

## **Deindustrialisation and Election Outcomes – Evidence from Japan**

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### **Abstract**

I investigate the impact of deindustrialisation on election outcomes in Japan over 1983-2012 to expand the economic voting literature eastwards. To causally identify the impact of deindustrialisation, I use a Bartik instrument to compute a measure of the exogenous change in local manufacturing employment. At the prefectural level, greater deindustrialisation leads to (1) an increase in support for nationalist and isolationist parties (2) a decrease in support for the LDP, and (3) no shift to the right in the electorate. My individual-level analysis of vote choice suggests that such a nationalist reaction may be generationally split, being most pronounced in the youth and the elderly.

## **Introduction**

There has been a long-established relationship in the political economy literature between an area's economic performance, and the electoral performance of incumbent parties, known as 'economic voting' (Duch and Stevenson 2008; Lewis-Beck and Paldam 2000). However, the underlying mechanisms of how economic voting shapes the electoral landscape is more ambiguous (Ansolabehere, Meredith, and Snowberg 2014), with an evident contention between survey-based literature that emphasises sociotropic voting (Kiewiet and Lewis-Beck 2011), and macro-based literature that emphasises pocketbook voting (Erikson, MacKuen, and Stimson, 2002). Having a clearer picture of the forces governing voting behaviour has become of heightened relevance since the election of Trump and the success of the Brexit referendum in 2016 and has duly been reflected in the focus of recent research. However, analysis of such political phenomena has created discordance in the field of political science. The strong cross-sectional relationship between Trump support and those without a college degree (Tyson & Maniam, 2016; Morgan & Lee, 2018) popularised the 'left-behind' thesis. A theory rooted in economic voting, it has been criticised by academics (Mutz, 2018; Margalit, 2019) who alternatively emphasise the importance of status and culture in explaining the recent 'populist backlash'. My research aims to use the context of Japan as a vehicle within which to explore these competing explanations for recent voting behaviour - its ethnic homogeneity, history, and culture acting as point of difference from Western democracies, where the current analysis has been centred.

Although the causal effect of deindustrialisation on voting behaviour has only been investigated recently (Baccini & Weymouth, 2021), deindustrialisation itself is a structural economic process that has accompanied advanced economies' growth patterns for more than

half a century, their share of manufacturing employment declining significantly over this period (Rowthorn & Ramaswamy, 1997). This sectoral transition became particularly evident since the end of the second wave of globalisation in the early 1970s (Palley 2018), coinciding with a movement away from embedded liberalism towards neoliberalism (Ruggie, 1982). Ruggie (1997) warned that such an international political economic shift was eroding the protection of workers, the compatible models of both Bhagwati (1995) and Rodrik (1996) framing globalisation as a mechanism that can increase wage instability and diminish the structural bargaining power of labour. This establishes a plausible sequence in which globalisation can contribute to the economic insecurity of deindustrialisation: falling relative wages (Heery & Abbott, 2000), a rising wage distribution (Bell & Pitt, 1998), and declining trade unionism (Kollmeyer, 2018). Under economic voting, such geographically concentrated economic distress could yield important electoral implications in Japan, a country, like its Western counterparts, that has undergone extensive deindustrialisation alongside trade union derecognition (Fukao & Perugini, 2018; Tahara & Uemura, 2013), and an ideological shift to the right (Winkler, 2017).

### **The Political Economy of Deindustrialisation**

My empirical focus, like that of Baccini & Weymouth (2021), is on the electoral effects of changes to manufacturing employment because of deindustrialisation, to which globalisation (Acemoglu et al., 2016) and automation (Frey et al. 2018) have contributed. Baccini & Weymouth (2021) investigate the causal effect of manufacturing job losses on electoral outcomes in the three US presidential elections from 2008-16. They find that manufacturing job losses have a statistically significant negative effect on Democratic vote share in the 2016 election. This result is robust to several controls including the potential confounder of localised Chinese import competition. This is a commonly used proxy for globalisation that

has been shown to affect regional electoral outcomes in both Western Europe and the US (Colantone & Stanig, 2018b; Autor et al., 2017; Dippel et al., 2017). Autor et al. (2013) estimate that trade exposure to Chinese import competition explains 44% of the decline in manufacturing employment in the US from 1990-2007, and in later research (Autor et al., 2017) find a ‘robust positive effect of rising import competition on Republican vote share gains’ in the 2016 US presidential election. Such empirical evidence suggests that the inclusion of Chinese import competition in the model of Baccini & Weymouth (2021) is crucial in avoiding omitted variable bias. The statistical significance of manufacturing job losses under this model specification validates my specific examination of the ‘electoral effects of manufacturing job losses regardless of their cause.’

However, the external validity of findings on the determinants of voting patterns can be limited by the differing context within which they are framed. This can be illustrated by a comparison of the research of Colantone & Stanig (2018b) and Autor et al. (2017). Both papers implemented a similar empirical strategy (‘China trade shock’ of Autor et al., 2013) but in different geographic areas. Colantone & Stanig (2018b) found that in Western Europe a one standard deviation increase in the import shock leads to a general rightward shift in the electorate. This contrasts with the results of Autor et al. (2016) from the US, where an import shock resulted in increased ideological polarisation among affected regions. Colantone & Stanig (2018b) attribute this to the lack of successful protectionist left policy bundles in Western Europe, but it demonstrates a wider point: political heterogeneity across countries, and the alternative voting channels it creates, can lead to differing electoral outcomes in response to a similar economic and empirical context. This is exemplified by the results of Baccini & Weymouth (2021), who find that the ‘anti-incumbent effects on manufacturing layoffs are stronger and more robust when Democrats are the incumbents’, suggestive of an

ideological asymmetry in economic voting also seen in the work of Hernandez & Kriesi (2015) and Dippel et al. (2017). The fact that these anti-incumbent effects were even more pronounced in the election of Trump in 2016 may allude to the temporal dimensions of electoral changes in response to deindustrialisation, and the role of specific political agents or movements in tapping into voters' economic discontent. Hereon I aim to provide insight by navigating my research towards Japan, analysing changing voting patterns across a larger number of election cycles.

### **The Voting Significance of Economic Insecurity**

Insecurity driven by deindustrialisation is well-documented, with manufacturing workers more likely to suffer from unemployment than their service sector counterpart, due to their comparatively higher wages (Krueger & Summers, 1988). However, Margalit (2019) has raised concerns over the modest explanatory significance of such economic insecurity in relation to the 'populist backlash' of recent decades. A survey described in Mutz (2018) indicated that long-standing party affiliation was still by far the most significant determinant of voting behaviour in 2016. However, the marginal nature of politics elevates the potential for economic insecurity to hold great outcome significance. Baccini & Weymouth (2021) illustrate its non-triviality by comparing their most conservative estimate for the effect of manufacturing job losses on Democratic vote share to a counterfactual in which deindustrialisation was relatively low, finding that the Democratic vote share would have been 3.6% higher nationally. Similarly non-trivial counterfactuals for trade exposure appear in the work of both Autor et al. (2016) and Colantone & Stanig (2018a). Therefore deindustrialisation, and its associated economic insecurity, could be of empirical importance in influencing Japanese election outcomes. However, whilst acknowledging the low explanatory significance it may hold, an exploration of 'subjective assessments of economic

change and the noneconomic influences underlying those assessments' (Margalit, 2019) could provide insight into alternative mechanisms that affect voting behaviour.

Partnering a district-level analysis of electoral outcomes with an individual-analysis of voter choice is a commonly used methodological tool to illuminate any underlying mechanisms affecting voting behaviour that may be overlooked in the district-level results, and one that I aim to replicate. In Baccini & Weymouth (2021), one of their key findings in the US was the ideological polarisation that occurred along racial lines because of manufacturing job losses, further individual-level analysis indicating that this was driven by the divergence in voting behaviours between white and black voters. Survey data analysis found that although white respondents have a significantly worse subjective assessment of the US economy than non-white respondents, both retrospectively and prospectively, an individual assessment of their family's financial situation proved insignificantly different. This suggests that manufacturing layoffs are not a pocketbook economic issue for white voters in the US, but representative of a national economic malaise, indicating the suitability of a sociotropic evaluation of voting patterns in the context of deindustrialisation, and more generally for macro-economic processes (Healy, Persson, & Snowberg, 2017; Ansolabehere, Meredith, & Snowberg, 2014; Colantone & Stanig, 2018b). Although a racial component to voting, as seen in the US (Baccini & Weymouth, 2021; Mutz, 2018), is unlikely to be significant in Japan, even with the increasing popularity of the nativist movement (Higuchi, 2021), its status as an Eastern democracy may highlight cultural channels that affect the explanatory significance of economic voting patterns across countries. A recent survey analysis by Miwa (2018) revealed that there is a marked divergence between value preferences of voters and candidates in Japan, which when partnered with the conclusions of Mutz (2018), could be suggestive of an underlying cultural resilience to populist policy platforms.

## Deindustrialisation in Japan

Although deindustrialisation has been a long-standing economic phenomenon in countries like the US and the UK, where manufacturing output and employment has been on the marked decline since the 1970s, in Japan it has been more recent, closely linked to its later and more rapid industrialisation. In understanding the possible mechanisms that underpin any empirical relationship between deindustrialisation and electoral outcomes in Japan, it is important to establish deindustrialisation within the context of the Japanese economy, where its secondary characteristics differ from those observed in other developed economies. This in turn may affect how such a universal economic phenomenon is differently perceived on a societal-level, where it is consequently reinterpreted for electoral purposes.

Figure 1: Share of Manufacturing Employment in Japan

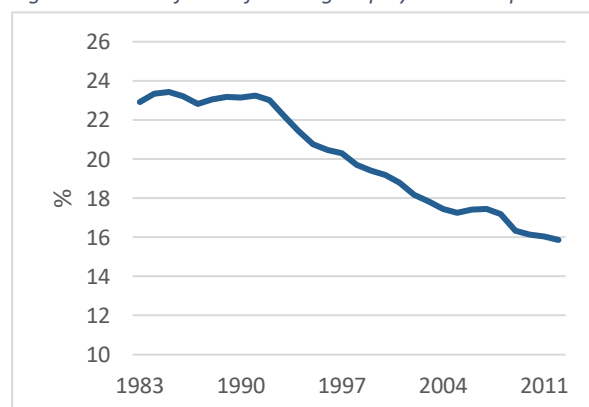
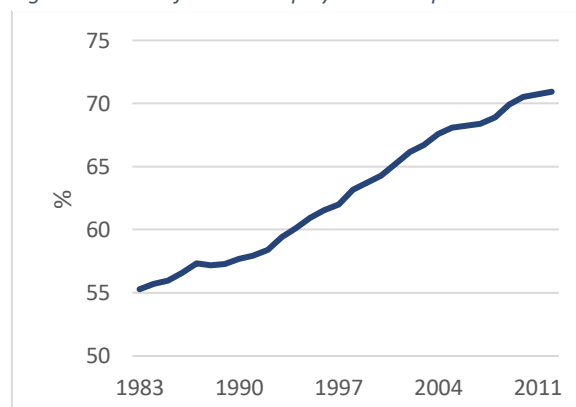


Figure 2: Share of Service Employment in Japan



Manufacturing employment started to decline steadily in Japan as part of the second acceleration in deindustrialisation that was precipitated by the burst of the ‘bubble economy’ in the early 1990s, falling by 30% in the 20 years from 1992 to 2012. This was also partnered with a relocation of manufacturing production abroad, primarily to ASEAN countries and China, likely contributing to the closure of productive establishments in Japan which had a survival rate of 44% from 1990 to 2003 (Fukao, 2010). The extent of the weakening of the job security in the manufacturing sector meant that by the early 2000s even regular workers

were being fired (Fukao & Perugini, 2018), who then tended to be re-employed as non-regular workers by smaller firms in the 'business-related service industry' where occupational benefits were lower (Tahara & Uemura, 2013).

Over this period service sector employment increased by 22%, the large-scale sectoral transition of workers from manufacturing to service sector employment being a primary characteristic of deindustrialisation. However, this relies on the absorbing capacity of the service sector to be sufficiently high to mitigate against the risk of structural unemployment, one severely compromised by the Subprime crisis of 2008. How deindustrialisation manifests itself lies in the interplay between these two structural components of a developed economy, and therefore a deeper recognition of the performance of the service sector in shaping recent economic growth in Japan is required.

Fukao (2010) highlights the relatively low productivity growth in Japan's service sector as a central cause for the economic stagnation that has persisted in Japan in recent decades, the result of 'deep-seated structural issues' such as underinvestment in ICT sectors. With the service sector of ever-increasing importance to the modern economy, the negative implications of such low productivity growth and economic stagnation are likely to be magnified with time, one being the rising poverty rates and the erosion of the middle class in Japan (Tachibanaki, 2006). This has been closely associated with the 'Lost Decade', where nominal GDP and real wages fell alongside rising income inequality throughout the 1990s and into the early 2000s (Funabashi and Kushner, 2015).

Having an underperforming service sector as an effective substitute for skilled manufacturing could serve to heighten the grievances of workers who become increasingly discontented at

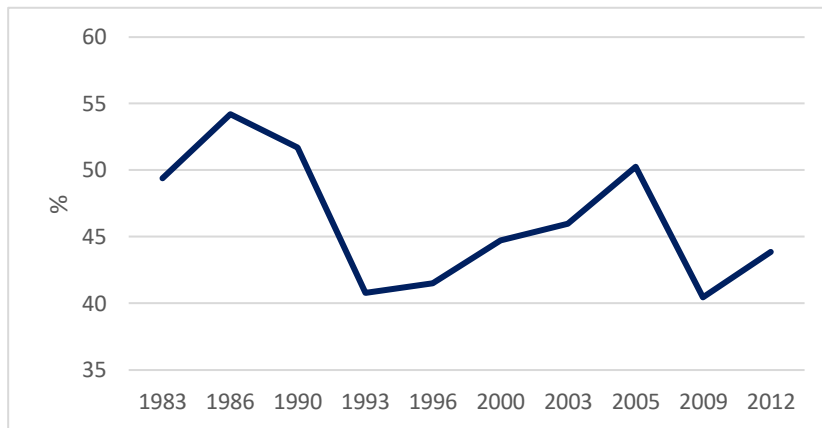


sluggish wage growth and are now employed in a sector less compatible with unionisation. Focusing on a period from 1997-2009, Agnese and Sala (2011) identified that the primary cause of the declining labour share in Japan was due to the weakening of unions, Akimoto and Somoda (2009) highlighting both deindustrialisation and globalisation as contributing factors to this continued process of de-unionisation. Furthermore, the combination of prolonged recessions and falling trade union membership has undermined the negotiative power of the Shunto, which has transitioned away from its combative roots towards greater corporate cooperation. The result of these institutional changes to labour relations was an industry-wide depression of wages and a sharp fall in wage share that has exacerbated the 'polarisation of the Japanese economy and society' (Tahara & Uemura, 2013), potentially to the point of electoral consequence.

### **Politics in Japan**

Japanese politics is conducted in a similar framework as that of the UK, being a dominant-party bicameral parliamentary constitutional monarchy, although placing it under such a broad moniker does a disservice to its inner workings and defining features. The first thing to emphasise is the dominance in the term 'dominant-party'. The LDP has maintained near continuous control of the government since its foundation in 1955, labelled by scholars as the '1955 system', the two exceptions being periods between 1993-94 and 2009-12. The former exception is significant in its passing of electoral reform and the consequent introduction of a mixed-majoritarian system of voting that restructured Japanese politics at the 'middle-level' (Pempel, 1997). The objective of such reform was a periodic switching of political power between parties rather than between factions of the LDP, the move to single-member districts potentially precipitating more ideological confrontation with the LDP's big tent conservatism and resulting in increased representation of minor parties in the legislature.

Figure 3: LDP Vote Share in House of Councillors Elections



Another contrasting element of Japanese politics is the instability of the position of prime minister, with terms of less than a year not uncommon before the pre-eminence of Shinzo Abe in the last decade. The high turnover rate was exacerbated by the electoral reform of 1993, a total of 13 prime ministers holding office in Japanese government across a period from 1993 to 2012 compared to just 4 in the UK. This is partly related to the power of the Upper House, a case of a divided government capable of undermining a prime minister's authority to the point of resignation, as was the case in Abe's first term. This is in addition to the factionalism that is rife within the LDP, and their strict internal regulations on the appointing of a party president, the term being fixed at three years with a successive two-term limit.

An influential source of electoral support for the LDP is the Koenkai, an inheritable local institution like a community group that can strengthen local candidates' political prospects, especially in the over-represented rural areas where this antiquated style of politics flourishes, and consequently the LDP dominates. This inheritability reinforces the dynastic quality to Japanese politics that has been evident in the appointment of generations of prime ministers. With respect to the electoral reform of 1993, one consequence of the smaller single-member

districts may be an intensification of the existing localist bias in Japanese politics which favours the electoral importance of the Koenkai. This in turn would incentivise the adoption of stances on economic issues by candidates that are more 'localised', satisfying the discontents of their constituents rather than adhering to the party line. However, the Japanese electoral system has both a majoritarian and a proportional component, and it is this proportional representation in regional districts that provide parties with reason to articulate policies of broader appeal, a competing incentive that instead benefits the minor parties of Japan.

In response to their over-reliance on rural support, the LDP formed a coalition with the Komeito Party that has been in effect since 1999. The Komeito Party themselves are the political arm of the Soka Gakkai, a Nichiren Buddhist sect that comprises of 8 million adult members, a religiously motivated voter base that has strength in urban areas. A feature of the LDP political sphere that has particular relevance to manufacturing workers are the vertical keiretsu, examples of which include Toyota and Nissan, who function in an informal alliance with the LDP and the bureaucracy known as the 'Iron Triangle'. Part of their declining political and economic influence can be attributed to the 'Lost Decade' which resulted in the weakening of the businesses alliances that made up individual keiretsu, especially their associations with banks after the asset bubble collapse. Furthermore, any loyalty to the LDP generated among manufacturing workers as part of the vertical keiretsu is unlikely due to the political influence of RENGO, the largest national trade union centre in Japan, which has been historically poised in opposition to the LDP, and a pivotal architect in their undoing in both 1993 and 2009.

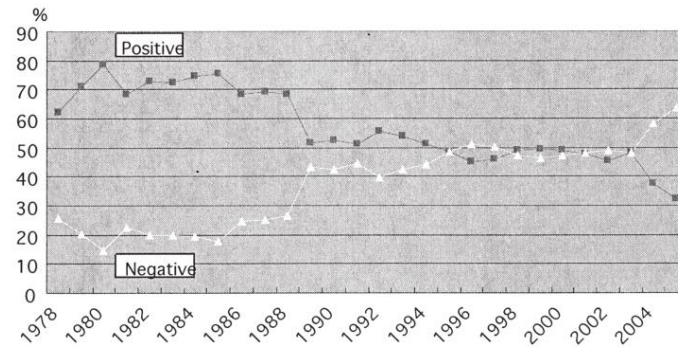
## **Nationalism in Japan**

In a largely pacifist and demilitarised society, Japanese nationalism takes on a distinct militaristic tone, with many right-wing groups positioning themselves closely to a nostalgia for Imperial Japan, a minority dressing up in pre-1945 era military costume and flying the Rising Sun Flag. Protests by such groups outside the South Korean and Chinese embassy are not uncommon, expressing territorial grievances surrounding the disputed ownership of the Senkaku Islands and the Liancourt Rocks. These can be considered projections of a sentiment of a post-war weakening of Japan, demanding in response a reawakening of the 'Japanese spirit' to protect themselves from hostile outside forces, and in the process enforcing a tacit patriotism drenched in historical revisionism.

In recent decades this has in part been a tit-for-tat reaction to the intensification of anti-Japanese sentiment in both China and South Korea, with survey findings indicating an upsurge in support for the Japan Self-Defense Forces (JSDF) and the constitutional revision of Article 9, especially pronounced in both the elderly and the youth (Sasada, 2006).

However, this remains a low priority issue on the agenda of Japanese voters, who appear more concerned with immediate economic and social concerns (Penney & Wakefield, 2008). Furthermore, these survey findings should not be interpreted as a widespread intention to depart from Japan's pacifist tradition, with most Japanese still viewing the 'pacifist constitution' as a positive force and a pillar of their economic rise and believing in 'apologetic reflection' towards the victims of Japanese imperialism in Asia.

Figure 4: Perceptions of China in Japan



Source: Japan Cabinet Office website

Nonetheless, one of the historic focal points of Japanese nationalism has been China, with many resentful of the diplomatic concessions made to a country considered conflicting with their idea of an independent and secure Japan (Suzuki, 2015). The growing hostility directed towards China has undoubtedly been aggravated by their increasingly expansionist policy in East Asia, with threat perceptions among the Japanese populace persistently increasing since the 1980s. The politicisation of Sino-Japanese relations is evident in the declining popularity and political influence of leftist parties since the 1990s, linked not only to their long-standing affiliation with Chinese political parties, but also their entrenched pacifism amidst a post-Cold War environment.

### **Prefectural-Level Model**

My analysis examines the electoral effect of the exogenous change in manufacturing employment on nationalist sentiment in Japan from 1983-2012 at the prefectural-level. My empirical methodology in calculating election outcomes closely follows that of Colantone & Stanig (2018b), where it can be viewed in greater detail. I use lower chamber election data sourced from the Constituency-Level Election Archive (CLEA; Kollman et al. 2016) to provide me with party level vote shares in each election for each prefecture. In covering a total of ten election cycles, and Japan consisting of 47 prefectures, this produces a panel dataset that contains 470 observations.

After obtaining my prefectural-level election results, I use Comparative Manifesto Project data (CMP; Volkens et al. 2016) to ‘calculate ideology scores that are party-election specific, and constant across all (prefectures)’ (Colantone & Stanig, 2018b), employing the following method (Lowe et al., 2011):  $Score_{lct} = \log(.5 + z_{lct}^+) - \log(.5 + z_{lct}^-)$ . These ideology scores are categorised according to *Nationalism*, *Net Autarchy* (Burgoon, 2009), and *Nationalist autarchy* (Burgoon, 2009), where higher scores are suggestive of a more nationalist and isolationist policy platform. A measure for *Economic Conservatism* is also included to signify a party’s economic left-right positioning, along with an additional robustness check regarding the catch-all economic nationalism measure. As these scores were computed with reference to Western European countries, to sensibly apply them to Japan any claims relating to the EU have been omitted from the calculation.

To present a prefectural-level reflection of political orientation, I compute the ideological centre of gravity and the median vote score. The ideological centre of gravity is the ‘(mean) of the policy positions of the competing parties, weighted by their vote shares in the (prefecture)’, and is calculated as follows:  $COG_{dt} = \frac{\sum_{l=1}^n p_{l dt} Score_{dt}}{\sum_{l=1}^n p_{l dt}}$ . The median vote share is the ideological position of the median party in the prefecture, rather than ideological orientation of the prefecture, and thus is unaffected by ideological shifts at the extreme of the electorate that may not correspond with any change in the fundamental vote share. According to the CMP classification no Japanese political parties are considered radical-right, and thus a radical-right dummy is not permitted. Additional prefectural-level summaries are calculated using the cumulative vote share of four families of parties: protectionist left, protectionist right, liberal right, and pro-trade left.

As my empirical analysis focuses on a single country rather than a continental region, there are some important contextual factors specific to Japan that have both shaped my methodological approach and may act as limitations to it. Firstly, although the empirical focus on the lower house of the legislature is consistent with the methodology of Colantone & Stanig (2018b), in Japanese politics the upper house plays a more influential role in cementing the credibility of the incumbent party, the interplay between the lower and upper house having significant electoral implications that will be overlooked by my restricted focus. Secondly, the increased political prominence of independent candidates in Japan is not captured by the CMP data, and thus their corresponding vote share is excluded from my district-level measures of ideology. This issue can in part be resolved for 1983 and 1986 election data where an independent candidate's party affiliation is stated and can be used as a proxy for their ideological positioning. Nonetheless, additional robustness checks are implemented, excluding prefectures that do not reach a certain cumulative vote share threshold that may inaccurately reflect its ideological orientation. Thirdly, I calculate  $\Delta LDP\ Vote\ Share_{pt}$ , the change in LDP vote share in prefecture  $p$  since the last election, held in year  $t$ . This is to allow for the observation of anti-incumbent effects that may be independent of party ideology, instead concerned with the indiscriminate projection of voter discontent onto the governing party, which in most cases has been the LDP in Japan. Lastly, given the electoral reform, I provide an alternative model specification that only includes election years from 1996 onwards, the systematic strengthening of minor parties in Japan potentially increasing their ideological spread, which could in turn affect my COG measures.

I employ a Bartik instrument to achieve exogenous variation in manufacturing employment at the prefectural-level (R-JIP database; Tokui et al., 2017), a similar proxy for

deindustrialisation used in Baccini & Weymouth (2021). This should enable me to avoid model misspecification through a systematic correlation between manufacturing employment and a prefecture's partisan orientation and facilitate a causal estimate of changes in manufacturing employment on voting outcomes. Specifically I use the following measure<sup>1</sup>:

$$\text{Bartik Instrument}_{pt} = \frac{\text{Manufacturing Employment}_p}{\text{Total Employment}_p} \times$$

$\text{Manufacturing Employment Decline}_{-pt}$ , where  $\text{Bartik Instrument}_{pt}$  is the Bartik instrument for prefecture  $p$  for each election year  $t$ .  $\text{Manufacturing Employment}_p$  is the number of manufacturing workers in prefecture  $p$  in 1980, and  $\text{Total Employment}_p$  is the total employment in prefecture  $p$  in 1980<sup>2</sup>.  $\text{Manufacturing Employment Decline}_{-pt}$  is the rate of decline in manufacturing employment excluding prefecture  $p$  since the last election, held in year  $t$ .

In running different model specifications, a consistent finding was that the strength of my Bartik instrument was sensitive to the inclusion of Okinawa, the prefecture which had the lowest base manufacturing employment share, and an island economy characterised by a reliance on tourism. Although Okinawa's exclusion is the extent of the compromise in my baseline model, in my post-reform model, for the Bartik instrument to be sufficiently strong the bottom fourteen prefectures with the lowest base manufacturing employment must be excluded, suggesting that the instrument is more suitable in predicting the local manufacturing employment growth rate in industrial prefectures in a period where deindustrialisation was more extensive.

I estimate the following:

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<sup>1</sup> This is a similar setting to that in which it was initially popularised (Bartik, 1991; Blanchard & Katz, 1992)

<sup>2</sup> Employment shares fixed at 1993 values for post-reform regressions.



$$Electoral\ Outcome_{pt} = \alpha_{pt} + \beta_1 \widehat{Manufacturing\ Employment\ Decline}_{pt} + \mathbf{X}_{pt} + \varepsilon_{pt},$$

where *Electoral Outcome*<sub>pt</sub> is one of the previously defined prefectural-level summaries of ideological orientation. *Manufacturing Employment Decline*<sub>pt</sub> is the exogenous rate of decline in manufacturing employment at the prefectural level, computed since the last election which is held in year *t*. The term  $\alpha_{pt}$  is the prefecture-year fixed effects. The vector  $\mathbf{X}_{pt}$  includes my prefecture-level controls. I calculate *Service Employment Growth*<sub>pt</sub> to capture any sectoral variation in my model, and *Male Pop Share*<sub>pt</sub> as this could be correlated with both partisanship and manufacturing employment. I also include *Unemployment*<sub>rt</sub>, the average unemployment rate in region *r* since the last election held in year *t*, to distinguish changes in local manufacturing employment from general economic conditions. I estimate robust standard errors.

### **Individual-Level Model**

To examine the effect of individual-level characteristics on vote choice, I use survey data after the 1996 general election (SSJDA; Richardson et al, 1996), the second wave of which contains information on 954 respondents across 46 prefectures. More specifically, I explore how occupational and demographic factors may shape patterns of voting behaviour, ideologically motivated or otherwise. The factors included in the model are sector of occupation, gender, age, education level, type of employment, trade union membership, and city size. I match the voting practice of each respondent to the respective party's Nationalist Autarchy score to obtain an individual-level measure of nationalism based on party choice. I also generate a dummy that is equal to one if a respondent voted for the LDP, in the interest of understanding how individual-level characteristics may influence voter perceptions of the principal party in Japanese politics. As with my district-level model, I employ prefecture

fixed effects to net out any time-invariant differences across prefectures and estimate robust standard errors.

Although the results are not causal individual-level estimates, the aim is to provide some important factors that may be underpinning Japanese election outcomes. This is dissimilar in approach to both Colantine & Stanig (2018b) and Baccini & Weymouth (2021), who have been my methodological benchmark up to this point, but the hope is that by stepping away from the marginal significance of economic voting, I may touch on social and cultural mechanisms that hold the fabled explanatory significance of Margalit (2019). However, this was not solely motivated by differing academic emphasis, but also the result of the empirical constraint imposed by my starkly contrasting sample size. Although both are nationally representative, Baccini & Weymouth (2021) have a stratified sample of 63,605 respondents across 2,233 counties. Considering this fact, the conclusions drawn from such individual-level analysis must be made with a certain caution, but in turn can act as an apt segue into a broader discussion of the political science literature on the causes of Japanese nationalism.

### **Prefectural-Level Results**

Table One presents the baseline results for the primary prefectural-level measures: the centre of gravity and median voter score for Nationalist Autarchy, along with the change in LDP vote share from the previous election. Each column reports my instrumental variable (IV) results, where the local manufacturing employment growth rate is instrumented using an interaction between the local manufacturing employment share and the leave-on-out national

Table 1: Prefectural-Level Estimates

Dependent Variable:	(1)	(2)	(3)	(4)	(5)
	Nationalist Autarchy				$\Delta$ LDP Vote Share
	Baseline		Post-Reform		
	COG	Median	COG	Median	
Manufacturing Employment Decline	0.0226* (0.0117)	0.0637 (0.0424)	0.0400** (0.0193)	-0.0169 (0.0619)	-0.0119** (0.00598)
Observations	460	459	198	198	414
R-squared	0.883	0.651	0.927	0.661	0.178
Number of Prefectures	46	46	33	33	46
Prefecture-Year Effects	Yes	Yes	Yes	Yes	Yes
Unemployment Control	Yes	Yes	Yes	Yes	Yes
Service Employment Growth	Yes	Yes	Yes	Yes	Yes
Male Population Share	Yes	Yes	Yes	Yes	Yes
<b>First-Stage Results</b>					
Bartik Instrument	-2.645*** (0.485)	-2.693*** (0.493)	6.027*** (1.230)	6.027*** (1.230)	-2.610*** (0.501)
Kleibergen-Paap F-Statistic	29.735	29.783	24.013	24.013	27.129

Robust standard errors in parentheses

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

manufacturing employment growth rate. The first-stage coefficient on my instrument is negative and significant, and the F-statistic in all specifications is significantly large to reject the null hypothesis that my instrument is weak. The coefficient for manufacturing employment decline is positive albeit insignificant at the 5% level in Models One and Two, however the coefficient from Model One does approach near significance, with a corresponding p-value of 0.052. This result suggests that nationalist sentiment is greater in prefectures which suffer a greater decline in manufacturing employment. This effect is robust to the inclusion of local service employment growth, regional unemployment rates, and male population share. In combination with the comparatively pronounced insignificance of the coefficient in Model Two, this could indicate that this ideological shift towards nationalism in

response to deindustrialisation is occurring at the political extremes, either through the further radicalisation of, or increasing vote share attributed to nationalist parties. This contrasts with the results in Colantone & Stanig (2018a), where the coefficient on the median vote score was positive and significant and may be indicative of the consistent ability of the LDP to retain the core of the electorate in most districts in Japanese politics.

With deindustrialisation accelerating during the economic stagnation of the ‘Lost Decade’, and electoral reform passed in 1993 to dilute LDP dominance, there seemed reason to speculate that the electoral effect of manufacturing employment decline may be more salient after 1996, when the electoral reform first came into effect, and Japan was still amid this economic crisis. In the post-1996 model specification (Model Three) the Bartik instrument does not signal a weakness problem, and the coefficient is positive and significant at the 5% level. This supports my previous finding, that nationalist sentiment is greater in those prefectures in which the effects of deindustrialisation are more pronounced. Additionally, the magnitude of the coefficient on manufacturing employment decline is almost double that of my baseline regression, suggesting that the electoral effect of deindustrialisation on nationalism was more substantial from 1996 onwards. Nonetheless, restricting the period and the number of prefectures included in the model does weaken the comprehensivity of my analysis into the possible mechanisms driving the observed rise in nationalism, with the additional model specifications inapplicable due to empirical shortcomings<sup>3</sup>.

Moving to Model Five, the coefficient on manufacturing employment decline is negative and significant at the 5% level. This finding indicates that LDP vote shares decline in prefectures in which the reduction in manufacturing employment growth is larger. The effect is also

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<sup>3</sup> Insufficient observations in party classifications and weakness of instrument (see Appendix).

robust to the inclusion of controls, and the direction and significance of the relationship holds when alternatively specified to the level of LDP vote share, rather than the change in LDP vote share. Considering the LDP was the incumbent party in eight out of the ten elections included in the model, this finding could be suggestive of an anti-incumbent effect, like those found in Baccini & Weymouth (2021), where within those prefectures more heavily affected by deindustrialisation voters are backlashing against the LDP due to their incumbency rather than their policy platform, an electoral pinata used to exercise economic discontent. In conjunction with the results from Models One and Two, it appears that this is being channelled in a nationalist direction towards an extreme of the ideological spectrum rather than posing a significant threat to the LDP's core voter base.

Table Two displays the IV results for the alternative measures of ideology. Unlike for Nationalist Autarchy, not every party whose vote share was recorded at the prefectural-level was attributed an ideology score. The result is that these measures are unlikely to be as reflective of the ideological orientation of a prefecture in a given election year, and thus less accurate in obtaining an effect (if any) of deindustrialisation on nationalist sentiment. By focusing my analysis on a single country as opposed to a continental region, invariably there is less ideological variability between parties, and thus imposing the same process of ideological categorisation will be more compromising of the usability of these alternative measures, where sample size and variance are downwardly biased. The only coefficient on manufacturing decline that passes the threshold for statistical significance is under the model of Net Autarchy, its positive sign corresponding with previous findings.

Table Three displays the IV results for the four families of parties, where the dependent variable is the cumulative vote share for each family. The variation in the number of

Table 2: Alternative Measures of Ideology

Dependent Variable:	(1) Nationalism	(2) Net Autarchy	(3) Economic Conservatism	(4) Economic Nationalism
Manufacturing Employment Decline	0.0125 (0.00987)	0.0306** (0.0127)	-0.00377 (0.00750)	0.00728 (0.00679)
Observations	460	460	460	460
R-squared	0.956	0.903	0.942	0.944
Number of Prefectures	46	46	46	46
Prefecture-Year Effects	Yes	Yes	Yes	Yes
Unemployment Control	Yes	Yes	Yes	Yes
Service Employment Growth	Yes	Yes	Yes	Yes
Male Population Share	Yes	Yes	Yes	Yes
<b>First-Stage Results</b>				
Bartik Instrument	-2.644*** (0.485)	-	-	-
Kleibergen-Paap F-Statistic	29.735	-	-	-

Robust standard errors in parentheses

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Table 3: Party Family Vote Share

<b>Dependent Variable:</b>	<b>(1) Protectionist Left</b>	<b>(2) Protectionist Right</b>	<b>(3) Pro-Trade Left</b>	<b>(4) Liberal Right</b>
Manufacturing Employment Decline	0.0126*** (0.00454)	0.00178 (0.00797)	-0.0137*** (0.00489)	0.0139* (0.00810)
Observations	146	263	452	287
R-squared	0.922	0.205	0.915	0.896
Number of Prefectures	46	46	46	46
Prefecture-Year Effects	Yes	Yes	Yes	Yes
Unemployment Control	Yes	Yes	Yes	Yes
Service Employment Growth	Yes	Yes	Yes	Yes
Male Population Share	Yes	Yes	Yes	Yes
<b>First-Stage Results</b>				
Bartik Instrument	-5.046*** (0.973)	-2.155*** (0.528)	-2.672*** (0.489)	-2.040*** (0.627)
Kleibergen-Paap F-Statistic	26.877	16.643	29.864	10.600

Robust standard errors in parentheses

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

observations between families is illustrative of the selectivity of the classification, whereby in a given election year the party profile of many prefectures, and sometimes Japan in its totality, did not qualify for certain quadrants. This reinforces the empirical issue of employing measures better-suited for broader analysis to a country-specific context. Given that Pro-Trade Left was the most prevalent grouping for Japanese political parties it makes it the most consistent barometer of party success across prefectures in this period. The coefficient on manufacturing employment decline in this specification is negative and significant at the 1% level, implying that parties proposing a pro-trade left policy platform were less successful in prefectures where deindustrialisation was more pronounced. The coefficient on manufacturing employment decline also passed the 1% significance threshold in Model One, its negative sign indicating the relative success of the protectionist left policy platform in prefectures suffering from greater deindustrialisation, the suggestion being that in response to deindustrialisation the Japanese electorate is more inclined towards isolationism, whilst appearing to stay decisively to the left of the ideological spectrum. The absence of an electoral shift to the right is supported by the insignificance of the coefficient on manufacturing employment decline when the dependent variable specified is a measure of economic conservatism, higher scores indicating more conservative policy platforms. This again contrasts with the results of Colantone & Stanig (2018b), where nationalism and conservatism appear to be bound together and protectionist left policy bundles lacked success, but also with those of Autor et al. (2016) who found an ideological polarisation in response to Chinese import competition. It seems that protectionism and isolationism were the defining ideological features shaping vote choice in Japan in response to deindustrialisation.



What has become increasingly apparent from this body of empirical evidence is that within the broader picture of increasing nationalist sentiment among those prefectures more greatly afflicted by deindustrialisation, it is isolationism rather than conservatism that has been driving changing vote patterns, which may in turn be illustrative of the appeal of anti-trade rhetoric to disaffected manufacturing workers. One potential electoral consequence of this is the increased popularity of more radical nationalist minor parties that benefit from a voter backlash against the LDP, who although are closely associated with Japanese nationalism, may have suffered from their own incumbency, becoming a natural target for the economically aggrieved.

### **Individual-Level Results**

In this section, I examine the influence of individual characteristics, including job occupation, on individual voting outcomes from the 1996 general election. Table Four reports the baseline regression results when the dependent variable is the Nationalist Autarchy score of the party chosen by the respondent, and a dummy variable that equals one if the respondent voted for the LDP. Each model is specified in three ways according to industry of occupation: the first including a dummy that equals one if a respondent is employed in the manufacturing sector, the second and third including similar dummies for service sector and public sector employment respectively. In all the specifications I control for gender, age, and education. There is no causal identification strategy implemented in these regressions, the aim of analysing these purely suggestive individual-level results being to provide greater insight into the possible mechanisms that underpin my prefectural-level results. For one, it enabled me to examine the electoral effect of higher education in the survey sample, education level being a potentially confounding variable for my district-level results for which I was unable to control. Furthermore, recalling the conclusions of Margalit (2019), if economic voting is only

Table 4: Individual-Level Results

Dependent Variable:	(1)	(2)	(3)	(4)	(5)	(6)
	Nationalist Autarchy			ΔLDP Vote Share		
Manufacturing Sector Work	0.137 (0.0833)			-0.0115 (0.0706)		
Service Sector Work		0.0541 (0.0561)			0.0717* (0.0368)	
Public Sector Work			-0.290** (0.129)			0.0348 (0.0747)
Female	0.103** (0.0507)	0.0964* (0.0514)	0.0864 (0.0516)	0.00313 (0.0278)	0.00810 (0.0299)	0.00465 (0.0297)
Age	-0.0220** (0.00890)	-0.0223** (0.00888)	-0.0201** (0.00904)	0.00349*** (0.00127)	0.00399*** (0.00124)	0.00351*** (0.00127)
Age-squared	0.000239** (9.14e-05)	0.000242** (9.12e-05)	0.000217** (9.30e-05)			
Higher Education	-0.207*** (0.0522)	-0.214*** (0.0505)	-0.191*** (0.0533)	-0.0700** (0.0282)	-0.0660** (0.0275)	-0.0720*** (0.0267)
Trade Union Membership	-0.226** (0.102)	-0.212** (0.102)	-0.158 (0.110)	-0.142** (0.0612)	-0.146** (0.0589)	-0.150** (0.0627)
Constant	-0.680*** (0.205)	-0.676*** (0.208)	-0.690*** (0.204)	0.277*** (0.0832)	0.229*** (0.0832)	0.273*** (0.0843)
Observations	954	954	954	954	954	954
R-squared	0.033	0.033	0.037	0.039	0.042	0.039
Number of Prefectures	46	46	46	46	46	46
Prefecture FE	Yes	Yes	Yes	Yes	Yes	Yes
Metropolis Dummy	Yes	Yes	Yes	Yes	Yes	Yes
Self-Employment Dummy	Yes	Yes	Yes	Yes	Yes	Yes

Robust standard errors in parentheses

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

of marginal significance in explaining an increase in nationalism, then shifting focus to broader social and cultural factors may touch on the so desired explanatory significance.

Although marginally insignificant at the 10% level, the result from Table Four suggest that those individuals employed in the manufacturing sector have greater nationalist voting tendencies than other workers. An ideological predisposition to nationalism in manufacturing workers, like their higher propensity to vote for Leave found by Colantone & Stanig (2018a) in the UK, could plausibly be exacerbated by the economic distress precipitated by deindustrialisation, where the probability of employment in the manufacturing sector for these individuals is declining. Therefore, in those prefectures where deindustrialisation is more pronounced, and the proportional decline in manufacturing employment is greater, the economic grievances of increasingly disaffected manufacturing workers could be a candidate channel for the observed higher nationalist sentiment. Looking at the other models, the positive coefficient on the dummy for service sector employment is markedly insignificant, but the negative coefficient on the dummy for public sector employment is statistically significant at the 5% level. This suggests that those individuals employed in the public sector have lower nationalist voting tendencies than other workers. Under this specification, the coefficient on the female dummy and the trade union dummy becomes statistically insignificant, the implication of which is that trade unionism and an individual's gender is meaningfully correlated with public sector employment in this survey sample.

In all model specifications, the coefficient on age is negative and significant at the 5% level, and the coefficient on age squared is positive and significant at the 5% level. This implies that nationalist sentiment is a nonlinear function of age, more specifically characterised by U-

shaped curve, in which the rate of nationalism in the electorate is declining into the middle age, and then increasing into old age. The average age at which this inflection point occurs is at 46, this middle-aged cohort in the 1996 election distinct in its post-WW2 origins, with the finding potentially illuminating a generational divide in voting behaviour that is marked by memories of conflict and Japan's ultimately failed imperial experiment. Also in all model specifications, the coefficient on the higher education dummy is negative and statistically significant, albeit at the 1% level. Such a finding has been well-reported across the political science literature and indicates that those individuals who are highly educated are less likely to vote for nationalist parties. However, there has been contention about what such a relationship represents, the popular narrative that rising nationalism is driven by the economically 'left-behind' disregarded by Mutz (2018) in favour of a group-based status threat that had a distinct educational channel. The relevancy of such a status threat to rising Japanese nationalism in response to deindustrialisation could be its connection to negative perceptions of China, which have been steadily increasing in Japanese society. Although clearly beyond the purview of my analysis, I propose a plausible association between the two: the increased outsourcing and loss of manufacturing jobs to China is symbolic of a growing economic dominance tied to their expansionist policy in East Asia, one which aggravates existing security concerns and amplifies a Japanese nationalism, in which China is a historic focal point, in prefectures in which deindustrialisation is more pronounced.

The results from Table Four suggest that an individual's industry of occupation has no significant effect on their probability of voting for the LDP. The one coefficient that does approach near significance at the 5% level is that of service sector employment, where given an individual is employed in the service sector, they are 7.17% more likely to vote for the LDP than workers employed in other sectors. Although the female dummy is now

insignificant across all specifications, the trade union dummy retains its significance at the 5% level. Taking the most conservative estimate, given an individual is a member of a trade union, the probability that they vote for the LDP is reduced by 14.2%. It thus appears that the dominant electoral implication of trade union membership appears to be a disinclination towards the LDP, although one that is not entirely ideologically motivated by their nationalist association. This corresponds with the political involvements of RENGO who were pivotal in the formation of the coalition that ousted the LDP from governance in 1993. Again, the higher education dummy is negative and significant across all specifications. Taking my most conservative estimate, given an individual is highly educated, they are 6.6% less likely to vote for the LDP. All the individual-level results are robust to the inclusion of a metropolis dummy and a self-employment dummy.

Unlike as with respect to nationalism, the probability of voting for the LDP is an increasing linear function of age, the inclusion of an age squared term resulting in both age coefficients becoming insignificant. When specified linearly, the coefficient on age is both positive and statistically significant at the 1% level across all model specifications, an increase in an eligible voter's age of one associated with 0.35% increase in their probability of voting for the LDP. The contrasting age dynamic of voting behaviour between the two sets of the results suggests that the upsurge in nationalist sentiment moving towards the extremes of the age distribution is not solely driven by a higher propensity to vote for the traditionally nationalist LDP but must rather be channelled through the increased popularity of other less mainstream nationalist parties, especially with respect to the younger half of the electorate where LDP support is at its weakest. The appeal of these political parties may have been enhanced by the electoral reform first implemented in the 1996 general election, a watershed moment in Japanese politics that signified shifting political incentives away from the LDP's rural voter

base to which younger voters may have been more responsive to. The U-shaped relationship between age and nationalism may be emblematic of the distinctive strands of nationalism running through Japanese politics, the ‘petit nationalism’ (Kayama, 2004) of the Japanese youth dissociated in many respects from the imperialist nostalgia of the elderly. This youthful side to Japanese nationalism contrasts with empirical findings from Western Europe (Colantone & Stanig, 2018b) where a linear positive association with age was observed, the differing demographic manifestation of nationalism between the two potentially highlighting the importance of distinctive historical and cultural processes that are interacting with individual vote choice.

## **Conclusion**

I have provided evidence that deindustrialisation through the loss of manufacturing jobs, has led to increased support for nationalist parties in Japan off the back of the success of isolationist policy platforms. This is significant in illustrating that such a causal link is not necessarily confined to Western democracies, with deindustrialisation itself a worldwide economic phenomenon. Furthermore, considering its inexorable approach as economies become increasingly modernised, a better understanding of how deindustrialisation shapes political attitudes among those affected is valuable for less advanced democracies. I contend that there are potential similarities between Japan and Western democracies, particularly the USA, in the expression of nationalism concerning deindustrialisation, with heightening threat perceptions of China. Japan’s unique historic and geographic relationship to China is especially pertinent due to its inextricable association with Japanese nationalism hailing back to the Imperial Era and the Second Sino-Japanese War. The implication is that in expanding the literature on economic voting eastwards, Japan is a country where there are potentially related narratives underpinning observed increases in nationalist sentiment.

Admittedly, beyond ideological affiliation, the mechanisms driving my findings are purely speculative, but may act as further motivation into research relating to the intersection of economic change, culture, and politics. This area of political economy can be broadened by analysis into the existence and dynamics of economic voting in more recently established democracies, where deindustrialisation's altering of the social and economic landscape may be having a contemporaneous effect on political developments. Furthermore, by incorporating a wider array of countries into the economic voting literature, greater insight is gained into the distinct electoral processes that can interact with economic shocks - in Japan some notable examples being the role of the Koenkai, RENGO, and the keiretsu. Nonetheless in taking a more recent look at Japanese politics, despite declining LDP vote share in response to deindustrialisation, its marginal significance is evident in the continued dominance of the LDP, maintaining a comfortable majority in the House of Representatives in the 2021 general election.

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## Appendix

Figure 5: Instrument Sensitivity to Inclusion of Prefectures (Baseline Regression)

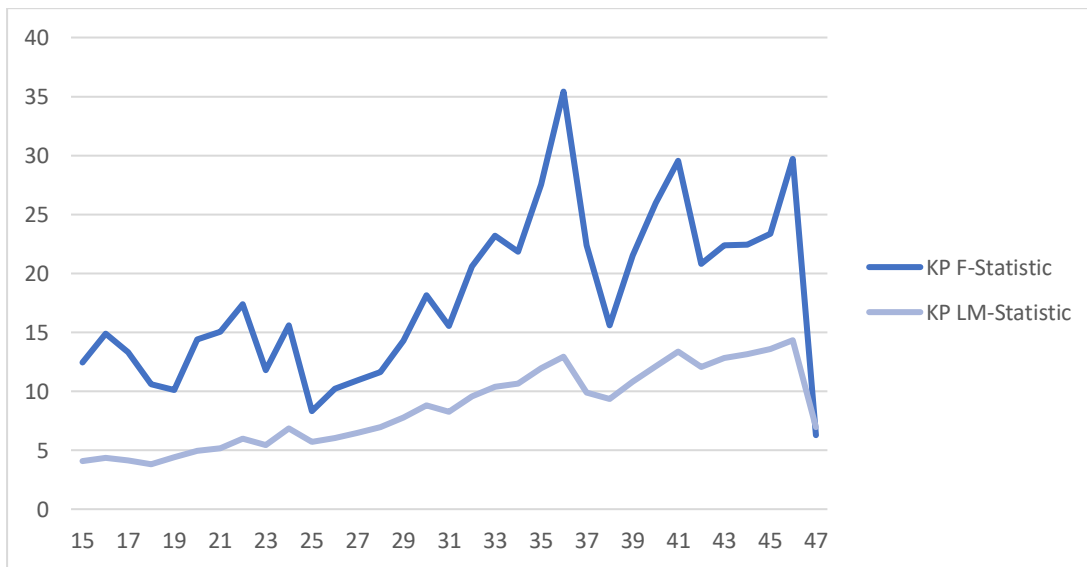


Figure 6: Instrument Sensitivity to Inclusion of Prefectures (Post-Reform Regressions)

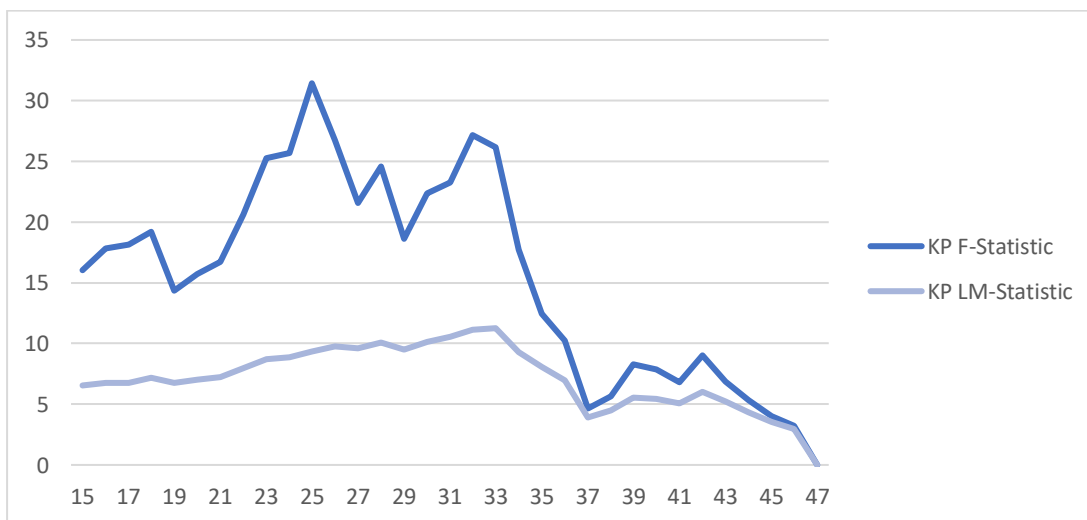


Table 5: Alternative Measures of Ideology (Post-Reform Regressions)

<b>Dependent Variable:</b>	<b>(1)</b> <b>Nationalism</b>	<b>(2)</b> <b>Net Autarchy</b>	<b>(3)</b> <b>Economic Conservatism</b>	<b>(4)</b> <b>Economic Nationalism</b>
Manufacturing Employment Decline	0.0474* (0.0249)	-0.0109 (0.0126)	0.0111 (0.0198)	0.00561 (0.0105)
Observations	198	198	198	198
R-squared	0.960	0.968	0.867	0.903
Number of Prefectures	33	33	33	33
Prefecture-Year Effects	Yes	Yes	Yes	Yes
Unemployment Control	Yes	Yes	Yes	Yes
Service Employment Growth	Yes	Yes	Yes	Yes
Male Population Share	Yes	Yes	Yes	Yes
<b>First-Stage Results</b>				
Bartik Instrument	6.027*** (1.230)	-	-	-
Kleibergen-Paap F-Statistic	24.013	-	-	-

Robust standard errors in parentheses  
 \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Table 6: Party Family Vote Share (Post-Reform Regressions)

<b>Dependent Variable:</b>	<b>(1) Protectionist Left</b>	<b>(2) Protectionist Right</b>	<b>(3) Pro-Trade Left</b>	<b>(4) Liberal Right</b>
Manufacturing Employment Decline	0.0155 (0.0158)	0.00132 (0.0103)	-0.00109 (0.00751)	0.00645 (0.0123)
Observations	71	157	198	107
R-squared	0.706	0.205	0.872	0.794
Number of Prefectures	33	33	33	33
Prefecture-Year Effects	Yes	Yes	Yes	Yes
Unemployment Control	Yes	Yes	Yes	Yes
Service Employment Growth	Yes	Yes	Yes	Yes
Male Population Share	Yes	Yes	Yes	Yes
<b>First-Stage Results</b>				
Bartik Instrument	20.533 (13.708)	8.184*** (1.696)	6.027*** (1.230)	9.374*** (2.660)
Kleibergen-Paap F-Statistic	2.243	23.284	24.013	12.427

Robust standard errors in parentheses

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1