers has mostly been driven by the Republicans, i.e., the Republicans having become more conservative rather than the Democrats having become more liberal.

Another observation from Fig 5 is the magnitude of the ideological dispersion within each party, i.e., how far the most liberal and conservative representatives within each party are ideologically apart. Focusing on the most recent history, there is a greater spread between the extremes, especially within the Republican party in the House, while seemingly the extremes are more equidistant in the Senate between the two parties. We can approximate this spread by measuring the standard deviation of ideological scores, limited to the two political parties. We plot this in Fig 6.



Source: Voteview, CFM

Fig 6. As eyeballed above, and confirmed here, the Republican party, in recent history, is more divided in the House compared to the Democrats. In the House, the Democratic party featured high levels of internal ideological misalignment between 1850 and 1869 – the period before the US Civil War when a rift appeared between the ‘Northern’ and ‘Southern’ Democrats. In the Senate, intra-party fragmentation is again, of late, higher within the Republican party.

Measuring intra-party fragmentation provides insights regarding the underlying drivers of the global partisanship proxy. But especially so after the emergence of the two-party system that dominates today and emerged around the mid-1850s (~35th Congress) – this of course being the Republican and Democratic parties, bar the minor on/off independent contingents throughout.

This measure is moreover crucial since significant dispersion of political ideology within a party not only encumbers the creation and implementation of unified party agendas – further hampering effective governance – but also creates (or increases) unconstrained individual priorities – politicians becoming independent free agents unconstrained by the need to follow party positions and leaders. Weak party organisation is also a proximate reason for the difficulty of conducting intra-party primaries, nominations, and elections, which may exacerbate populism – a salient feature of the current political party landscape.

Partisanship and financial markets

Estimating ideological proxies serves as a springboard to combine with other datasets. It can be combined with say financial market data to analyse the relationship (if any) between political fragmentation and the historical performance of financial markets during each Congress.

To examine this relationship, we leverage Global Financial Data (GFD) to maximally extend our look-back period. GFD has monthly US equity and bond proxies that date back to March 1792 and July 1786 respectively.¹² We therefore have a near complete overlap with US Congressional data for US equities and a total overlap for US bonds.

We determine if there is any relationship between financial markets and partisanship by calculating the average annualised returns and volatility of both bond and equity indices, and then measuring the correlations of these with several of our partisan proxies within each congress.

We generally find a negative, yet statistically insignificant, correlation between our partisan proxies and returns of both bonds and equities. We also found no meaningful difference in returns when conditioned on which party controls either the House or the Senate.

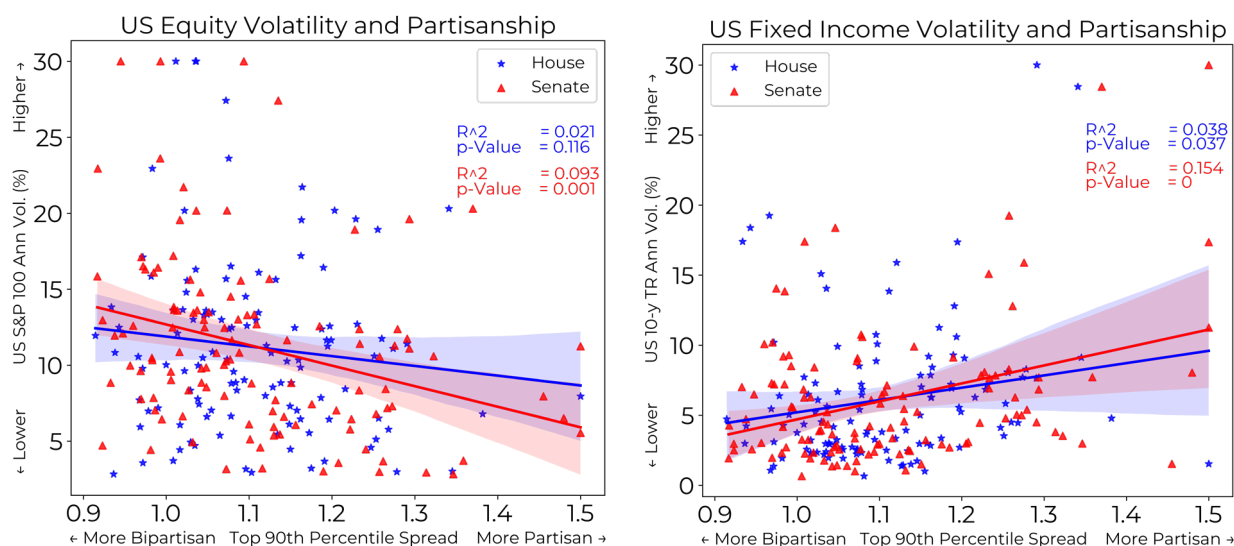
¹² We used the GFD Indices USA Top 100 Total Return Index (CFUS100MRM) and GFD Indices USA 10-year Government Bond Total Return Index (TRUSG10m) as proxy for equities and bonds respectively.

For volatility, however, we found that the annualised volatility of US bonds and the partisanship proxy where we compute the spread between the top 90th percentile were statistically related, i.e., the spread between the conservative and liberal cohorts whose ideological scores fall in the 90th percentile away from the centrist position – those representatives with highly conservative or liberal political persuasions. The relationship is positive: *higher* levels of partisanship is typically accompanied by *higher* levels of volatility. There is, as for fixed income returns, no meaningful difference in the average volatility when conditioned on which party controls the House or the Senate.

Keeping the focus on volatility, but for equity markets, we find, again, that the partisanship proxy that captures the spread between extremes (the spread between the top 90th percentile) have the highest correlation with equity volatility. Curiously, however, and in contrast to bonds, the correlation is negative – *higher* levels of partisanship are accompanied by *lower* levels of volatility. We do observe a slightly higher volatility for equities, on average, when Democrats control either the House or the Senate.

We see no such results for our ideological overlap measure, described above, which is less sensitive to the extremes of the ideological scores. The regression in this case is statistically consistent with the null hypothesis of no relationship.

We plot the 90th percentile results in Fig 7 below.



Source: Voteview, CFM

Fig 7. Regression plots of the spread between the top and bottom 90th percentile of ideological scores and bond and equity volatility. There is a negative relationship between partisanship and equity volatility (albeit with a relatively low R^2 for both the House and Senate), and only being statistically significant for the relationship between volatility and partisanship in the Senate – a p-value of 0.001¹³. The relationship between bond volatility and partisanship is positive, but with a low R^2 (a statistical red flag) and that, again, features a higher level of statistical significance in the case of the Senate

This result, for equity volatility, rhymes with at least a handful of studies.¹⁴ The working theory of this feature is that higher levels of partisanship lead to more political gridlock which in turn produces less legislation (or at least watered-down versions thereof); and therefore, less dramatic policy changes; lower regulatory and policy uncertainty; and less volatility in equity markets. For bonds, however, the transmission mechanism is less clear.

Whilst we believe our ideological overlap measure seems like a more reasonable estimation of partisanship, financial markets at least seem to be more sensitive – all else being equal – to the spread of extreme ideological positions. This

¹³ The level of statistical significance is often expressed as a p-value, which lies between 0 and 1, and describes how likely the data would have occurred by random. A p-value less than 0.05 (typically ≤ 0.05) is statistically significant. It indicates strong evidence against the null hypothesis, as there is less than a 5% probability the null hypothesis is correct (and the results are random).

¹⁴ See for example Rangan Gupta, Christian Pierdzioch, Refk Selmi, Mark E. Wohar, 2018. Does partisan conflict predict a reduction in US stock market (realized) volatility? Evidence from a quantile-on-quantile regression model. The North American Journal of Economics and Finance, Volume 43, 87-96

seems reasonable, since it is likely that extreme views (and more extreme policy proposals), are likely to capture the most media interest and coverage to which investors are prone to respond.

Of course, an ideological overlap measure – especially at a lower threshold – might hide the flaw (quantitatively if not within political science) of those closest to the centre (which the measure captures), being less inclined to always vote aligned with their bloc and potentially swinging – on any piece of significant legislation – towards the other bloc. All the while, those at the other extreme of their respective bloc (closer to either 1 or -1), are, to first approximation, unlikely not to vote along with their bloc. And, if they are influential policy makers, might drag the more moderates closer to them – hence creating higher levels of gridlock.

Conclusion

In this study we leveraged a rich, politics-related dataset and used computed-from-voting-records ideological scores to propose a set of partisanship proxies for the US legislative chambers. We found that, irrespective of proxy, US politics are at-or-near record levels of political fragmentation. We also found, looking at *inter-party* ideological persuasion, that there is a significant level of dispersion within both the Republican and Democratic parties, albeit slightly higher for the Republicans. We showed that the recent increase in the spread between the mean ideological persuasions of each party has increased on account of conservatives having become more conservative, more so than liberals having become more liberal. We finally considered if any relationship exists between financial markets and fragmented politics – finding generally low levels of correlation except between volatility and partisan proxies capturing the spread between extreme sides of the political conservative-liberal spectrum.

Assessing political partisanship is important for various reasons.

Higher levels of political fragmentation, inter-and intra-party, is understood – with a healthy amount of academic literature confirming – to propagate various negative drags, not only on economic growth, but on policy making in general. The key reason is that less ideological overlap (more fragmentation) hampers the legislative process since the respective sides are unable to find common ground on policy. This makes for more disagreement when debating policy questions, more political bargaining, and unaligned voting – simply creating more legislative grid lock.

Moreover, government interventionism, for long more a mainstay of heavily centralised states – e.g., China – is experiencing a renaissance in the West. Trade wars, increased state support for certain favoured industries, and more cumbersome regulation are just a few of the levers governments pull on more eagerly. This a result of, and in some cases exacerbated by, amongst others, heightened populism, rising geopolitical risk, and economic uncertainty.

It is therefore unsurprising, and arguably necessary, that political (and geopolitical) risk has become an ever more important metric that demands investor attention - with more data and tools available today than previously, allowing to assess and monitor the evolving relationship between politics and financial assets.

Political partisanship is just one of these inputs.

In short, given the current zeitgeist, it seems likely that life on Main Street will become an increasingly important driver of decision making on Wall Street.

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