The service economy: U.S. trade coalitions in an era of deindustrialization

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Abstract
Services dominate the US economy and are increasingly traded across borders yet little is known about service firms' trade policy objectives or lobbying activities. We fill this gap by examining services' political engagement on trade policy as manifested through lobbying, public positions on trade, and reports issued by U.S. Industry Trade Advisory Committees. We document for the first time that service firms are highly active in the politics of US trade agreements and, compared to firms in goods-producing industries, are much less likely to disagree over trade. Instead, service firms are almost uniformly supportive of US trade agreements, which we explain by focusing on the stark US comparative advantage in services. Service firms are therefore a key constituency for deeper international economic cooperation, helping to explain the present era of global integration despite tough times for uncompetitive US manufacturing. We expect service producers to join the defense of global economic order against emergent populism.

Keywords Services · Lobbying · Trade agreements · Comparative advantage · Industrial fragmentation

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1 Introduction

The liberal global economic order currently confronts a populist backlash to global-ization. Trade exposure and technological change have sharply delineated economic winners and losers within nations—and globalization's losers are revolting. The backlash appears to be driven, in part, by large declines in manufacturing activity and employment – deindustrialization – in the developed world. Uncompetitive man-ufacturing firms' vulnerability to global competition and offshoring has activated protectionist demands and generated intra-industry disagreement with their globally competitive peers (Broz and Werfel 2014; Jensen et al. 2015; Osgood 2017). At the same time, voters in areas hit by manufacturing job losses are more likely to oppose incumbent parties (Margalit 2011; Feigenbaum and Hall 2015; Jensen et al. 2017), to vote for more extreme candidates (Autor et al. 2016; Colantone and Stanig 2018b; Dippel et al. 2017), and to favor Britain's decision to leave the EU (Colantone and Stanig 2018a). Following a prolonged period of regional economic integration (Mansfield and Milner 1999; Baccini and Dür 2012), it is perhaps unsurprising that trade agreements have become a favorite target of the anti-globalization backlash, especially in the US. Propelled into office in part due to an unconventional opposi-tion to trade accords, the presidency of Donald Trump may mark the end of an era of US trade integration defined by a wave of 12 preferential trade agreements signed since 1995.

In light of recent American retrenchment and protectionism, new questions arise about trade's winners and losers in the context of deindustrialization—and the ways in which these groups engage politically to achieve their trade policy goals. In par-ticular, the flurry of American preferential trade deals in recent decades appears puzzling in the context of trade-induced manufacturing job losses, industrial divi-sions, and populist backlash. The literature focuses on the preferences and lobbying activities of manufacturers, which by all recent accounts are regularly divided due to firm-level differences in the expected gains from liberalization (Milner 1988; Hath-away 1998; McGillivray 2004; Bombardini 2008; Jensen et al. 2015; Kim 2017; Blanchard and Matschke 2015; Osgood et al. 2017; Baccini et al. 2017; Osgood 2016, 2017). But are trade policies determined solely by the interplay between winning and losing *goods* producers? What role, if any, have services – by far the largest sector in the US – played in the proliferation of US trade deals?[1]

Our paper spotlights tradable service firms as central players in the US pro-trade coalition. We demonstrate that services providers are strongly united in favor a US preferential trade agreements. To our knowledge for the first time, we illustrate the

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[1] In one of the first studies examining the politics of trade in services, Chase (2008) examines labor groups' lobbying in the motion picture industry. With a few notable exceptions (Manger 2009; Kim and Manger 2017; Gootiiz and Mattoo 2015), very little attention has been paid to firms' lobbying over trade in services (Weymouth 2017). On the economics of services trade, there is a more extensive literature; see, e.g., Eschenbach and Hoekman (2006), Francois and Woerz (2008), Hoekman and Mattoo (2008), Francois and Hoekman (2010), and Jensen (2011).

nature of services firms' participation in US trade politics. In particular, we show that trade policy lobbying and position-taking in the service sector is more often conducted by trade associations than by individual firms, suggesting that service industries more often share a common position. Moreover, the public intra-industry disagreements that regularly occur in goods-producing industries are exceptionally rare among services industries. The service sector is thus a key (yet overlooked) player in the US pro-trade coalition, and its push for market access helps explain US trade policy over the past two decades in the face of painful losses for less competitive industries. Our main takeaway is that US tradable services providers represent an important bulwark against the protectionist forces seeking to undermine international trade institutions.

Our explanation for the pro-trade stance of US services providers begins with the observation that services represent the largest share of the world economy and are increasingly traded across countries.[2] In the US, services are 77% of GDP, 80% of employment, and 33% of all exports – up from 28% in 1992.[3] The US exported $750 billion in services in 2016. The relative size of the sector and the increasing tradability of services should make services firms salient actors in US trade politics.[4]

Several distinct features of services contribute to sectoral differences in trade policy objectives between services and goods. Traded services are more skill-intensive than most manufacturing or non-tradable services (Jensen 2011; Gervais and Jensen 2013).[5] Thus, as a relatively skill-abundant country, the US enjoys a sharp comparative advantage in services as evidenced by a significant trade surplus in services ($262B in 2015) that contrasts with the large and growing trade deficit in goods. The US is by far the world's leading services exporter (see Fig. 1). Of course, export volumes understate the reach of US services firms, as many services require the consumer and producer to be in the same location. We note below that US service multinationals invest vastly more to serve foreign markets than foreign firms do in the US. These imbalances are not a consequence of greater barriers to services trade and investment in the US. The US is in fact much more open to services trade and investment than its trade partners, providing a clear motive for services liberalization in US trade agreements.

These facts inform our argument that firms in most US services industries will generally not divide into pro-trade and anti-trade factions, in sharp contrast to firms in goods-producing industries. While cognizant of within-services variation in export competitiveness, in general we expect the overwhelming US comparative advantage in services to generate relatively undifferentiated support for trade agreements in US

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[2]Services represent around 75% of GDP in Organization for Economic Co-operation and Development (OECD) countries and 70% of the global economy (Francois and Hoekman 2010).

[3]Feenstra and Sasahara (2017) find that growth in US exports generated 4.1 million additional jobs in services between 1995 and 2011.

[4]In one of the first studies examining the politics of trade in services, Chase (2008) examines labor groups' lobbying in the motion picture industry. He finds that low-skilled occupations were most likely to oppose the movement of motion picture production abroad. With a few notable exceptions (Manger 2009; Kim and Manger 2017; Gootiiz and Mattoo 2015), very little attention has been paid to firms' objectives regarding services liberalization.

[5]While a technical consultant may find it profitable to travel internationally to deliver a report to a foreign client, international travel for the purpose of cutting hair (almost) never occurs.
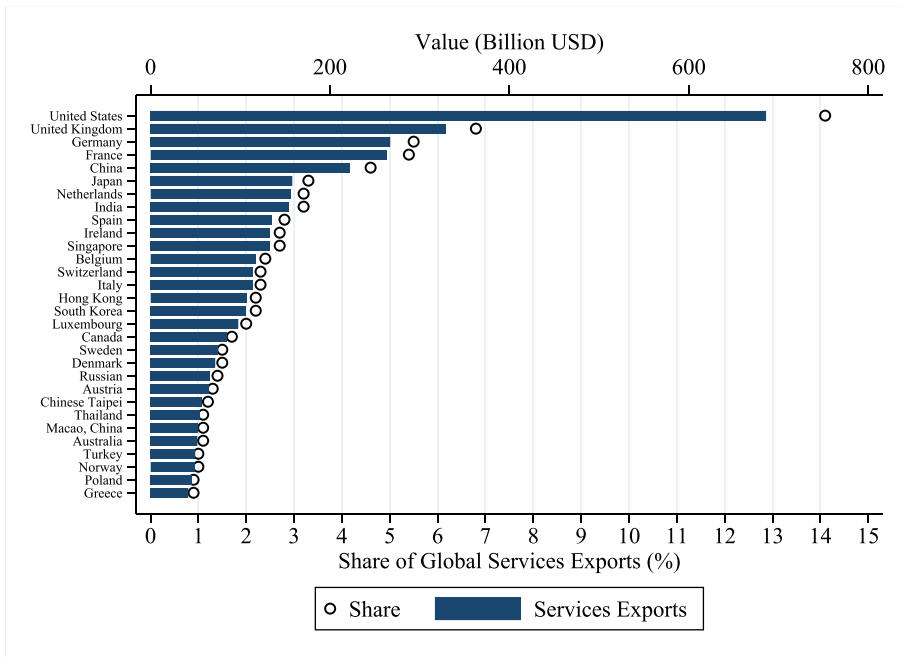
Fig. 1 Top Commercial Services Exporters. Note: 2014 data from the World Trade Organization's 2015 *World Trade Report* (https://www.wto.org/english/res_e/booksp_e/world_trade_report15_e.pdf

services industries. While the largest services firms may still reap most of the gains of liberalization, the intra-industry cleavages predicted by firm-centered approaches are unlikely given the exorbitant factor-based comparative advantage of the US service sector. Foreign competition is so enfeebled in services that smaller, non-exporting firms simply do not engage politically over liberalization since it entails relatively little cost to them.[6]

To examine these claims, we gather new data on all formal trade policy lobbying activities of US firms on the implementing legislation of US trade agreements.[7] We retrieve information on the 'direction' of lobbying for each report (i.e. whether firms and associations lobby in favor of or against each agreement), which is essential to examining the degree of fragmentation. We also employ data on the public positions taken by firms and associations on US trade agreements. Public position-taking is an alternative mode of political engagement and has the advantage of being less costly than lobbying. We then provide the first systematic analysis of reports issued by a unique

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[6]We also note that very large firms are still active as individuals in services, just less so than in manufacturing because there is less incentive to pay the costs of individually lobbying if the industry association is active and its liberalization objectives align with those of the firm. We therefore see part of our theoretical contribution as highlighting a key scope condition or intra-industry disagreement: that both trade partners must be reasonably competitive.

[7]This portion of the analysis therefore necessarily excludes the US-Israel agreement, CUSFTA, and NAFTA.

public–private partnership jointly managed by the US Department of Commerce and the Office of the United States Trade Representative (USTR): Industry Trade Advisory Committees (ITACs). These committees incorporate industry's voice in trade policymaking by detailing the technical advice and policy recommendations of industries across both manufacturing and services. Across all of these modes of trade lobbying, we find that US service firms are less divided over trade agreements than are goods producers.

We also provide evidence consistent with our primary theoretical mechanism, showing that manifestations of intra-industry disagreement are less likely in industries that have a greater comparative advantage (i.e. those that export more than they import). This finding on the role of export competitiveness links our motivation – the US enjoys a comparative advantage in many more services industries than in goods industries – with our main findings regarding the differential patterns of trade support across industries.

Overall, we conclude that services are an overlooked constituency – in both the academic literature and in popular discourse – in favor of global economic integration and international organization. While our analysis focuses on the US, we expect that our arguments would travel to many of the services-oriented European countries that are facing populist agitation against globalization. Highlighting the successes of services may serve to counter populist opposition to economic integration by focusing on an area where firms and workers are highly competitive. Building on the incomplete efforts towards services liberalization in the WTO and in preferential agreements may provide a constructive objective for governments—reconciling the interests of those displaced by deindustrialization with those of workers and firms that are thriving in the global economy. Populist opposition to globalization is driven in part by faltering confidence in institutions as well as one's own ability to compete. A focus on securing access to new services markets abroad could therefore help to restore confidence in both of these areas.

2 Theory

Three striking facts motivate our exploration of the participation of the services sector in US trade politics. First, services liberalization is an important feature of US trade agreements. Nearly all trade agreements since NAFTA have included chapters devoted to both trade in services generally and to specific areas like financial services, express delivery, or electronically supplied services. With the exception of the US trade agreement with Jordan, every US agreement is based on a negative-list scheduling modality, which means that all services are liberalized unless otherwise indicated in specific reservations. US PTAs represent a significant step beyond World Trade Organization (WTO) commitments, increasing market access for US services (Roy 2016).[8]

Second, modern trade policymaking includes a number of features that are difficult to explain without considering the objectives of service exporters. US PTAs extend

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[8]On telecommunications, see Manger (2009); on financial services, see Cameron and Tomlin (2000); Roy et al. (2007); on insurance, see Cameron and Tomlin (2000).

beyond the liberalization of tariffs (which are not levied on services) to include deep provisions that protect investment and intellectual property rights, and regulate competition and government procurement (Baccini and Urpelainen 2014).[9] All US PTAs include national treatment provisions, and several agreements include provisions that allow the temporary movement of people. The investment chapters of PTAs regulate cross-border trade through commercial presence, which is critical for the service sector (Weymouth 2017). Services lobbying in favor of comprehensive agreements therefore helps explain the recent evolution of trade policy.

Finally, we find that service firms are highly engaged in trade politics. Our analysis indicates that service firms and associations account for more than 50% of lobby spending on implementing legislation for trade agreements. Service firms and associations also extensively participate in public campaigns for trade agreements. Federal Express, Citigroup, and Oracle have each publicly supported and lobbied for several US trade agreements, as have associations like the American Council of Life Insurers, the Motion Picture Association of America, the American Institute of Architects, and the American Bar Association. These instances illustrate a broader phenomenon: the service sector has often provided greater public support for US trade agreements than the goods-producing sectors.[10] Table 1 illustrates this extensive participation across the services subsectors. Many services subsectors participate in lobbying and position-taking at rates that are comparable to producers of goods.[11]

2.1 Globalization's concentrated benefits and intra-industry disagreement

The recent literature on trade policy activity builds off of the 'new, new trade theory', which finds that highly productive – and so usually very large – firms are the primary beneficiaries of trade-liberalizing agreements (Baccini et al. 2017; Bernard et al. 2012). This is true generally, but also within industries, where usually a small number of the most productive firms control an overwhelming share of export sales, imports of intermediates, and FDI.[12] Two predictions follow from these asymmetries. First, there is likely to be a strong base of support for trade liberalization among

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[9]US trade agreements share a similar structure, building on the text of the North America Free Trade Agreement (NAFTA), which entered into force in 1994 (Baccini et al. 2014). For details, see Appendix Table D.1 in Supplementary Material, which shows all the provisions related to service liberalization included in US trade agreements.

[10]More services firms participated in the public campaigns for the trade agreements with Singapore, Chile, the CAFTA countries, Bahrain, Morocco, Oman, Peru, Colombia, Panama, and Korea than did goods-producing firms. Likewise, more services associations than goods associations supported the agreements with Singapore, Chile, Bahrain, Morocco, and Oman.

[11]In Appendix C, we chart the growth of services lobbying over time, showing that lobbying on trade by services more than doubled from 1998 to 2016. We also examine the geographic dispersion of services firms' support for trade, and find that services firms from a wide array of states have publicly supported trade in the US.

[12]Note that productivity drives both ability to export and firm size. So while we often say that 'larger firms are capable of exporting' for ease of exposition, it is more precise to say that 'highly productive firms are capable of exporting'. Size and productivity are likely to be closely linked in the long run, but some new entrants might be quite productive and still small, while some very large firms (especially in countries with state ownership) might be inefficient.

Table 1 Proportion of industries that lobbied or took a position on any US PTA across sectors

Sector	Proportion of industries:	
	Lobbying	Position-taking
Goods	0.80	0.96
Services	0.34	0.77
Utilities	0.71	0.93
Construction	0.19	0.77
Wholesale and retail	1.00	1.00
Transportation	0.30	0.70
Information	0.59	0.97
Finance	0.98	1.00
Real estate	0.25	0.58
Professional services	0.33	0.96
Management	0.00	1.00
Administrative	0.11	0.80
Education	0.12	0.88
Health care	0.03	0.36
Arts and entnmnt.	0.08	0.52
Hospitality	0.47	0.53
Other services	0.17	0.67

The proportion of all 6-digit NAICS industries in each sector or subsector that has had at least one firm or association lobby or take a position on a US trade agreement

the very largest corporations across all industries. Second, intra-industry divisions over trade openness are likely to occur *when liberalization creates both opportunities and threats* for the same industry. Such divisions occur regularly in goods-producing industries, particularly manufacturers.[13] Whether such divisions occur in services has not been examined, and is the focus of our investigation.

The most obvious manifestation of private intra-industry disagreements are public disagreements on whether to support or oppose a given trade agreement. Some firms may publicly oppose an agreement that other firms support; or an industry association may adopt a different position than some of the firms in its industry. For example, the Korea-US Free Trade Agreement (KORUS) received both public support and opposition from US firms producing auto parts, machine tools, and certain chemicals, but also among car dealers and management consultants. Examining US trade agreements below, we document that 5.9% of six-digit North American Industrial Classification (NAICS) industries had at least one firm or association express support as another opposed a US trade agreement. This figure is 9.4% if only industries in which a public position was taken are considered.

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[13] Osgood (2017).

Public disagreements are unlikely to represent the full measure of industries' private divisions over trade, however. Industries may seek to minimize public exposure of internal disagreements. Firms may be unable or unwilling to defend their own interests when associations are sidelined by internal disagreements, especially smaller firms which lack the political experience and resources of very large corporations. For these reasons, we look for complementary observable implications of industrial fragmentation over trade policy.

The first of these is firm-centric public position-taking. Public campaigns in support of trade agreements are a regular and highly organized part of American producers' efforts on behalf of trade agreements. In many goods-producing industries, however, a small number of firms express public support while the industry's association remains on the sidelines. For example, industries producing textile products, leather goods, and paper saw public support for CAFTA-DR from individual firms while their associations were silent. The same occurred among fruit and vegetable wholesalers and in the support services for air and water transport. A logical explanation for such behavior is that the industry was divided and so the trade association refrained from taking any public stance. Analogously, firm-centric patterns of lobbying constitute indirect evidence that the membership of an industry's association did not share the same preference. Lobbying was undertaken by individual firms as the association could find no common interest to represent in Washington (Bombardini and Trebbi 2012; Kim 2017).

What forces divide industries over whether or not to support trade agreements, and so explain these patterns? The current literature identifies three: export and import competition in final products; the foreign sourcing of intermediates; and, FDI.[14] While differing in the details, these explanations share three necessary conditions for intra-industry disagreement. First, there must be some potential to benefit from increased international trade and investment, but firm heterogeneity mean that only some firms can take advantage. The standard explanation for intra-industry heterogeneity is firm productivity: only firms that are highly productive can absorb the high fixed costs associated with exporting or developing global supply chains.[15] Second, the firms located in the industry's home market must face the potential for losses due to liberalization. In the case of trade, this takes the form of greater import competition; in the case of foreign sourcing, greater competition in the home market arises as domestic competitors reduce costs by sourcing or producing their products overseas. Third, trade agreements can only induce disagreement if they significantly reduce existing barriers to trade and investment, thus activating the two conditions above. For example, exporters and non-exporters in the same industry would not disagree about a trade agreement that secures unilateral liberalization from a trade partner.

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[14]On ordinary trade competition, see Milner (1987); Madeira (2016); Osgood (2016); Plouffe (2017). On the globalization of production, see Osgood (2017); Milner (1988).

[15]On the empirics of firm heterogeneity, see Bernard et al. (2012) for a complete review. On models of firm heterogeneity and trade see, among others, Melitz (2003); Bernard et al. (2003). On models of firm heterogeneity and global production, see Antras and Helpman (2004); Helpman et al. (2004).

2.2 Divisions over selling into foreign markets

A first argument for intra-industry disagreement over trade centers on intra-industry heterogeneity in export ability. Where trade is intra-industry, reciprocal liberalization creates greater competition in the home market from foreign firms but also new opportunities for foreign sales among the highly productive firms capable of exporting (Melitz 2003). Consequently, industries will be divided between large, export-capable firms that support trade, and smaller (or less productive) firms that cannot export, and so oppose liberalization. A parallel argument for intra-industry disagreement involves selling into foreign countries via offshore affiliates, known as horizontal foreign direct investment. Investment liberalization could generate intra-industry disagreement if two countries are capable of mutually selling a significant volume of goods or services into one another's markets through foreign branches, because usually only a small number of very large firms undertake foreign investment in any given industry.

These sources of disagreement are unlikely to hold in services industries for two reasons. First, the US enjoys a clear comparative advantage in services. To illustrate, we calculate measures of revealed comparative advantage (Balassa 1965) in services.
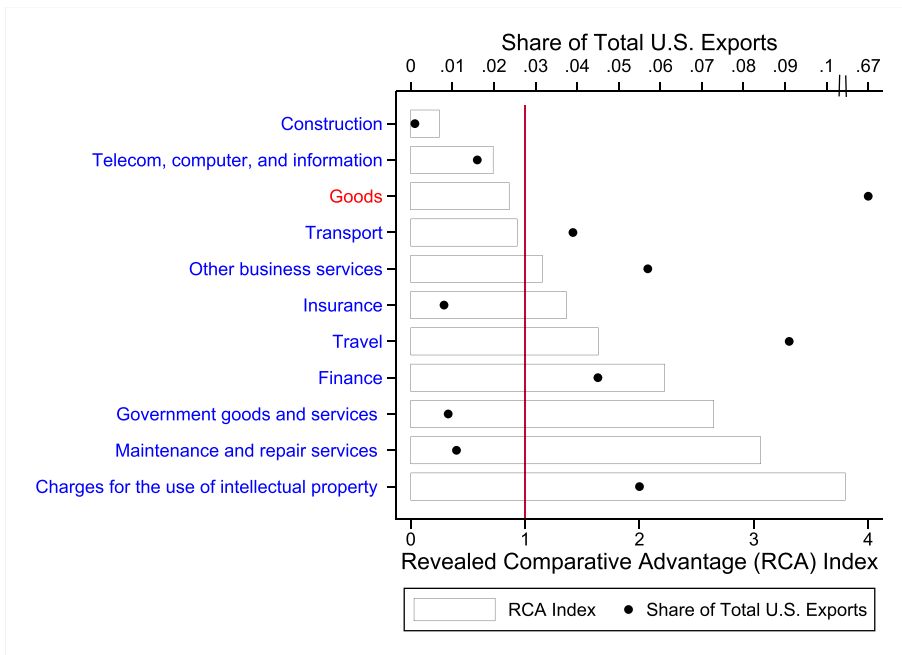

Fig. 2 Revealed Comparative Advantage in US Services Industries. Note: Industries in blue are services. The revealed comparative advantage index is the value of US industry *i* exports as a share of total US exports (merchandise plus services), divided by the proportion of industry *i* global exports in total global exports. An index value greater than one reveals a comparative advantage in industry *i* for the United States

Table 2 Services trade restrictions by income tercile

	STRI	STRD	PayInv
United States	0.227	0.140	0.000
Top US destinations	0.310	0.238	0.118
All US destinations	0.304	0.272	0.152
High income	0.241	0.218	0.063
Middle income	0.611	0.278	0.227
Low income	0.966	0.326	0.306

Top US destinations refer to the top 20 importers of US services by import volumes. Income categories are GDP per capita terciles. The OECD's Services Trade Restrictiveness Index (STRI) (Nordås and Rouzet 2015) includes measures affecting trade in 18 service sectors in 40 countries. The World Bank's Services Trade Restrictions Database (STRD) (Borchert et al. 2014) covers restrictions in five main industries (finance, telecoms, retail, transport, and professional services). Quinn and Toyoda (2008) measure impediments to financial payments for services (PayInv) recorded on the current account

An index value greater than one reveals a country's comparative advantage in the particular sector. Using data from 2005, the US services RCA is 1.49.[16] Examining variation across services subsectors, we find evidence of comparative advantage in most industries. Figure 2 shows that only the *Construction* and *Information Services* industries have revealed comparative advantage indexes that are lower than goods.

Second, and not unrelatedly, the United States is already very open to both services imports from foreign countries and to foreign investment in services. Table 2 reports the average level of restrictions on services trade using three indices of services trade restrictions. We report averages for country income terciles, along with the global and US averages.[17] US restrictions are quite low in comparison with both the global average and to other high-income countries. The table also compares the US level of services restrictions with the average restrictiveness of the top 20 importers of US services exports. The US has fewer restrictions than its export destinations in all cases. To the extent that foreign services firms are capable of penetrating the US through export or investment, relatively few barriers impede them from doing so.[18]

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[16]The US also has a markedly higher RCA in services than its trade agreement partners, so there is relatively little potential for foreign competition for market share inside the US. Data on relative FDI between the US and its trade partners show a similar asymmetry. Examining all sectors, the ratio of the stock of US foreign investment to the stock of its trade agreement partners in the US varies from 1.29 or 1.46 at the lowest, for South Korea and Canada respectively, to 2.08 (Mexico), 3.4 (Panama), and 7.42 (Singapore). All other ratios exceed 10. Data on FDI in services specifically is only available for a smaller set of countries, but is less than 1 for only one (Korea): 1.36 (Canada), 3.59 (Australia), 4.90 (Panama), 6.79 (Mexico), and 31.95 (Singapore). The ratio for the Middle East and Latin America regions is 1.75 and 17.62, respectively.

[17]The indices are standardized to range between 0 and 1.

[18]It is important to note that services are not equally open across all modes of delivery, however. The US's complex system of occupational licensing, for example, restricts delivery of health care services by foreign nationals living in the United States. In the WTO's parlance this is an instance of Mode 4: the movement of natural persons.

2.3 Intra-industry disagreement due to heterogeneous ability to source abroad

Industries may be divided over trade liberalization when only some firms can benefit from new opportunities to source intermediates from the trade agreement partner, while others cannot. As with divisions over selling, we think this is unlikely to apply in services for several reasons. First, many service sectors – like professional services, finance, and health care – mostly use non-tradable inputs, like non-offshoreable labor tasks and land. They make less use of the material inputs and capital goods of which the US is a major importer, and so are unlikely to be divided between firms that can and cannot source intermediates abroad.[19] For services industries that do rely on upstream inputs, these inputs are often skilled, labor-intensive services, in which the US holds a significant comparative advantage as we emphasize above. Finally, where there are opportunities to productively source services intermediates abroad – as in offshorable tasks like call centers, tax preparation, computer programming, and medical coding – the US is already extremely open to services imports.[20] US PTAs therefore create little *new* opening of US markets that will redistribute profits within an industry from firms that cannot source intermediates offshore to those that can.

Setting aside imported intermediates, are US services industries likely to be divided between firms that can and cannot offshore production of their final products? This explanation is unlikely to hold for similar reasons to those cited above. With a few exceptions, the production of services abroad is inefficient for US corporations given the US's relative abundance of skilled labor and services know-how. There are also strong limits on the potential for foreign production of services – even if it is cheaper – because of the proximity burden: many services must be produced where they are delivered. Finally, the US is already very open to services imports, so trade agreements do not significantly reduce US barriers to services trade. Of course, trade agreements may make foreign investment more viable through provisions on investment and dispute settlement, although such provisions are likely most relevant for services firms that produce abroad *to sell abroad* rather than to export back to the US.

The service sector's focus on investing abroad primarily to sell into foreign markets – in comparison with manufacturing's greater emphasis on investing abroad to sell back home – is illustrated by data on the sales of US multinational abroad. Using Bureau of Economic Analysis (BEA) data on foreign affiliate sales, Fig. 3 reports the share of local (i.e., host country) sales in total US MNE affiliate sales abroad.

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[19] Labor costs as a share of revenue are only 10.0% in manufacturing in the US; in information, finance, professional services, education, health care, and the arts, they are 21.7, 14,4, 39.3, 43.8, 39.2, and 31.9%, respectively. Material inputs as a share of costs are 59.5% in manufacturing; comparable data for services are not provided by the US government. These figures are calculated using data from the Economic Census of the United States in 2012, available from https://factfinder.census.gov.

[20] The wholesale and retail sectors are important exceptions which rely on foreign-made products to stock warehouses and shelves. We do not see any evidence of intra-industry disagreement in this area, however. One explanation for this may be that smaller retailers are able to rely on globally connected wholesalers to stock their shelves, and so are not excluded from the gains from global sourcing. Trade politics in these sectors merits further detailed investigation.
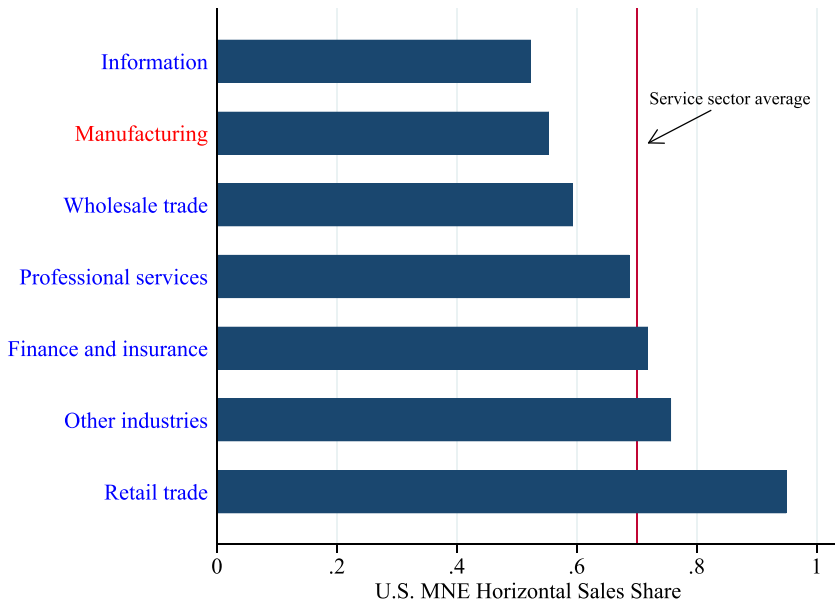
Fig. 3 Horizontal FDI: Manufacturing vs. Services. Note: Industries in blue are services. Horizontal sales shares represent total MNE affiliate sales to the host country as a share of total MNE affiliate sales. The source is publicly available BEA data and correspond to the year 2014

On average, services industries' sales to the host country account for a larger share of MNE affiliate sales than in manufacturing. For services, horizontal FDI for the purpose of selling services to the local market prevails. In contrast, with the exception of information services,[21] vertical FDI – foreign investment for the purpose of sales back to the US or to third countries – is more prevalent in manufacturing than in services.

2.4 The nature of trade liberalization in services

Any analysis of the differences between lobbying in manufacturing and services must address the fact that commitments to liberalization in PTAs differ substantially between goods and services.[22] Commitments to liberalize goods (in particular, the operation of rules on national treatment and most-favored nation) are nearly

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[21] Information services transform information into a commodity for distribution, and include publishing, motion pictures, broadcasting, and data processing, hosting and related services.

[22] These differences reflect long-standing disparities in the treatment of goods and services in the GATT/WTO. For services liberalization under the General Agreement on Trade in Services (GATS), countries identify the specific service industries to which they will apply market access and national treatment obligations, along with any exceptions to those obligations. Services commitments thus "bind" the specified market access and national treatment for the particular industry, guaranteeing that conditions will not change in ways that would harm firms in other countries.

comprehensive. In contrast, the liberalization of services usually features significantly more identified exemptions ('reservations') to market access in specified sectors, and to national treatment, MFN, or other key principals. These exceptions, contained in agreement annexes, may be quite narrow or quite broad, and typically occur in the dozens.[23]

Do these reservations (and the less comprehensive nature of services liberalization) then account for the lack of disagreement over services liberalization among US producers? Examining the reservations in US trade agreements, we see some specific examples that do look like defensive protectionism. The US maritime shipping sector is uncompetitive by global standards, and its exemptions from national treatment on domestic shipping appear anti-competitive. However, many other examples look less obviously like defensive protectionism. Many of the reservations in banking (over 30% of all reservations in US trade agreements) are relatively insignificant, and are more focused on defending the complex structure of the US financial regulatory system. The US is also highly competitive in exports of financial services, making it unlikely that the industry is demanding protection from America's much smaller PTA partners.

Examining the number of reservations (see Fig. 3) in each industry across all US trade agreements, we see several patterns which further suggest that US reservations are not primarily about defensive protectionism and so are not likely to be the primary explanation for industrial unity in services. First, US reservations vary relatively little across trade partners, and reservations are often cut and pasted from one agreement to the next.[24] US industries do not demand more reservations with more competitive producers of services, suggesting that reservations may be more about legal compliance than protection. Second, the number of US reservations across industries is uncorrelated with US competitiveness in services. The small number of uncompetitive US service industries are not systematically receiving more reservations. Finally, the US has fewer reservations than all of its trade partners but for Canada, Australia, Guatemala, Nicaragua, Bahrain, and Oman. Most of the US trade partners with noticeably fewer reservations look like states with stunted service sectors, again suggesting that reservations are not mainly about evading competition.

Overall, we think it is unlikely that reservations are a primary cause of industrial harmony in services though they may serve such a role in a few instances. Rather than lobbying defensively for domestic protection during the design phase of trade agreements, US services firms are likely to be strongly advocating for the removal of

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[23]Responding to this feature of services liberalization, many of the advocates for services liberalization in the United States, like the Coalition of Services Industries, have pushed for a "negative list" approach to negotiations over services liberalization. Under this approach, all services are assumed to be open across all modes of delivery *unless* a specific reservation has been taken. Roy et al. (2007) find that services commitments in US PTAs tend to significantly reduce services trade barriers beyond countries' GATS offers.

[24]Table D.2 in the Supplementary Material shows that the language similarity among US annexes, which include reservations related to US service industries, is quite high for US PTAs. To obtain these indices, we rely on the Jaccard measures of language similarity implemented by the R package 'textreuse.' For a similar approach, see Wilkerson et al. (2015).

Table 3 Reservations on services across US trade agreements

	Total reservations		Sector with most reservations	
Agreement	By US	By partner	US	Partner
NAFTA				
Canada	55	49	Banking	Transport
Mexico	55	111	Banking	Transport
Jordan	1	15	Communications	Business services
Chile	44	75	Banking	Banking
Singapore	44	95	Banking	Banking
Australia	45	36	Banking	Transport
Morocco	44	74	Banking	Banking
CAFTA-DR				
Costa Rica	46	61	Banking	Transport
Dominica Rep.	46	53	Banking	Business services
El Salvador	46	39	Banking	Banking
Guatemala	46	21	Banking	Banking
Honduras	46	64	Banking	Business services
Nicaragua	46	43	Banking	Business services
Bahrain	38	25	Banking	Business services
Oman	45	26	Banking	Business services
Peru	44	52	Banking	Transport
Colombia	44	66	Banking	Transport
Panama	44	46	Banking	Transport
South Korea	46	129	Banking	Business services

Data compiled by the authors from the I-TIP Services database collected by the WTO and the World Bank, available at https://i-tip.wto.org/services/Search.aspx

barriers abroad so that they may take advantage of their superior competitiveness. The removal of such barriers has been at the center of pro-trade advocacy by the Coalition of Service Industries and the Entertainment Industry Coalition for Free Trade, for example, and industry associations like the Business Software Alliance, the Financial Services Roundtable, and the Computer and Communications Industry Association. Once access abroad is (at least partly) secured, service industries then actively and in a united fashion support US trade agreements as we show below (Table 3).

Summarizing our discussion, we wish to test two main hypotheses. First, we expect that intra-industry divisions over whether to support a US trade agreement will be much scarcer among services industries than in the goods-producing industries. Second, because service industries lack the motive for internal disagreements seen in goods-producing industries with intra-industry trade and significant vertical offshoring, we also expect services industries to lobby and take positions more often

as a collective, via their associations, rather than as individual firms.[25] In both cases, we expect that services' considerable comparative advantage is a primary mechanism which drives this outcome. We now describe the data to test these claims.

3 Data and empirical strategy

We now introduce two complementary datasets on the political activities of American industries. We describe the collection of the datasets and their relative merits, and introduce our four measures of industrial fragmentation as well as the main explanatory variables in our models of differences between goods and services industries in their trade policy lobbying and position-taking. We then discuss our reduced-form and instrumental variable (IV) strategies for exploring our proposed mechanism, the pronounced US comparative advantage in services.

3.1 Outcomes

One of the contributions of this paper is to assemble a complete dataset of lobbying related to US trade agreements. The Lobbying Disclosure Act (LDA) imposes strict disclosure requirements on every individual and firm that lobbies the government. Lobbyists must file a registration indicating the amount that firms and associations spend on lobbying. An immense literature in political science and economics considers political contributions,[26] and recent work has examined lobbying expenditures documented in LDA reports in the context of trade and globalization policy (Bombardini and Trebbi 2012; Kim 2017; Osgood 2018; Goldstein and You 2017; You 2017). We collect all LDA reports related to lobbying on the implementation of US trade agreements from Kim (2018).

Our empirical approach requires that we identify whether each firm and association filing an LDA report on a US PTA was in favor of, or opposed to, the trade agreement. That is, we record the 'direction' of lobbying by each participant for each individual trade agreement. This information is generally not stated in the LDA reports, so we use a variety of sources to determine the positions of lobbying firms and associations, including Lexis/Nexis, Factiva, and the Bloomberg Database. Details about the data collection are provided in the Appendix A.

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[25] Our argument does not imply uniform support for liberalization among all US services firms or for all services industries. Relatively non-tradeable services, like construction, may be disinterested in trade liberalization though they may still benefit from liberalization of foreign investment. Likewise, smaller services firms are less likely to make significant gains from trade agreements, as exporting and horizontal FDI are heavily concentrated among the larger firms. Where America's smaller services firms differ from its smaller goods-producing firms is that they are also less likely to face losses from trade agreements, and so have no obvious motive to oppose those agreements.

[26] For an excellent review, see De Figueiredo and Richter (2014).

Lobbying reports do not include standard identifiers for the industries of lobbying clients. We therefore manually match each firm and trade association to sector identifiers using 4-digit NAICS codes from a variety of sources including Compustat, company websites, and online business directories. Of the 282 unique client entries, we were able to assign specific NAICS codes to 245 (159 firms and 86 trade associations). The remaining 37 clients, to which we do not assign a specific NAICS code, are peak associations that include virtually every industry (e.g. the Business Roundtable) and activist groups (e.g. the Council for Citizens Against Government Waste). We exclude these from the analysis. In line with previous studies and with our theoretical framework, we examine these data at the industry-PTA level.

We create two different outcome variables to capture industry lobbying over trade. First, we create a variable *Divided* that equals 1 if at least one firm or association lobbied against a trade agreement in industry i while at least one other firm or association lobbied in favor of the agreement in that same industry.[27] Second, following Bombardini and Trebbi ([2012](#)), we construct *Lobby separate* as the share of total (firms' plus associations') lobbying expenditures undertaken by the firms in industry i. This variable provides one measure of the extent of collective action within a sector through associations as opposed to independent action by individual firms.[28]

To corroborate our results using the lobby data, we employ complementary data on public position-taking by firms and associations on US PTAs from NAFTA to the present.[29] Position-taking is an alternative mode of political engagement for firms and associations. Much of this position-taking occurs through the creation of *ad hoc* coalitions to support particular trade agreements. For example, 184 firms and 69 industry associations from goods-producing industries joined the Business Coalition for US Central American Trade, a coalition formed to publicly support CAFTA-DR; 187 service firms and 53 service industry associations did the same. Public statements from these coalitions are supplemented with statements in public submissions to the USTR, Congressional testimony, association press releases, and other idiosyncratic sources. We describe these data in greater detail in the Appendix A.

There are theoretical and empirical reasons to consider this alternative source of data. On the theoretical side, public position-taking is complementary to lobbying: to the extent that an industry cannot decide on a common position on which to lobby, it

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[27]We focus on producers rather than labor. Many labor unions representing service workers have lobbied against US trade agreements. This may suggest concerns about the offshoring of services jobs, as in Chase ([2008](#)), Walter ([2010](#), [2017](#)), Owen ([2016](#)), and Owen and Johnston ([2017](#)), or a more general anti-trade orientation among the US labor movement. We sidestep these issues here, as we are operating under a standard assumption that firms' engage in lobbying with the purpose of maximizing profits. We recognize that workers within the firm may have different trade policy preferences. However, a profit-maximizing firm may lobby for a trade agreement that provides new market opportunities even if some of its employees oppose trade deals due to their own employment insecurities. Intra-firm disagreements over trade are an interesting and important area for future research, but beyond the scope of our paper.

[28]The results are similar if we use a variable that divides the number of associations that lobbied in industry i by the number of firms and associations that lobbied in the same industry. We label this variable *Firm-centric Lobby* and we show the results in Table D.3 in the Supplementary Material.

[29]These data are introduced in Osgood ([2018](#)) and Osgood and Feng ([2018](#)).

will not be able to formulate a common public position either. Public position-taking is also less costly than lobbying, which requires researching and retaining a lobbyist. These lower costs mean that significantly more firms and associations participate, and that the variation in position-taking data is correspondingly richer. Likewise, opponents to trade are less likely to be forced to self-censor, which is especially important for our claim that service industries do not generally oppose US PTAs.

On the empirical side, we emphasize that our position-taking data were collected independently. To the extent that our main findings are consistent across both sources of data, we increase the confidence that our main findings are not being driven by the peculiarities of one approach over another. We note several differences in the data collection on position-taking. These data are organized at the 6-digit NAICS level for each US PTA rather than at the 4-digit level, and firms' and associations' industries were classified independently. It is reassuring that our results are similar using totally independent classifications of firms and associations into industries.

We examine two outcome variables using the position-taking data, analogous to those defined above for the lobbying data. First, we code an industry as *Divided* over a particular agreement if at least one firm or association in the industry publicly supported the agreement and at least one firm or association publicly opposed it, as above. Second, we define a variable, *Positions separate*, as the share of all position-taking in an industry that was conducted by firms.[30]

3.2 Independent variables and controls

Our initial main independent variable is a dummy for the service sector, *Services*. This dummy equals 1 if the industry falls outside of the agriculture, mining, or manufacturing NAICS industries beginning with the numbers 111-114, 211-212, and 31-33.[31] In some models we include intercepts at the subsectoral level – for example, for wholesale, retail, finance, and other business services – to examine variation within the service sector. We later investigate our primary theoretical mechanism – comparative advantage – as an alternative main explanatory variable. We describe this variable's construction and our reduced-form and IV approaches below.

We control for several variables at the more disaggregated industry level. First, it is common for industries to lobby on several agreements in the same report, especially where agreements were concurrently under consideration as with KORUS, and the Panama and Colombia PTAs. Thus, we include a variable counting the number of trade agreements for which clients lobbied or took positions in industry *i* (*PTA Total*). Second, we control for a variable counting the number of issue areas lobbied by clients in industry *i* (*Issue Area Total*). Clients in services lobbied for more PTAs and in a larger number of issue areas in comparison with clients in other sectors. Both

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[30]Results are similar if we use a continuous measure of intra-industry divisions over trade which is equal to $1 - \frac{|\#Opposing - \#Supporting|}{\#Opposing + \#Supporting}$ where #Supporting is the count of all firms and associations that supported a trade agreement and #Opposing is the count of all firms and associations that opposed a trade agreement (see Table D.23 in the Supplementary Material).

[31]Agricultural support activities (NAICS 115) and Support activities for mining (NAICS 213) are included among the services industries.

variables are measured at the 4-digit NAICS level for the lobbying data and at the 6-digit NAICS level for the position-taking data. Our tables of results refer to these as the 'LDA controls.'

We consider two additional controls. First, we use the industry's sales in the 2012 economic census to control for the size of the industry. Second, using the same source, we control for the four-firm concentration ratio, which is commonly thought to be negatively correlated with the difficulty of collective action. Industries in which firms are relatively equal in size may face greater organizational challenges, as no major firms are available to lead collective efforts. Both variables are at the 4-digit NAICS level for the lobbying data and at the 6-digit NAICS level for the position-taking data. We refer to these as 'Industry controls.' Table D.5 in Supplementary Material has summary statistics.[32]

3.3 Empirical strategy

Our initial empirical specifications focus solely on identifying the differences between goods-producing and services-producing industries. To examine the extent of intra-industry disagreements, whether in lobbying or position-taking, we estimate the model:

$$Y_{ij} = \alpha + \beta \cdot \text{Services}_i + \boldsymbol{\gamma} \cdot \mathbf{x}_i + \delta_j + \epsilon_{ij},$$

where Y_{ij} represents the aforementioned outcome variables and the coefficient of interest is β, which we expect to be negative and statistically significant. α is the intercept; $\boldsymbol{\gamma}$ is a vector of coefficients for the measured control variables $\mathbf{x}_i$; δ_j are PTA intercepts, and ϵ_{ij} is the error term. We estimate ordinary least squares (OLS) models with robust standard errors.[33] Although the outcome *Divided* is dichotomous, we employ a linear model so that we may include PTA fixed effects and avoid the incidental parameter problem with generalized linear models.[34]

4 Results

4.1 Intra-industry divisions over US trade agreements

Table 4 reports our estimates of intra-industry divisions over trade agreements. The upper panel displays the lobbying data, which shows that when *Divided* is the outcome variable (Models 1–3), the coefficient for *Services* is negative and statistically

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[32]Our main findings are similar if we use a different set of controls including total factor productivity and capital–labor ratio (data from Orbis 2014), though we lose a large number of observations. These results are reported in Table D.6 in the Supplementary Material.

[33]Clustering standard errors at the PTA level is problematic, given the small number of clusters. The results hold if we cluster standard errors at the industry level (see Table D.7 in the Supplementary Material) and if we use bootstrapped standard errors (see Table D.8 in the Supplementary Material).

[34]The results are virtually the same if we use a probit or logit model for *Divided* and fractional regressions, which are particularly suitable when the outcome variable ranges between 0 and 1, for *Lobby separate* and *Positions separate* (see Table D.9 in the Supplementary Material).

Table 4 Divisions in lobbying and position-taking

Data on lobbying

	Divided			Lobby separate		
	(1)	(2)	(3)	(4)	(5)	(6)
Services	−0.130**	−0.133**	−0.084*	−0.513**	−0.486**	−0.366**
	(0.015)	(0.015)	(0.037)	(0.023)	(0.022)	(0.056)
Intercept	0.139**	0.115**	0.115	0.792*	0.876**	−0.231
	(0.010)	(0.014)	(0.139)	(0.016)	(0.017)	(0.214)
LDA controls	No	Yes	Yes	No	Yes	Yes
Industry controls	No	No	Yes	No	No	Yes
Agreement FE	No	No	Yes	No	No	Yes
Observations	1,293	1,293	1,164	1,293	1,293	1,164
R^2	0.068	0.084	0.094	0.280	0.366	0.494

Data on position-taking

	Divided			Positions separate		
	(1)	(2)	(3)	(4)	(5)	(6)
Services	−0.075**	−0.071**	−0.110**	−0.199**	−0.223**	−0.291**
	(0.007)	(0.007)	(0.012)	(0.013)	(0.014)	(0.015)
Intercept	0.094**	0.102**	0.137	0.710**	0.756**	−0.627**
	(0.006)	(0.015)	(0.096)	(0.007)	(0.027)	(0.106)
LDA controls	No	Yes	Yes	No	Yes	Yes
Industry controls	No	No	Yes	No	No	Yes
Agreement FE	No	No	Yes	No	No	Yes
Observations	4,277	3,509	1,856	4,277	3,509	3,049
R^2	0.025	0.032	0.197	0.057	0.119	0.285

** p-value<0.01; * p-value<0.05. OLS with robust standard errors in parentheses. Unit of observation is industry PTA (4-digit NAICS for lobbying data and 6-digit NAICS for position-taking data). *Services* is the dummy capturing service industries. For lobbying data the dependent variables are (i) *Divided*, which equals 1 if at least one firm or association lobbied against a trade agreement in industry *i* while at least one other firm or association lobbied in favor of the trade agreement in that industry and (ii) *Lobby separate*, which is the share of all lobbying expenditures undertaken by the firm(s) in industry *i*. For position-taking data the dependent variables are (i) *Divided*, which equals 1 if at least one firm or association publicly supported and at least 1 one firm or association publicly opposed an agreement and (ii) *Positions separate*, which is the share of all public positions taken by firms. 'LDA controls' include *Issue area total* and *PTA total*, whereas 'Industry controls' include sales and concentration. Sources: LDA dataset, position-taking data, 2012 economic census

significant in all models. The magnitude of the effect is not trivial: more than 13% of goods-producing industries that lobby on trade agreements evince divisions on those agreements. For services, this number is just above 0. Models 4–6 show the results when *Lobby separate* is the outcome variable. The coefficient for *Services* is negative (and significant), as expected. The magnitude of the effect is remarkable: according

to the estimates in Column 4, the proportion of lobby spending from firms is 51% smaller in services than in goods.

In sum, these results are consistent with our claim that services are less fragmented than other sectors over preferential trade liberalization. Among the controls that are significant, *PTA Total* is negatively correlated with the outcomes, whereas *Area Total*, *Size*, and *4-firm Conc.* are positively correlated with the outcomes.[35]

These findings from the lobbying-based outcomes are replicated using the independently collected data on public position-taking, which are reported in the bottom panel of Table 4. Intra-industry divisions are substantially less likely to occur in the services industries (a rate of around 2.0%) in comparison with goods-producing industries (a rate of 9.4%). Similarly, position-taking in the services industries is generally more centered around industry associations than individual firms. We do highlight, however, that services firms are certainly still active in position-taking, they are just much more likely to be either accompanied or superseded by their industry associations than goods-producing firms.[36]

Selection bias A possible concern with these initial findings is that services are less likely to lobby in the first place, since certain services industries are relatively untradable because the industries produce goods that are intangible, perishable, or require face-to-face inter-personal contact. Services industries where this proximity burden remains high are unlikely to have any strong stake in trade agreements, and so are unlikely to lobby on these agreements. If so, there is a risk that our estimates of *Services* are biased downwards. To address this concern, we run a two-stage Heckman model Heckman (1979). In the first stage, we predict the probability that an industry will lobby for or against a PTA using the *entire sample* of NAICS 4-digit industries as a selection equation. In the second stage, we run our main models with *Divided* and *Lobby separate* as outcomes. This outcome equation accounts for the correlation between the error terms of the two equations through the inclusion of the inverse Mills ratio.

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[35]We re-run our main models using 2-digit NAICS dummies for different services industries. The results, reported in Table D.10 in the Supplementary Material, indicate that lower fragmentation in services seems to be driven primarily by the retail, professional services, and finance. We note that the US has a clear comparative advatnage in these industries as showed in Fig. 2.

[36]Table D.24 in Supplementary Material shows heterogeneous effects across partners. In particular, we interact *Services* with a dummy capturing large trading partners (Australia, Korea and NAFTA [for position-taking only]) and a dummy capturing developed trading partners (Australia, Bahrain, Morocco, NAFTA [for position-taking only], Oman, Singapore, and South Korea). The expectation is that we should observe more industrial disagreement in the case of large developed economies, which are particularly competitive in services, compared to smaller developing countries. This expectation is met for data on position-taking, whereas we find no heterogeneous effects for the data on lobbying. The latter result may be explained by the lack of variation across PTAs due to a relatively small sample and by the fact that firms and associations lobby typically for several PTAs at the same time. For instance, firms and associations lobbying for the PTA with South Korea are often lobbying also for the PTAs with Colombia, Panama, and Peru. This interdependence across PTAs makes it difficult to pin down the effect of *Services* on lobbying activities related to specific PTAs.

In order to correctly identify the two-stage selection model, we require an instrument that predicts lobbying but does not affect industrial disagreement. An obvious candidate is a variable capturing the tradability of the industry's output. That is, firms in non-tradable industries are unlikely to lobby over trade, and thus tradability can explain which industries select into trade politics. Moreover, tradability is unlikely to affect the degree of industrial fragmentation over trade under the assumption that industries that lobby over trade are only those that produce tradable outputs. To capture tradability at the 4-digit NAICS level, we use a dummy variable developed by Jensen and Kletzer (2010).[37]

Table D.11 in the Supplementary Material reports the results of the Heckman models. The coefficient of *Services* remains negative and significant across all model specifications except Model 3. Note that we have data on tradability for a restricted number of observations in the selection equation (fewer than 800), and so the results are not directly comparable.[38] Importantly, the coefficients for both *Services* and *Tradability* have the expected sign in the selection equation – negative and positive, respectively. The inverse Mills ratios is only significant in Models 4–6, implying that the selection model is not necessary in models in which *Divided* is the outcome.[39] We therefore find no evidence that selection bias affects our results.

4.2 The role of comparative advantage

Our explanation for sectoral differences in trade policy positions emphasizes the large comparative advantage enjoyed by the US in services in comparison with other sectors. To further evaluate this logic, we estimate our main models including a variable that captures the strength of the comparative advantage in industry *i*. Our industry-level measure is constructed based on US import and export values at the 4-digit NAICS level for goods[40] and the Extended Balance of Payments (EBOPS) classifications for services.[41] We take average import and export values from the 1990s, so that comparative advantage is measured prior to most US PTAs. Our measure of

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[37] Industry tradability is characterized according to the geographic concentration of the 6-digit NAICS industry in the United States. When production exceeds local demand, the excess supply must be either consumed or exported to another region. Thus, low concentration implies low tradability. An advantage of this approach is that it can be applied to services as well as goods.

[38] Limited variation in the restricted sample explains why our *Divided* model results are weaker.

[39] As expected, tradability is completely orthogonal to the two outcomes, i.e. $\rho < 0.1$

[40] The goods trade data are from Comtrade.

[41] The services data are from the World Bank's Trade in Services Database, available at https://data.worldbank.org/data-catalog/trade-in-services. We use EBOPS classifications that roughly equate to 2-digit NAICS services industries. In analyzing goods trade, researchers have access to monthly data on US goods exports and imports for over 8,000 product categories. In services, the US trade statistics cover only around 40 categories annually since 2006, and fewer categories prior to that. For the vast majority of US PTA partner countries, there is no disaggregated bilateral services trade data prior to 2006. The mismatch in the level of aggregation between the services and goods data, as well as the relative coarseness of the services data, force us to adopt a summary proxy for comparative advantage.

comparative advantage, *US Net-exporting*, is a dummy variable scoring one if a US industry i is net-exporting relative to the world.[42] We expect that *US Net-exporting* will be negatively associated with *Divided*, *Lobby separate*, and *Positions separate*.

We first examine the correlation between *Services* and *US Net-exporting*, which is 0.71 (s.e.=0.03) for the lobbying data and 0.62 (s.e.=0.01) for public position-taking. For some service industries such as retail, professional services, and management of companies, *US Net-exporting* equals one. A notable exception is construction, which is always zero. Given the high correlation between *Service* and *US Net-exporting*, which is in line with our theory, we do not include both covariates at the same time and show the results with only *US Net-exporting* included.[43]

The results appear in Table 5. Examining the results on lobbying first, where *Divided* is the outcome (Models 1–3), the coefficient for *US Net-exporting* is negative and statistically significant. Moreover, *US Net-exporting* is negative and significant when *Lobby separate* is the dependent variable in Models 4 and 5. In Model 6, the coefficient of *US Net-exporting* is negative, but significant only with p<0.1. The magnitude of the effect is substantial, although smaller than for *Services*. In our best model specifications, comparative advantage industries are 11% less likely to be divided over trade agreements, and 29% less likely to lobby as firms. These findings are confirmed when we use data on public position-taking. In sum, these results are consistent with our proposed mechanism: US industries with a comparative advantage are more likely to homogeneously support trade liberalization.[44]

Offshorability Our theory suggests that industrial disagreement is lower in services than in merchandise, in part because a strong comparative advantage reduces firms' incentives to offshore production. To account for this mechanism, we rely on a variable capturing offshorability, which is the proportion of vertical sales to the US over the total amount of MNE activities.[45] The first thing to note is that *Offshorability* is highly negatively correlated with *Services* ($\rho = -0.50$). In fact, the share of vertical sales is 13% for merchandise, whereas it is 5% for services. Second, *Offshorability* is negatively correlated with *Net-exporting* ($\rho = -0.43$). The share of vertical sales is 13% for comparative disadvantage industries, whereas it is 7% for comparative advantage industries.

Table D.15 in Supplementary Material reports the results of models including both *US Net-exporting* and *Offshorability*. The coefficient of *US Net-exporting* remains negative and significant throughout all models, whereas the coefficient of *Offshorability* has the expected positive sign, though it is significant only in Models 3 and 4.

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[42]Our results are similar if we use an ordinal measure of comparative advantage (see Table D.12 in Supplementary Material). While an RCA measure – ideally one capturing US RCA relative to the PTA partner – would be preferable, we are unable to build such a measure at the 2-digit level due to the aforementioned data limitations.

[43]The results are similar if we include *Service*, the coefficient of which is always negative and significant.

[44]The results hold if we cluster standard errors at the industry level (see Table D.13 in the Supplementary Material) and if we use bootstrapped standard errors (see Table D.14 in the Supplementary Material).

[45]The data correspond to the year 2014 and are derived from publicly available BEA statistics.

Table 5 The role of comparative advantage

Data on lobbying

	Divided			Lobby separate		
	(1)	(2)	(3)	(4)	(5)	(6)
US Net-exporting	−0.107**	−0.109**	−0.077**	−0.268**	−0.294**	−0.040
	(0.017)	(0.017)	(0.017)	(0.027)	(0.024)	(0.023)
Intercept	0.131**	0.118**	−0.247**	0.674**	0.812**	−0.987*
	(0.016)	(0.016)	(0.057)	(0.021)	(0.023)	(0.120)
LDA controls	No	Yes	Yes	No	Yes	Yes
Industry controls	No	No	Yes	No	No	Yes
Agreement FE	No	No	Yes	No	No	Yes
Observations	1,233	1,233	1,147	1,233	1,233	1,147
R^2	0.044	0.054	0.110	0.073	0.206	0.463

Data on position-taking

	Divided			Positions separate		
	(1)	(2)	(3)	(4)	(5)	(6)
US Net-exporting	−0.040**	−0.041**	−0.048**	−0.098**	−0.119**	−0.128**
	(0.008)	(0.008)	(0.013)	(0.013)	(0.015)	(0.015)
Intercept	0.085**	0.093**	0.121	0.636**	0.735**	−0.332**
	(0.007)	(0.016)	(0.088)	(0.009)	(0.029)	(0.109)
LDA controls	No	Yes	Yes	No	Yes	Yes
Industry controls	No	No	Yes	No	No	Yes
Agreement FE	No	No	Yes	No	No	Yes
Observations	4,253	3,489	2,027	4,253	3,489	3,313
R^2	0.008	0.029	0.138	0.038	0.096	0.170

** p-value<0.01; * p-value<0.05. OLS with robust standard errors in parentheses. Unit of observation is industry-PTA (4-digit NAICS for lobbying data and 6-digit NAICS for position-taking data). *US Net-exporting* is the dummy capturing comparative advantage. For lobbying data the dependent variables are (i) *Divided*, which equals 1 if at least one firm or association lobbied against a trade agreement in industry *i* while at least one other firm or association lobbied in favor of the trade agreement in that same industry and (ii) *Lobby separate*, which is the share of all lobbying expenditures undertaken by the firm(s) in industry *i*. For position-taking data, the dependent variables are (i) *Divided*, which equals 1 if at least one firm or association publicly supported and at least one firm or association publicly opposed an agreement and (ii) *Positions separate*, which is the share of all public positions taken by firms. 'LDA controls' include *Issue area total* and *PTA total*, whereas 'Industry controls' include sales and concentration. Sources: LDA dataset, position-taking data, 2012 economic census, Comtrade, and World Bank's Trade in Services Database

Note that we are unable to run the models with 'Industry controls' for two reasons: we lose a large number of observations and *Offshorability* is highly correlated with *Sales*. However, Models 2 and 4 both include agreement fixed effects.

4.3 Instrumental variables

Our reduced-form estimates show a strong association between patterns of lobbying and comparative advantage. While we have tried to address confounding factors and selection bias, this association should not be interpreted causally. Two threats to identification stand out. First, trade patterns are endogenous to the presence or absence of trade agreements. Though we measure comparative advantage prior to most agreements, it may be that firms anticipate the gains from trade before the actual negotiation and implementation of PTAs. In other words, firms may increase exports in comparative advantage industries knowing that they will be able to shape trade policy in the future through lobbying and political connections. Since we seek to explain industrial fragmentation and not lobbying *per se*, this threat is somewhat mitigated yet it remains a concern. Second, omitted variables may bias our estimates. Unfortunately, potentially relevant confounders such as the degree of product differentiation are simply unavailable for services industries. As a result, all relevant confounders that could affect both outcomes and the main independent variable represent a possible threat to identification.

We use an IV approach to address these concerns. Specifically, we instrument for industry-level *US Net-exporting* using trade data from U.K. trade balances at the 4-digit NAICS level for goods[46] and the EBOPS classifications for services.[47] That is, we construct net-exporting indicators for U.K. industries that we use as instruments for US export competitiveness.[48] We expect that the U.K. and the US will have similar comparative advantages across both goods and services owing to their similar factor endowments, industrial structure, and economic institutions.[49] We also assume that U.K. industry-level trade balances are plausibly exogenous to industrial fragmentation among US firms lobbying over trade agreements except through their correlations with US trade balances. As with the US data, we employ average import and export values during the 1990s. Similar to *US Net-exporting*, our instrument *U.K. Net-exporting* scores one if U.K. exports to the rest of the world are larger than U.K. imports from the rest of the world for a specific industry i.[50] Formally, we estimate the following two-stage model. The first stage is:

$$\text{US Net-exporting}_{ij} = \alpha_1 + \beta_1 \cdot \text{U.K. Net-exporting}_i + \boldsymbol{\gamma}_1 \cdot \mathbf{x}_i + \delta_j + \epsilon_{1ij},$$

The second stage is:

$$Y_{ij} = \alpha_2 + \beta_2 \cdot \text{US } \widehat{\text{Net-exporting}}_i + \boldsymbol{\gamma}_2 \cdot \mathbf{x}_i + \delta_j + \epsilon_{2ij},$$

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[46] The goods trade data are from Comtrade.

[47] The services data are from the World Bank's Trade in Services Database. We use the EBOPS classifications that are roughly equivalent to 2-digit NAICS services industries.

[48] Our identification strategy is similar to that of Autor et al. (2013), who use Chinese exports to other developed countries to instrument for Chinese exports to the US

[49] The U.K. was the second-largest exporter of services in the 1990s.

[50] We considered netting out U.K. trade with the US, but bilateral country-industry trade data (as opposed to country-industry global imports and exports data) are incomplete for services industries in the 1990s.

where *U.K. Net-exporting* is the instrument, US $\widehat{\text{Net-exporting}}$ is the instrumented variable, and all the other variables are the same as in the reduced-form models. We expect that β_1 will be positive and β_2 negative.

To correctly identify our IV models, four assumptions have to hold. First, *U.K. Net-exporting* has to be a strong predictor of *US Net-exporting*. The correlation between the two is 0.77, and it is as high as 0.89 for services, which is in line with Fig. 1. Moreover, Table D.16 in the Supplementary Material shows the first stage of our IV regressions: the sign of *U.K. Net-exporting* is always positive and significant, and the F-test is always substantively higher than 10. The measure of comparative advantage from other industrialized economies such as France and Germany has a significantly lower correlation with *US Net-exporting*.[51]

Second, while some industries may not be affected by our instrument, those that are should be impacted in the same direction. We have no reason to believe that the U.K. being a net exporter will have effects that are heterogeneous in sign across different industries. The third assumption is that our instrument should be as good as random. While comparative advantage does not vary randomly across industries, Table D.17 in the Supplementary Material shows that *U.K. Net-exporting* is weakly correlated with many confounders with the exception of *ln(Sales)*, which we include as a control in some models. While not conclusive, these low correlations provide reassurance of the validity of our instrument.

Fourth, our instrument must meet the exclusion restriction assumption, i.e. it has to affect the outcome only through the instrumented variable. While there is no test to assess the validity of this assumption, we can discuss possible threats to the exclusion restriction and their implausibility. Importantly, U.K. firms may participate in lobbying activities related to US trade agreements. Indeed, comparative advantage should facilitate the entry of U.K. firms into the US market. Once in the US market, U.K. firms, and foreign firms more generally, may find it easier to lobby through associations, since they may lack political connections or familiarity with the lobbying process. We directly address this objection by noting that we have no U.K. firm participating in lobbying activities related to PTAs in our sample.

As in Autor et al. (2013), demand shocks may be correlated for US and U.K. products in ways that may affect both trade flows and trade policies. If so, our results would be driven by consumers' preferences rather than producers' interests. In our case, this is less of a concern, since our measure of comparative advantage captures both imports and exports.[52] Furthermore, it may be that technological shocks affect some US and U.K. industries. For example, they may have a negative impact on labor-intensive industries that affects both trade flows and lobbying behavior. However, this concern is mitigated by the fact that we use baseline values of imports and exports in the pre-PTA period (the 1990s).[53]

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[51] The correlation between France and US comparative advantage is close to zero for services, whereas the correlation between Germany and US comparative advantage is 0.3.

[52] Autor et al. (2013) confirm the robustness of their instruments using a measure of comparative advantage in a gravity model.

[53] China's entry into the WTO in 2001 is not a threat to our identification strategy using data from this time.

Table 6 Instrumental variable approach for comparative advantage

Second-stage results for data on lobbying

	Divided			Lobby separate		
	(1)	(2)	(3)	(4)	(5)	(6)
US Net-exporting	−0.144**	−0.161**	−0.054	−0.584**	−0.624**	−0.126*
	(0.033)	(0.034)	(0.050)	(0.062)	(0.056)	(0.062)
Intercept	0.155**	0.154**	−0.293*	0.879**	1.034**	−0.767**
	(0.025)	(0.026)	(0.121)	(0.045)	(0.042)	(0.176)
LDA controls	No	Yes	Yes	No	Yes	Yes
Industry controls	No	No	Yes	No	No	Yes
Agreement FE	No	No	Yes	No	No	Yes
Observations	1,224	1,224	1,138	1,224	1,224	1,138
K-P LM statistic	253.24**	253.84**	86.17**	253.24**	253.84**	86.17**
Wald F-statistic	386.45**	390.27**	115.23**	390.27**	444.19**	115.23**

Second-stage results for data on position-taking

	Divided			Positions separate		
	(1)	(2)	(3)	(4)	(5)	(6)
US Net-exporting	−0.166**	−0.148**	−0.221**	−0.512**	−0.626**	−0.523**
	(0.028)	(0.034)	(0.055)	(0.051)	(0.070)	(0.070)
Intercept	0.159**	0.194**	0.290**	0.881**	1.215**	−0.324**
	(0.018)	(0.036)	(0.096)	(0.031)	(0.075)	(0.123)
LDA controls	No	Yes	Yes	No	Yes	Yes
Industry controls	No	No	Yes	No	No	Yes
Agreement FE	No	No	Yes	No	No	Yes
Observations	4,253	3,489	2,027	4,253	3,489	3,313
K-P LM statistic	373.42**	235.75**	138.13**	373.42**	235.75**	201.82**
Wald F-statistic	37.56**	15.53**	11.11**	102.22**	82.86**	43.28**

** p-value<0.01; * p-value<0.05. Two-stage least squares (2SLS) with robust standard errors in parentheses. Unit of observation is industry-PTA (4-digit NAICS for lobbying data and 6-digit NAICS for position-taking data). *US Net-exporting* is the dummy capturing US comparative advantage; *U.K. Net-exporting* is the instrument (the first stage is reported in Table D.16 in Supplementary Material). For lobbying data the dependent variables are (i) *Divided*, which equals 1 if at least one firm or association lobbied against a trade agreement in a given industry *i* while at least one other firm or association lobbied in favor of the trade agreement in that same industry and (ii) *Lobby separate*, which is the share of all lobbying expenditures undertaken by the firm(s) in industry *i*. For position-taking data the dependent variables are (i) *Divided*, which equals 1 if at least one firm or association publicly supported and at least 1 one firm or association publicly opposed an agreement and (ii) *Positions separate*, which is the share of all public positions taken by firms. 'LDA controls' include *Issue area total* and *PTA total*, whereas 'Industry controls' include sales and concentration. Sources: LDA dataset, position-taking data, 2012 economic census, Comtrade, and World Bank's Trade in Services Database

To further probe the validity of the exclusion restriction, we implement a test for plausibly exogenous instruments.[54] We leave the details of this test to Appendix B. Here we note that even with a substantial departure from the perfect instrument assumption, i.e. relaxing the exclusion restriction assumption, we find that our main results hold.

Table 6 reports the results of the IV regressions. In every model the sign of *US Net-exporting* is negative and significant. Strikingly, *US Net-exporting* remains significant even when we include PTA fixed effects.[55] This result is particularly remarkable, since PTA fixed effects reduce much of the variation of the instrument, which does not vary across trade partners. Importantly, standard diagnostic tests confirm the validity of our instrument. Specifically, the Kleibergen-Paap LM statistic shows that our instrument is *not* under-identified, whereas the Cragg-Donald Wald F statistic shows that our instrument is *not* weak.[56] The IV regressions confirm our previous findings. The magnitude of the estimates effects of net exporting in the IV estimates is larger in some models than in the OLS estimates.

5 Industry trade advisory committees

To corroborate the results of our empirical analysis, we qualitatively examine another important form of industrial participation in trade policymaking – ITACs. ITACs are public–private working groups designed to give different industries the opportunity to express support for, and voice concerns over, specific elements of US trade policy, including PTAs. In this section, we analyze all publicly available ITAC reports on every trade agreement signed by the US.[57] For each agreement, there are up to 22 ITACs representing all sectors of the economy, including 16 committees in goods and services, and six Agriculture Trade Advisory Committees (ATACs). (Throughout, we use the acronym ITACs to refer to both ATACs and ITACs.) ITAC reports must include an advisory opinion as to whether the agreement provides for equity and reciprocity within the committee's covered sector. Committee reports may include both majority and minority views.

We assess the reports along two dimensions. First, we search for whether each ITAC supported or opposed a specific trade agreement, and made a qualitative assessment of the degree of support: strong support, weak support (e.g., the committee concludes that the economic benefits are trivial due to the limited importance of the trade partner), or no support. As evidence of "no support," the reports often include

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[54] As suggested by Conley et al. (2012).

[55] Our results are similar if we use an ordinal measure of comparative advantage (see Table D.18 in Supplementary Material).

[56] The (unreported) Anderson-Rubin Wald test shows that orthogonality conditions are valid, i.e. the coefficients of the endogenous regressor in the structural equation are not equal to zero. Indeed, when we estimate the reduced form of the equation with the instrument as the regressor, its coefficient is always negative and significant (results available upon request).

[57] Reports are available at https://ustr.gov/trade-agreements/free-trade-agreements.

statements such as: "FTAs do nothing to advance the principal negotiating objectives of the sugar and sweetener industry."[58]

Second, we looked for evidence that each industry was united in its support for (or opposition to) the specific trade agreements. ITACs report majority and minority views as well as any discordant voices in the executive summary or "Advisory Committee Opinion on Agreement" sections. We assessed the levels of support as either unified (i.e., there was a consensus either in favor of or against the agreement) or divided (i.e., there were majority and minority views and/or discordant opinions on the agreement). Table 7 summarizes the results of this analysis.[59]

Our first finding is that the service sector was overwhelmingly supportive of every US trade agreement. Virtually every report drafted by an industry in the service sector contains positive language: "Overall, the Committee believes that the US-Australia FTA meets the Committee's objective of achieving new and expanded trading opportunities."[60] Where service-related ITACs raise complaints about parts of an agreement, it is always to lament that it does not enhance liberalization as much as the industry had hoped. For instance, in relation to the Australia-US trade agreement, the report complains about the lack of liberalization of Australian investment protection.[61] Similarly, the wholesale and retail trade industries have complained when PTAs do not enhance liberalization in the textile and sugar industries, which explains their weaker support. We found no instance in which the service sector asked for protectionist measures in these reports.

The results for the agricultural and manufacturing sectors are much different. Some industries are mostly against preferential liberalization regardless of the US trade partner, especially in certain agricultural industries. Indifference and opposition are also seen in manufacturing industries including Aerospace, Ferrous Metal, Footwear, Textile and Apparel, and Steel. For some of these industries, notably for Aerospace, we coded the support for preferential liberalization as generally weak since the ITAC argued that the importance of the trade partner market was limited. In other cases, such as Steel or Textile and Apparel, there are clear concerns about competition from markets with cheaper labor.

The analysis of the ITAC reports reveals that the service sector is overwhelmingly unified in its position on every trade agreement. We found no evidence of dissenting opinions within the service-related ITACs. Interestingly, reports from the service sector often mention the importance of the agreement for small to medium enterprises. For instance, with respect to trade facilitation provisions, the Services and Financial Industries ITAC's report on the Trans-Pacific Partnership argues that "These measures should help reduce time, cost, and complexity of trade for companies of all

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[58] https://ustr.gov/archive/assets/Trade_Agreements/Bilateral/Australia_FTA/Reports/asset_upload_file553_3390.pdf.

[59] Not every industry prepared a report for all trade agreements, which explains the missing information. The breakdown of the industries by sector is reported in the appendix (Tables D.20, D.21, and D.22 in Supplementary Material.

[60] https://ustr.gov/archive/assets/Trade_Agreements/Bilateral/Australia_FTA/Reports/asset_upload_file118_3412.pdf.

[61] Ibid.

Table 7 Industry trade advisory committees: results

Sector	Divided	No support	Weakly support	Strongly support
Agriculture	47%	16%	31%	53%
Manufacturing	34%	13%	38%	50%
Services	6%	0%	9%	91%

Division over or support for trade agreements is inferred by the authors from the ITAC reports

sizes, and particularly small businesses".[62] The reports related to the agreements with Bahrain, Chile, Colombia, South Korea, and Panama contain similar statements. In sum, a qualitative analysis of these reports provides ample evidence that the service sector is unified in pushing enthusiastically for these trade agreements, regardless of the US trade partner.

The same does not hold for industries in the agriculture and manufacturing sectors. Indeed, some industries are consistently divided. For instance, the ITAC on the Sweeteners industry always reports both majority and minority views. The ITAC on the Footwear and Textile and Apparel industries often reports "divergent opinions held by the different sectors of this industry."[63] Even these industries, which have a mostly unified position on trade agreements, sometimes face fragmentation for at least one of the trade agreements. For instance, the Tobacco industry is unified, but often displays lukewarm support for preferential liberalization, while the Steel industry is always unified in opposing the formation of trade agreements. Thus the ITAC reports confirm that the services sector has consistently been the most pro-trade sector in the US, articulating in ITAC reports its strong support for all US trade agreements.

5.1 Services' trade policy objectives: Text analysis of ITAC reports

To document the preferences of service actors and to compare them with firms in goods industries, we conducted a text analysis of the ITAC reports in the services, goods, and agricultural[64] sectors.[65] We expect US service firms to strongly favor the market liberalization of US trade partners due to the high levels of service sector restrictions in foreign countries relative to the US, and the new market opportunities for relatively competitive US service providers. We began by searching for statements affirming that the particular PTA contains favorable provisions to increase market

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[62]https://ustr.gov/sites/default/files/ITAC-10-Services-and-Finance-Industries.pdf.

[63]For instance, see https://ustr.gov/archive/assets/Trade_Agreements/Bilateral/Chile_FTA/Reports/asset_upload_file480_4953.pdf.

[64]We do not theorize about the agricultural sector and thus do not hold priors about lobbying in this sector. Rather than exclude the agricultural trade advisory committee reports, we include them for comparative purposes and in hopes of spurring future research on the sector's trade policy stances.

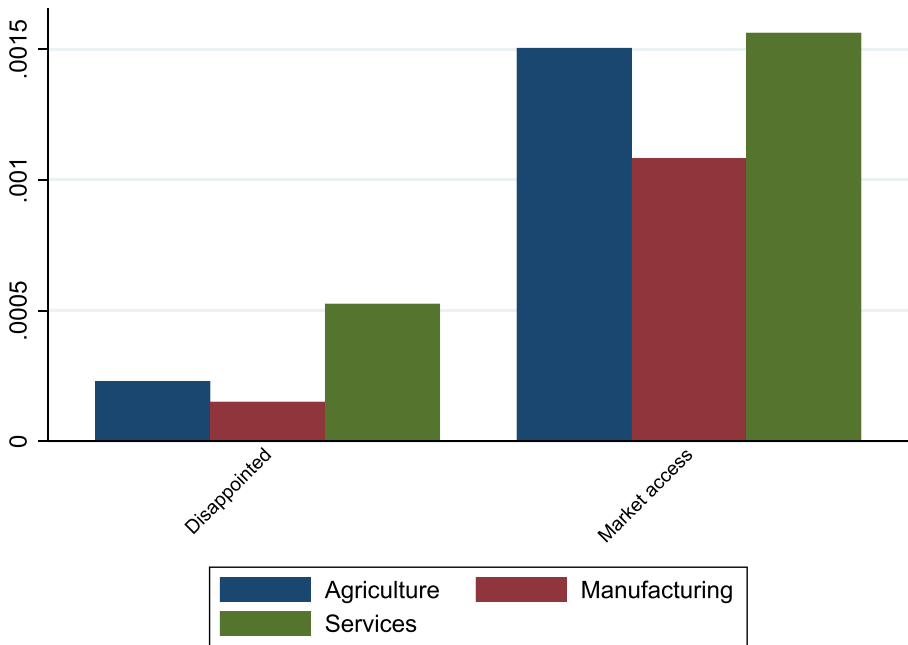[65]We implemented text analysis using the statistical software R.

Fig. 4 Text analysis: frequency of words capturing market access or lack thereof. Note: The figure displays the ratio of word frequency relative to the total number of words for each sector's ITAC reports

access.[66] We label this search *market access*. We also searched for statements that reveal disappointment in the lack of provisions to further liberalize host markets and remove restrictions.[67] We label this search *disappointed*.

Figure 4 reports the results of the text analysis. In line with our expectations, the ITAC reports by services industries include the largest number of statements praising PTAs for improving market access. Service ITACs are also more likely to express regret over the absence of more ambitious market-enhancing provisions.

We also expect the services sector to favor trade-related provisions such as regulations to protect investment, national treatment clauses, and provisions allowing the free movement of people, rather than tariffs. Figure 5 demonstrates findings largely in line with these expectations. The results of queries for "tariff(s)" and "investment" are particularly striking. While the service sector does not mention tariffs at all, the frequency of the word "investment" is overwhelmingly higher for services than for agriculture and manufacturing. Moreover, "movement of personnel," "national

[66]For example, "the Agreement creates the framework for improved markets" or "the Agreement creates significant new opportunities for market access." To make the text analysis comparable across all three sectors, we divided the word frequency by the total number of words in each sector, e.g. in all the reports issued by services industries.

[67]For instance, we capture statements like "the Committee is disappointed by the absence of provisions that will facilitate business travel" or "The Committee remains disappointed by provisions that could allow governmental restrictions."
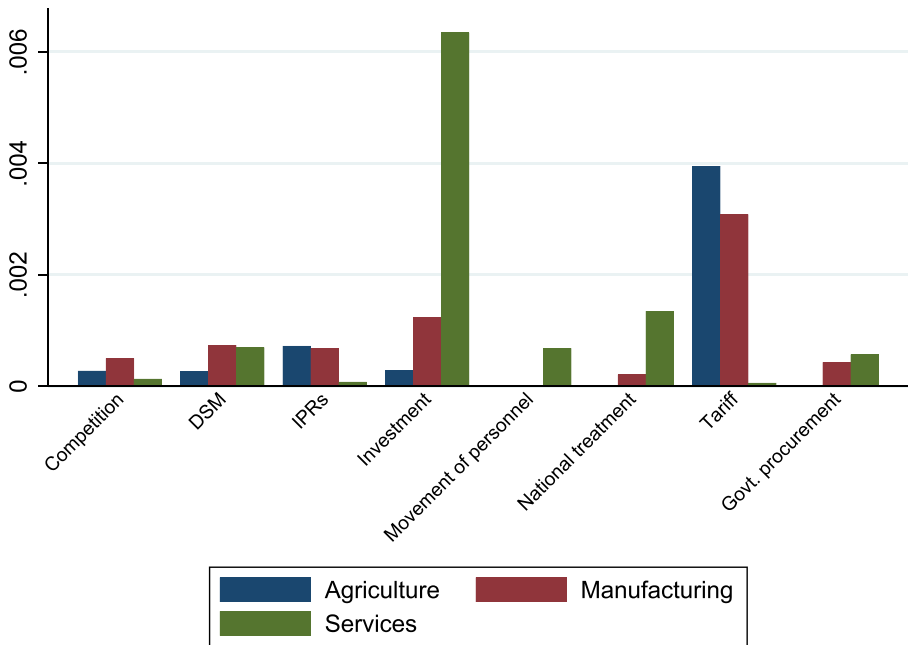
Fig. 5 Text analysis: frequency of words capturing tariffs and trade-related provisions. Note: The figure displays the ratio of word frequency relative to the total number of words for each sector's ITAC reports

treatment," and "government procurement" are mentioned substantially more in reports issued by services than in those issued by the agriculture and manufacturing industries.

While purely descriptive, our text analysis suggests that services differ from agriculture and manufacturing in their assessment of PTAs. In general, we confirm that trade-related provisions included in PTAs are of significant interest to services. We find that: (i) services are particularly interested in market access for investment, which is consistent with the proximity burden in international services delivery and (ii) services are interested in the inclusion of trade-related provisions in PTA treaties rather than in tariff reduction. The evolution of trade policy toward deeper, more comprehensive agreements appears to reflect the interests of the service sector.

6 Conclusion

Many of the world's largest democracies currently confront a populist uprising. While the underlying causes of the voter revolt vary somewhat across countries, many voters share a deep aversion to the liberal international economic order, including trade agreements, international alliances, and liberalized immigration flows. Part of the nationalist aversion to globalization undoubtedly stems from the fact that economic and social conditions vary enormously within countries. Regions where populist appeals succeed tend to be those that have suffered economic and social

decline in recent decades (Autor et al. 2016; Colantone and Stanig 2018a, b). In their appeals to globalization's casualties, nationalist politicians tend to scapegoat international institutions while promising to reverse some of the detrimental effects of trade liberalization.

In light of the resistance to global institutions among large swaths of American voters, it may be somewhat puzzling that US trade liberalization has proceeded with relative aplomb over the past 25 years. The US has signed 12 PTAs with 17 countries since 1994 – agreements that have introduced competition from abroad by cutting tariffs on manufactured goods and encouraging firms to locate production abroad. Moreover, a striking feature of US trade agreements is their *depth*: along with tariff reductions, US PTAs include provisions that protect investment and intellectual property rights while liberalizing trade and investment in services (Baccini and Urpelainen 2014). These trends are also apparent in the multilateral trade regime, including in instruments signed as part of the Uruguay Round – like the General Agreement on Trade in Services – and in services' prominent placement in the Doha Round's agenda. Our paper provides insights into this wave of deep liberalization in the midst of US manufacturing layoffs by focusing on the trade policy objectives and industrial cohesion of services, which represent the lion's share of the US economy and a growing share of US exports.

We examine industrial divisions over trade liberalization using newly assembled data from a variety of sources. We supplement LDA data on lobbying expenditures related to US trade agreements with original details on the direction of lobbying, for nearly all firms and associations engaging in lobbying activities. We also employ a complementary dataset on firm and association position-taking on US free trade agreements. Additionally, qualitative and text analysis of ITAC reports reveal industries' trade liberalization objectives as well as instances of industrial fragmentation.

We use these data to generate a set of new observations regarding political cleavages that illuminate the complexities of modern trade politics. To begin with, we document for the first time that services account for a large chunk of lobbying expenditure related to trade agreements. The service sector's strong interest in trade agreements is particularly important given the relatively low number of firms and associations that formally lobby for or against trade agreements in the first place. Moreover, we show that the service sector has overwhelmingly favored US preferential agreements, and that support for trade agreements is significantly more widespread across the services industries compared with all other sectors.

We conclude with several observations for the study of international organizations and globalization more generally. First, the evolution of economic cooperation over the past several decades cannot be understood without understanding the preferences and political mobilization of producers of services. Our work, and the small extant literature on certain services sectors, highlight the need for more fine-grained analysis of not only services producers, but service workers and services consumers. Services are a huge share of the world economy and of world employment, and their profile in global trade and investment is growing. This is likely to generate new sorts of cleavages over trade, globalization, and global institutions as we have emphasized above. Along with agricultural interests, which rely heavily on exports and appear

to also strongly back US trade deals, services represent a counterweight to emergent populism and protectionism.

Second, many of the OECD countries currently confronting renewed populist opposition to global economic order are also major services exporters. Yet popular discussion of trade in these countries has focused almost uniformly on a less competitive manufacturing industries. The story we develop here about the global competitiveness of services exports from the largest economies has not been widely told. Greater focus on service exports may add nuance to public debates on globalization – and may help assuage populist opposition to global economic institutions in wealthy countries. For the US, a multilateral trade agenda that expands access for US services producers abroad might reduce the US's controversial trade deficits, and increase the perceived benefits of global economic integration. Further liberalization of global markets for US service exports will create new employment opportunities for US workers. This may help assuage some of the recent skepticism about the liberal economic order.[68]

Finally, we emphasize that thinking about the service sector is a useful test for any theory of the economic origins of political attitudes – whether in trade and investment, or immigration and regulation. Services are quite simply the most significant part of global economic activity, and they represent a growing share of global trade. Understanding the preferences of services industries and their workers is therefore a critical step in the development of any model of the political economy of globalization.

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[68]Future work should also seek to uncover why previous efforts at multilateral services liberalizations (e.g. the Trade in Service Agreement) have not been successful.

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