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# Exports vs. Investment: How Public Discourse Shapes Support for External Imbalances\*

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## Abstract

The economic imbalances that characterize the world economy have unequally distributed costs and benefits. This raises the question how countries could run long-term external surpluses and deficits without significant opposition against the policies that generate them. We show that economic ideas, and their emphasis in the public discourse, help to secure mass political support for these policies and the resulting economic outcomes. First, a content analysis of 32,000 newspaper articles finds that the dominant interpretations of economic outcomes in Australia and Germany concur with very distinct perspectives: external surpluses are seen as evidence of competitiveness in Germany, while external deficits are interpreted as evidence of attractiveness for investments in Australia. Second, survey experiments in both countries suggest that exposure to these diverging interpretations has a causal effect on citizens' support for their country's economic strategy. Economic ideas, thus, are crucial to provide the societal foundation of national growth strategies.

**Keywords:** trade, capital flows, ideas, public opinion, text analysis, survey experiments

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# 1 Introduction

A common argument made in favor of an open world economy emphasizes the significant economic opportunities that it offers to countries and societies. International trade flows foster dynamics of sectoral specialization in the production of goods and services, which should promote domestic innovation and competition. Trade openness, thus, allows countries to capitalize on areas of comparative advantage with positive effect on employment in competitive, export-oriented industries. International capital mobility improves countries' access to external credit, which should favor an efficient allocation of resources. Financial openness, thus, allows governments and firms to finance their investment needs at lower costs with positive effects on long-term growth and economic welfare.

Countries exploit the opportunities stemming from economic openness in very different ways.(e.g. Baccaro and Pontusson, 2016; Baccaro and Benassi, 2017). Some countries, such as Germany and Japan, strongly focus on the opportunities from international trade and aim at generating growth by maximizing exports. Others, such as the UK or Australia, rely more heavily on international capital inflows to boost growth by financing domestic consumption and investment. As a result, the external economic balance has been identified as a critical aspect of a country's growth strategy in an open world economy. (Baccaro and Pontusson, 2016, esp. p. 183 and 191-192). More broadly, the global macroeconomy is important to understand the workings of domestic macroeconomic regimes (Blyth and Matthijs, 2017). The export-driven economies have run large external surpluses, while the investment-driven economies have run sizable deficits for most of the post-Bretton Woods period. Together, they repeatedly created a need for international economic adjustment with adverse effects on international cooperation.<sup>1</sup>

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<sup>1</sup>Some identify global imbalances as an important cause of the Global Financial Crisis of 2007/08 (Brender and Pisani, 2010). Others suggest that imbalances within the Eurozone have been a crucial element in the European debt crisis (Baldwin and Giavazzi, 2015). U.S. dissatisfaction over the large current account surpluses in other countries has been steadily growing during the past years and even turned into a major

The different growth strategies do not only have the potential to cause international economic conflict; they can also lead to vulnerabilities and disadvantages for the domestic population. Economies with large external deficits are often vulnerable to sudden stops in financing, as the Eurocrisis has shown (e.g. De Grauwe, 2011), or experience negative effects on labor markets in areas that house import-competing industries (e.g. Autor, Dorn and Hanson, 2013). In perennial surplus countries, wages and domestic investment are chronically low, which also has a negative impact on large parts of the population (Jones, 2009). In Germany, for instance, the exemplar of an export-driven surplus economy, the manufacturing sector only accounted for 27 per cent of the total employees in 2017.<sup>2</sup> Even if we assume that all of them work for exporting firms, it remains unclear why the remaining two-thirds of the population support a large external surplus that deprives them of higher wages and consumption opportunities.

This paper, therefore, asks how some countries could sustain their growth strategy and run such persistent external imbalances without major domestic opposition against the policies that generate them. The existing literature gives a partial answer to this question. It identifies wage bargaining institutions as a main determinant of the long-term external balance (Hall and Soskice, 2001; Hancké, 2013), which points to an important part of the mechanism. But it does not explain how political support is maintained in the wider society that does not necessarily benefit from the economic policies and outcomes that this institutional setup produces. After all, there are plenty political levers that could reduce these imbalances.<sup>3</sup> The toleration of a long-run imbalance, thus, is a political decision that

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political conflict after the last U.S. presidential election.

<sup>2</sup>International Labour Organization. 2018. “Employment by sector – ILO modelled estimates, May 2018”. In: Key Indicators of the Labour Market. Available from: <https://www.ilo.org/ilostat>.

<sup>3</sup>These, among others, include fiscal policy, changes to depreciation rules, the value-added tax, or the government’s ability to influence wages via the legal framework.

requires a political explanation.

Our analysis shows that economic ideas and their role in the public discourse are crucial to generate mass political support for policies that produce external imbalances. We identify two ways of thinking about the current account: one focuses on trade and competitiveness, while the other highlights investment and savings. Although the two perspectives measure and explain the same outcome, they emphasize different mechanisms and are consistent with different sets of policies, or ‘growth models.’ These diverging interpretations are particularly important when economic processes and their causes are difficult to understand for voters. The dominant interpretation in the public discourse, then, provides guidance about good economic policy. By interpreting current accounts through one theoretical perspective, an external imbalance can be portrayed as being in the interest of the entire country. Citizens who are primarily exposed to the competitiveness perspective, therefore, are more likely to accept ‘belt-tightening’ and austerity policies than citizens who are exposed to the investment perspective.

The empirical analysis of Germany and Australia, two countries that represent polar opposites when it comes to their external economic balance, confirm these conjectures. Our analysis of 32,010 newspaper articles using a structural topic model shows that media coverage of current accounts, which we take as a proxy of the public discourse, differ fundamentally across countries. In Australia, the estimated proportion of the topic “financial investment” is relatively large and growing. In Germany, the topics “industrial competitiveness” and “international competitiveness” play the most important roles. In a subsequent survey experiment, we expose respondents in both countries to the different interpretations that we found in the newspaper analysis. The results suggest that citizens’ opinions are responsive to the different perspectives expressed in the media. The two perspectives can have a causal effect on citizens’ approval of a proposed policy package that would reduce the external imbalance. Policies undergirding external balances, thus, depend on public opinion that is

susceptible to influence by media and other sources of information.

To our knowledge, this paper is the first to investigate the effect of public discourse on mass political support for diverging growth strategies and external imbalances. The political economy literature has long highlighted the role of ideas, like those transmitted through public discourse (McNamara, 1999; Blyth, 2002; Schmidt, 2002; Morrison, 2012). These ideas are notoriously difficult to measure, but there is increasing evidence that they matter (Hay and Rosamond, 2002; Chwioroth, 2007; Helgadóttir, 2016). Our study confirms this by showing how ideas are absorbed by the mass public through the public discourse. In this way, economic ideas also help to secure political support for institutional arrangements that embody diverging economic strategies.

## 2 Two Perspectives on External Imbalances

We differentiate between two main economic ideas, or interpretive frameworks of the current account: the trade-competitiveness and the investment-savings perspective. From the first perspective, the current account position is defined as exports minus imports plus net income from abroad. A country will run a surplus when it sells more goods and services than it buys, which implies an important role for relative international prices. From the second perspective, the position is defined as the difference between domestic savings and investment. A country will run a surplus when there is less domestic investment than there are domestic savings available, which implies an important role for domestic economic agents.

Both perspectives are equally valid. In fact, both measure the same thing and will, per definition, yield the same result. However, since they emphasize different driving forces behind current account dynamics, they guide our thinking in different directions. The two perspectives yield diverging ‘policy targets’, which are consistent with different ‘growth models’, as comparative political economy research recently highlighted (Blyth and Matthijs,

2017; Baccaro and Pontusson, 2016). The current account, thus, represents the international dimension of a particular growth model as it is the entity that links the domestic to the international economy.

## 2.1 The Trade-Competitiveness Perspective

The trade perspective played a major role in the history of international political economy, especially for the mercantilism–liberalism debate of the 17th and 18th century (Mun, 1986 [1664]; Smith, 2003 [1776]; Viner, 1948). In short, mercantilists recommend that countries run an external surplus by exporting more than they import. This strategy leads to an accumulation of foreign assets, which is seen as an effective strategy to increase a country's wealth. Since a surplus in one country always must be matched by deficits in others, mercantilist behavior gives rise to conflicting objectives among nations. Power, therefore, matters because the more powerful countries can shift the adjustment burden onto less powerful ones when distributional conflicts among nations over current accounts arise (Cohen, 2006). Relatedly, powerful states can try to impose economic systems that benefit them more than weaker states (Kirshner, 1995).

The modern version of this trade perspective highlights the role of jobs and growth rather than power. Research and essays in the 'neo-mercantilist' perspective suggest that export-promoting strategies, such as exchange-rate undervaluation, promote economic growth (Rodrik, 2009). and secure domestic jobs (Krugman, 2016). Versions of the mercantilist view have recently reappeared in interpretations of global imbalances and the Eurozone crisis suggesting that the export-promoting strategy of surplus countries exploits deficit countries. For example, Flassbeck and Lapavitsas assert that Germany consciously undercut the wages of other Eurozone members, thus, robbing them of significant market shares in regional and global trade (Flassbeck and Lapavitsas, 2013, p. 14). Sinn implies that a surplus is desirable when he criticizes the Eurozone's deficit countries for their failure to follow the German example (Sinn, 2014). This interpretive framework points to persistent current account deficits

in peripheral countries as the root cause of the crisis, and appears to be largely inspired by neo-mercantilist ideas underpinning Germany’s growth strategy.

From a less normative point of view, scholars in the field of comparative political economy argue that trade plays a decisive role in shaping current account imbalances and stress the role of institutions in managing wage growth and maintaining competitiveness (Iversen, 2000; Hancké, 2013; Johnston, Hancké and Pant, 2014). Specifically, coordinated wage bargaining systems in combination with the broader institutional framework facilitate wage restraint and limit inflationary pressure (Hall and Franzese, 1998), which helps export-oriented industries to compete internationally. This leads to a strong tendency towards current account surpluses. More broadly, countries that follow different growth models can be more reliant on domestic consumption or on exports with diverging effects on the current account.

## **2.2 The Investment-Savings Perspective**

In contrast, the saving-investment perspective emphasizes trade flows much less and highlights the importance of international financial flows instead (Obstfeld and Rogoff, 1996; Coeurdacier, Kollmann and Martin, 2010). This is exemplified by the description of the current account in this literature as a “measure of total external capital financing available for investment in a country” (Prasad, Rajan and Subramanian, 2006, p. 120). Capital flows, thus, are the main factors influencing movements in current accounts, which automatically shifts the attention away from producers towards investors and consumers. For example, Erik Jones argues in his analysis of the euro area crisis that policymakers’ overwhelming focus on restoring competitiveness via wage adjustment is misplaced and that priority should be given to stabilising the financial system instead (Jones, 2011, 2015, 2016). In the case of the U.S., former Federal Reserve chairman Ben Bernanke claimed that the “trade balance is the tail of the dog; for the most part, it has been passively determined” (Bernanke, 2005). This not only has important policy implications for governments, but also for the more normative question whether or not an external surplus or deficit is desirable or a problem in the



first place.

The saving-investment perspective generally is much less concerned with external deficits and tends to recommend that the government take a laissez-faire stance. David Hume criticized the mercantilist focus on exports as early as 1752 in his elaboration on the price-specie-flow mechanism, arguing that it was neither desirable nor possible to run a surplus and accumulate precious metals forever as the early mercantilists recommended (Hume, 1752). More recently, scholars have argued that “forward-looking households and firms ... will generate current-account balances consistent with efficient resource allocation” (Obstfeld, 2012, p. 14) and that a current account deficit may be the desirable consequence of real capital movements (Pitchford, 1989, p. 8). Therefore, there is no rationale for actively steering the current account, be it directly via government intervention or via institutions that support surpluses.

This is not to say that one would never worry about long-term external imbalances from the investment-savings view. However, even those who see imbalances as useful indicators of potential financial crises point out the risks of both surpluses as well as deficits (Obstfeld, 2012). Others go even further by claiming that the importance of the current account is overstated and that more attention should be paid to financial flows instead (Borio, 2015). In the policy debate, the investment-savings perspective is widespread in international organisations. Despite the differences between their procedures of macroeconomic surveillance (Moschella, 2014), both the European Commission and the International Monetary Fund have recently recommended that Germany act against its large current account surplus by increasing investment (European Commission, 2016; International Monetary Fund, 2016).

Table 1 summarizes the two perspectives and their implications.

**Table 1:** The Two Perspectives on the Current Account

	<b>Trade / Competitiveness</b>	<b>Investment / Savings</b>
<b>Drivers</b>	Trade, dependent on competitiveness and wages	Financial flows, triggered by investment and savings decisions
<b>Growth driver</b>	Growth through exports	Growth through investment
<b>Governance</b>	Active: government intervenes or provides a framework to keep wage costs low and competitiveness high	Passive: individual firms and households know best

### 3 Building Popular Support for an Economic Strategy

How do these different perspectives matter? As the previous section has shown, the different analytical approaches lend themselves to different interpretations and provide diverging conclusions about the relevant drivers and about the appropriate governance of the economy. They guide our thinking about the indicators of good economic performance and the policies that can be used to affect this performance in different directions. In this way, the perspectives not only have important implications for the elite consensus over economic policy (Hay and Rosamond, 2002). They also help to promote a societal consensus about the national interest and the policies that promote this interest.

The diverging interpretations play an important role for a country’s economic strategy because the current account is widely accepted as a key indicator of a country’s economic performance (Financial Times, 1988; Lee, 2009). It plays a crucial role in public debates in many countries, such as Germany, the US, or Australia, but its meaning is also highly contested. Interpretations differ widely in accordance with the diverging perspectives described above. Like many key terms in the economic debate, its meaning is “contingent on the particular cultural frame and social setting” (Matthijs and McNamara, 2015, p. 225). What a current account surplus or deficit says about the state of the economy and whether it should be a policy target that requires action by the government is open to interpretation

(Blyth and Matthijs, 2017).

A few examples illustrate this point. In the global academic debate, there is little consensus about how external imbalances arise and what their implications for economic growth are. Some argue that surpluses in some countries were excessive before the global financial crisis causing a ‘savings glut’ and putting global economic stability at risk (Bernanke, 2005). Others claim that external imbalances are rather a natural expression of certain stages in countries’ economic development, so that even large deficits and surpluses form a symbiotic system (Dooley, Folkerts-Landau and Garber, 2003). Some suggest that a deficit is detrimental to growth (Rodrik, 2009), while others find that the current account balance does not tell us anything useful at all (Obstfeld, 2012). Apart from these substantial disagreements, different perspectives on the current account play a role in these debates, as a leading economist at the Bank of International Settlements recently warned: “the way we talk about identities and our models can inadvertently shape the inferences we draw from them” (Borio, 2015, p. 2).

If even experts struggle not to be influenced by different perspectives on the concept, it seems fair to assume that the effect is even stronger in a broader audience that only has a vague idea about the usefulness of different growth strategies and their effects on the external economic balance of their country. Few people would doubt that higher wages or lower unemployment rates are good for them because the effects are immediate and direct. But alternative policies aimed at achieving economic growth, and their expected effects specific actors and on the economy as a whole, are a much more complex issue. Citizens generally find it difficult to assess the trade-offs that are associated with international economic flows. It is likely that they have a hard time evaluating whether a deficit or surplus, and the policies that generate these outcomes, affect them positively or negatively. Therefore, they have to rely on heuristics to interpret these policies and outcomes.

More broadly, ideas have a far-reaching effect by influencing how problems are evaluated and by defining what is considered a “viable solution” (McNamara, 1999; Blyth, 2002; Schmidt, 2002; Best, 2004; Morrison, 2012; Matthijs and McNamara, 2015). They provide an understanding of economic outcomes, and this narrative shapes public support for economic policies that produce these outcomes. In this way, ideas legitimize institutions and policies because institutions are embedded in a distinctive societal consensus about appropriate economic policy (Schmidt, 2008). This explains why countries have followed very different models to generate economic growth during the post Bretton Woods period (Baccaro and Pontusson, 2016). These models are consistent with different underlying ideas about the effectiveness of particular strategies, such as ideas to what extent domestic or foreign demand should drive long-term development. The trade-competitiveness and investment-savings perspectives, thus, provide a normative foundation of the international dimension of different macroeconomic regimes.

While ideas and the prevailing interpretations are not directly observable, they manifest themselves in the public discourse because the “discourse is the process of conveying ideas” (Schmidt, 2008, p.303). For our purposes, it seems sensible to focus on the part of the public discourse that is reflected and archived in the news media. Media reporting significantly influences the economic views of the public (Barnes and Hicks, 2018; Boef and Kellstedt, 2004). Its effect on voters can even be greater than that of actual macroeconomic data (Kayser and Leininger, 2015). Furthermore, the importance of framing effects is well-established (Chong and Druckman, 2007). News play an important role for preference formation when individuals feel an increased need for orientation because an issue is relevant, yet ambiguous or hard to understand (McCombs and Reynolds, 2009; Barnes and Hicks, 2018). Therefore, our focus on the media enables us not only to observe the discourse on external imbalances. We can also expect that the coverage of the differing perspectives will shape public opinion about it.<sup>4</sup> These diverging interpretations can have a number of different possible origins

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<sup>4</sup>Intervening variables such as an individual’s attitude and personal environment can mitigate the impact

which are beyond the scope of this paper, but as we identify, regardless of origin they have come to play a distinct role in different countries.

While both interpretations and their associated policy strategies produce aggregate welfare effects, we acknowledge that they have also important distributive consequences that affect welfare across groups in the population. Building on research on distributive politics in times of crisis (e.g. Frieden, 1991; Gourevitch, 1986), an important strand of the literature in international political economy has argued that government adjustment strategies depend on a country's economic structure and the government's partisan interests (Walter, 2013, 2016). These distributive consequences may help explain the prevalence of different interpretations of the current account in different countries. However, it is often difficult for voters to assess the direct and indirect effects of macroeconomic policies on their well-being.

This is especially true given the complexity of the current account issue. Indeed, for complicated economic matters it can be difficult for citizens to know what is in their long-run best interest. Recent work in political science has increasingly questioned the connection between individual material self-interest and trade preferences by arguing that attitudes toward trade depend primarily on symbolic and social considerations (Hainmueller and Hiscox, 2006; Mansfield and Mutz, 2009; Rho and Tomz, 2015). We maintain that, on complex economic issues, material preferences may be overwhelmed or steered by arguments presenting specific economic perspectives or theories. Hence, rather than on actual distributional outcomes, individual policy preferences on the current account may be highly dependent on perceptions about how the current account affects the well-being of individuals and groups. Economic ideas contribute to shaping these perceptions. As most voters do not understand

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of media reporting on opinions (Petty, Priester and Briñol, 2009). People may choose to consume news that confirm their pre-existing beliefs and reject information that does not fit into their worldview (for an overview of the debate, see Barnes and Hicks, 2018). However, at least in the long term, media reporting can be expected to have a long-term effect on how the current account balance is interpreted.

the economic consequences of trade policy (Rho and Tomz, 2017), we expect them to rely on the economic perspectives they are exposed to in deciding whether or not to support a policy aimed at correcting current account imbalances.

The implication is that in a country where the trade-competitiveness view dominates the public discourse, it is easier for political and societal actors to justify ‘belt-tightening’ policies to achieve competitiveness and higher exports and, hence, an external surplus (Baccaro and Benassi, 2017; Haffert, 2017). Citizens who are continually exposed to this perspective are more inclined to accept these policies because they believe that they are in their own interest as well as that of the country. In contrast, in a country where the investment-savings perspective shapes the public discourse, we can expect citizens to tolerate policies that generate an external deficit because it can be interpreted as an indicator of high investment levels. Painful government interventions to reduce the deficit are harder to justify in such an environment because the savings-investment perspective stresses the ability of private actors to determine the optimal external balance. The following hypotheses summarize these implications.

**HYPOTHESIS 1:** (a) The public discourse in deficit countries highlights the investment-savings perspective more than in surplus countries. (b) The public discourse in surplus countries highlights the competitiveness perspective more than in deficit countries.

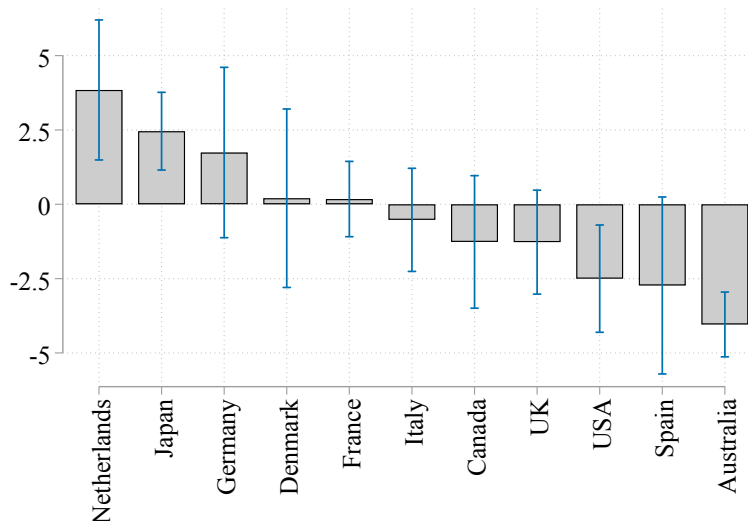
**HYPOTHESIS 2:** (a) The more the public discourse highlights the competitiveness perspective, the more citizens accept contractionary policies that aim at reducing the current account deficit. (b) The more the public discourse highlights the investment perspective, the more citizens accept expansionary economic policies that aim at reducing the current account surplus.

## 4 Empirical Analysis

### 4.1 Case Selection

As Figure 1 shows, several advanced economies have experienced sizable imbalances over the last 40 years.<sup>5</sup> In addition, the standard deviations in figure 1 indicate that the current accounts for many countries do not cycle between deficits and surpluses, but remain either in deficit or surplus for most years.

**Figure 1:** Average current account balances (per cent of GDP) of large advanced economies, 1977-2016. The lines indicate the standard deviation of the mean.



For our analysis, we choose Australia and Germany because the two countries experienced fundamental differences in the long-term external balance as Figure 2 shows. Australia has run current account deficits of 3 percent of GDP or more for the better part of the last 50 years, but is nonetheless seen as a particularly successful economic model (The Economist, 2016). Among the notorious deficit countries listed in Figure 1, it is clearly the most interesting case. Spain's high average deficit is heavily influenced by the huge deficits after

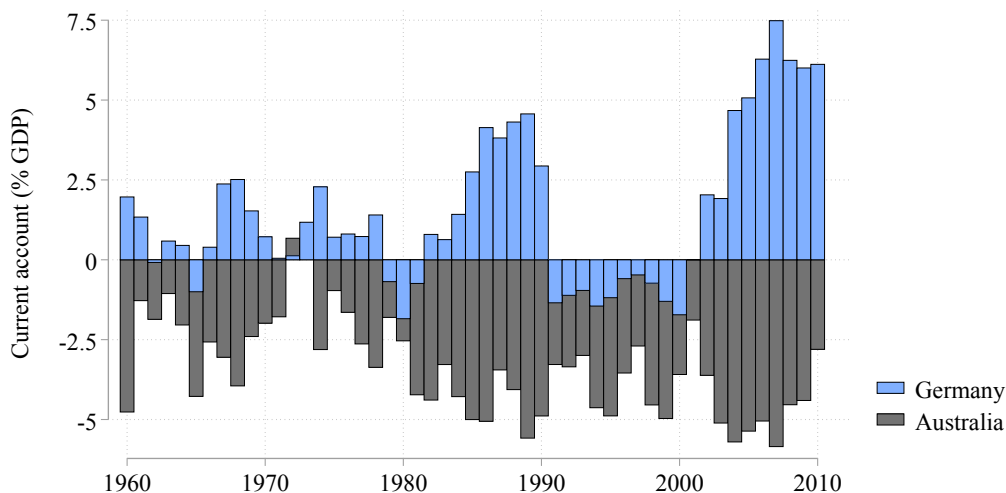
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<sup>5</sup>The current account data comes from the IMF Balance of Payments Statistics.

joining the euro, while it did not strongly lean towards deficits before. The US also runs a large deficit, but this is often attributed to the US dollar’s status as reserve currency of the world (Gourinchas and Rey, 2005; Helleiner and Kirshner, 2009).

Among the surplus countries, Germany is a particularly intriguing case. The country always ran surpluses except in the late 1970s after the oil shocks and in the 1990s after German unification. The country’s response to these shocks underlines Germany’s role as a prototype surplus country. Even the enormous costs of reunification pushed Germany into (moderate) deficit only for a decade because German society made massive efforts to move the current account back into surplus. Since then, Germany has been accumulating ever-larger surpluses. In addition, it has traditionally maintained a strong currency that impairs its exports, which makes the persistent external surplus even more remarkable.

**Figure 2:** Current accounts of Australia and Germany (per cent of GDP).



## 4.2 Research Strategy

Following our theoretical discussion and hypotheses, our analysis proceeds in two steps. The first step, which we present in section 5, studies media reporting on the current account and examines how it differs in Australia and Germany. This will allow us to find out whether



the trade perspective is more prevalent in Germany and the saving-investment perspective is more common Australia. This part tests Hypothesis 1.<sup>6</sup> The second step, which we present in section 6, conducts a survey experiment in both countries. In this survey, we study the effect of the two different interpretations of the current account on citizens and how their attitudes towards economic policies vary with diverging exposure to these theoretical perspectives. This part tests Hypothesis 2.

For our analysis of newspaper reports, we choose quality publications that provide variation across the ideological spectrum and are sold nationwide. For each country, we include a left-leaning, a conservative, and a business newspaper. For Australia, we retrieve articles from the Sydney Morning Herald (left-leaning), The Australian (conservative), and the Australian Financial Review (business). They represent three out of four traditional Australian quality newspapers and account for about 70 per cent of sales in that sector.<sup>7</sup> For Germany, we collect articles from the Süddeutsche Zeitung (left-leaning), Die Welt (conservative), and the Handelsblatt (business). Jointly, they account for two thirds of nationwide quality daily sales and each of them is among the top five.<sup>8</sup> In each case, we adopted the same search procedure and selected all the articles with reference to the respective country and the terms

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<sup>6</sup>Authors investigating the influence of ideas on policy often focus on elite discourse (Béland and Cox 2016; Brunnermeier, James and Landau 2016). However, it is not policymakers' preferences that matter for our research interest, but rather the support for certain institutional configurations in the broader population - and few citizens listen to entire speeches or regularly read detailed economic statistics. Therefore, in line with recent publications with a similar focus, we choose to analyse newspaper reporting about the current account (Soroka, Stecula and Wlezien 2015; Barnes and Hicks 2018).

<sup>7</sup>The Sydney Morning Herald has a regional focus, but in order to ensure ideological variation, we have decided to include it nevertheless. The Age, the fourth quality newspaper and only alternative, is also regional.

<sup>8</sup>For Die Welt, The Australian and the Sydney Morning Herald, we used LexisNexis. For the Süddeutsche Zeitung and the Australian Financial Review we resorted to Factiva. Finally, for the Handelsblatt, we retrieved data directly from the official website.

**Table 2:** Composition of Australian and German Corpora of Newspaper Articles

	N° of Articles	Starting Year
Australia	17194	1986
Germany	14816	1986
The Australian	3360	1995
Sydney Morning Herald	5083	1986
Australian Financial Review	8751	1987
Die Welt	995	1999
Süddeutsche Zeitung	1440	1995
Handelsblatt	12381	1986

“current account balance” or “trade balance” in the main text. Data availability differed by newspaper source. Table 2 provides more detailed information on the composition of our text corpus.

The newspaper articles will be examined using a Structural Topic Model (STM), which allows us to identify the key topics that appear in newspaper reports mentioning the current account (Roberts, Stewart & Tingley, 2017). The results will be verified by a close reading of texts and a dictionary-based approach, for which we identify key terms associated with the two perspectives on the current account based on our theory (see Annex A1; Fan 1988, p. 44-50). Jointly, these approaches allow us to identify differences in the debates about current accounts, e.g. how often Australian newspapers write about the current account in the context of investment or competitiveness compared to their German counterparts.

The subsequent survey experiment then directly builds on the media analysis by examining how the dominant interpretations in the newspapers affect popular attitudes. A key question is whether these different interpretations in fact have a meaningful effect on political support for a country’s growth strategy and the associated economic policies. The survey

experiment allows us to examine whether such a causal effect exists.

In the survey, respondents in both countries are reminded how the current accounts of the respective country has developed in the past years. In other words, Australians are confronted with a deficit scenario, while Germans are confronted with a surplus scenario.<sup>9</sup> We then provide respondents with different interpretations of the situation that their country faces. Each interpretation matches one of the two theoretical perspectives as we discovered them in the newspaper analysis. A German respondent, therefore, would see an expert statement that interprets the German surplus either through the competitiveness or the investment perspective. An Australian respondent would see an expert statement that interprets the Australian deficit either through the competitiveness or the investment perspective. We also have a group that does not see any of the two interpretations. We simultaneously fielded the surveys to ca. 1,000 respondents in each country in August 2018.

After confronting respondents with these interpretations, we ask all of them to what extent they approve of a set of policies that aim at altering the current account. In Australia, this is a set of ‘belt-tightening’ policies that aim at reducing the current account deficit. In Germany, this is a ‘loosening’ of economic policies that aim at reducing the surplus. Since respondents are randomly assigned to a particular interpretation or the control group, the differences in their responses represent the causal effect of the different interpretations on respondents’ approval of the suggested policies.

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<sup>9</sup>We considered to vary the scenarios so that a group of German respondents would see a deficit scenario and a group of Australian respondents would see a surplus scenario. We, ultimately, did not do this because these two scenarios were not experienced by the citizens in the two countries and, thus, represent unrealistic scenarios.

## 5 Text Analysis

We analyze the text of the newspapers with two methods, each with advantages and disadvantages, but reassuringly each reaching the same conclusions. First, we apply a dictionary-based approach. This method has the advantage of being intuitive, simple and relatively more transparent than other approaches. Also, following the suggestion of Grimmer and Stewart (Grimmer and Stewart, 2013), we employ a problem-specific vocabulary, to minimize the risk of spurious results from the use of off-the-shelf dictionaries. Nonetheless, this approach also has drawbacks. In particular, it is susceptible to changes in the use of particular vocabularies, and it is not as comprehensive as other text analysis methods.

As counting individual words can miss differences caused by changes in choice of vocabulary, we also employ a structural topic model (STM) to identify discourses through the tendencies to employ any of a number of possible words (Appendix Section A). STM has the advantage that it may isolate word clusters that are related to the the Competitiveness and Investment-Savings perspectives, and separate them from other, potentially confounding, topics. This ensures a more comprehensive analysis of our text corpus. Yet, STM (as any other mixed-membership topic models) suffers from the disadvantage that the results the estimation procedure comes up with are potentially sensitive to starting values of the parameters (Roberts, Stewart and Tingley, forthcoming). For instance, one of the key parameters that has to be set initially by the researcher is the number of topics (i.e. word clusters) to estimate.

The application of both methods ensures that the two approaches validate each other in showing there are significant differences between Australia and Germany in the use of words that capture the Competitiveness and Investment-Savings perspectives.

## 5.1 Structural Topic Models

In this section, we use a Structural Topic Model (STM) to identify the presence of word clusters that are consistent with our theoretical framework and estimate their relationship to document metadata. In doing so, we build on previous studies that have effectively used STM to model the framing of international newspapers (Roberts, Tingley and Airoidi, 2016; Barnes and Hicks, 2018). As explained in detail by Roberts, Stewart and Tingley, STM allows researchers to discover topics in a text corpus and conduct hypothesis testing about the relationship between topics and document metadata (Roberts, Stewart and Tingley, forthcoming). Here, we focus on estimating the proportion of text devoted to topics of interests both across newspapers and over time.

First, we create two text corpora, one for Australian newspaper articles and one for German ones, and convert text into a structured form. We rely on the classic “bag-of-words” approach and convert each article into a vector  $[t_0, t_1, \dots, t_j, \dots, t_n]$  that contains all of the  $n$  unique words in the sample.  $t_j$  denotes the number of times word  $j$  is mentioned in the article. We use this vector to build a term-frequency matrix  $tf(M, n)$ , where  $M$  is the number of articles and  $n$  is the number of words. Thus, each cell  $ij$  in the term-frequency matrix indicates  $t_{i,j}$ , i.e. the number of times term  $j$  occurs in article  $i$ . After building document-term matrices, we apply a set of standard pre-processing decisions. In particular, we automatically stem words by removing morphological and inflexional endings, and we exclude stop-words (e.g. the, of, at, etc.), numbers and punctuation. Also, for computational reasons, we decide to reduce the sparsity of document-term matrices, by considering only terms that appear in at least 2% of the documents in each text corpus.

Second, for each country, we run models iteratively and chose the number of topics based on interpretability (Chang et al., 2009). In both cases, a model with 50 topics gives us a fine-grained view over the issues addressed in the Australian and German media, and yields topics that are theoretically meaningful. In Appendix A, we also show that this number of

topics constitutes a balanced choice in terms of topic exclusivity and semantic coherence. In both cases, we can identify three topics that are highly relevant to our research question. In table 3, we give an overview of such topics. “Highest probability” is a simple measure that indicates which words are the most likely to co-occur. Extremely important for our work are also “exclusive” words – namely, those that are highly likely in one topic and unlikely in other topics based on the FREX metric (Bischof and Airoldi, 2012; Airoldi and Bischof, 2016). Topic model analysis for the Australian corpus reveals the presence of two topics that can be ascribed to investment, and one that can be easily linked to competitiveness. In Germany we find two topics that are broadly related to competitiveness, and one that is associated with investment.

In Australia, the first investment topic expresses an industrial perspective, as the stemmed word “invest” appears in association with the terms “business”, “firm”, “small” “capital” and “plan”. The second Australian investment topic, instead, suggests a mere financial perspective, being defined by the words “investor”, “fund”, “bond”, “global”, “equity”, “portfolio” and “asset”. The third Australian topic of interest is the only topic produced by the model that is defined by the word “competitiveness” (“competit” in the stemmed form). This is associated with policy-relevant terms, such as “reform”, “polici”, “market”, “product” and “structur”. Therefore, the first two considered Australian word clusters can be easily ascribed to a saving-investment perspective on the current account, while the third one reflects a narrative of the current account that is much more in line with the trade perspective. This interpretation of the discussed topics is also confirmed by their word clouds, presented in Figure A3 of Appendix A.1.

In Germany, the term “competitiveness” (“wettbewerbsfähigkeit”) plays a more prominent role, as it is one of the defining terms in two different word clusters. The first topic sees “competit” (“wettbewerb”) in association with business terms, such as “firms”, “industry”, “development”, “market”, “product” and “area” (“unternehmen”, “industri”, “en-

**Table 3:** Top Words for Australian and German Topics

<b>Australia</b>	
<b>Industrial Investment</b>	
Highest Probability:	invest, busi, small, survey, capit, plan, firm
Exclusivity (FREX):	busi, invest, survey, small, featur, firm, plan
<b>Financial Investment</b>	
Highest Probability:	market, investor, fund, bond, year, global, equiti
Exclusivity (FREX):	investor, equiti, bond, portfolio, asset, fund
<b>Competitiveness</b>	
Highest Probability:	reform, industri, competit, polici, australia, market, product
Exclusivity (FREX):	reform, competit, tariff, protect, effici, micro-econom, structur
<b>Germany</b>	
<b>Industrial Competitiveness</b>	
Highest Probability:	unternehmen, industri, produkt, jahren, markt, entwicklung, investitionen [company, industr, produc, years, market, development, investment]
Exclusivity (FREX):	wettbewerb, bewertung, standort, bereich, produkt, unternehmen, schweden [competition, valuation, location, sector, product, company, sweden]
<b>International Competitiveness</b>	
Highest Probability:	deutschland, frankreich, euro, euro-zon, wettbewerbsfähigkeit, spanien, mehr [germany, france, euro, euro area, competitiveness, Spain, more]
Exclusivity (FREX):	wettbewerbsfähigkeit, österreich, löhne, spanien, währungsunion, griechenland, portug [competitiveness, austria, wages, spain, monetary union, greece, portug]
<b>Investment</b>	
Highest Probability:	anleg, fond, aktien, invest, investoren, manag, jahr [invest, fund, stocks, invest, investors, manag, year]
Exclusivity (FREX):	fond, invest, anleg, manag, hielten, immobilien, market [fund, invest, invest, manag, held, real estate, market]

NOTES: This table presents the top words of six theoretically relevant topics, three for Australia and three for Germany. The topics are produced by a structural topic model with 50 topics, run separately on the Australian and German corpora of newspaper articles. The words with highest probability of occurrence and highest FREX score are showed for each topic.

twicklung”, “markt”, “produkt”). The word “investment” (“investitionen”) also has high probability to appear in this topic, but it is not among the words that are most exclusive to it. We conclude that this is a topic about the competitiveness of domestic firms, and define this topic as one of industrial competitiveness.

The second German topic is characterized by the term “competitiveness” in a more international perspective, as it is associated with references to the Eurozone, as well as France, Spain, Greece and Portugal. “Wages” (“löhne”) is also another defining term of this word cluster, which further indicates that this is a topic about international competitiveness. Finally, we can detect the presence of a topic that can be unambiguously ascribed to investment – most notably, in financial terms – as it is defined by “invest” (both with “anleg” and “invest”), “fund” (“fond”) and “stock” (“aktien”). Thus, we conclude that, for the German topic model, two word clusters are consistent with the trade perspective, while one is more clearly in line with the saving-investment one. As for Australian word clusters, Figure A2 in Appendix A.1 shows word clouds of three selected topics from the STM analysis of the German text corpus.

The presence of two investment topics and only one competitiveness topic in Australia, as well as the presence of two competitiveness topics and only one related to investment in Germany, is consistent with our theoretical framework. In addition, we directly test this hypothesis by estimating the expected proportions of these topic by year and by newspaper.

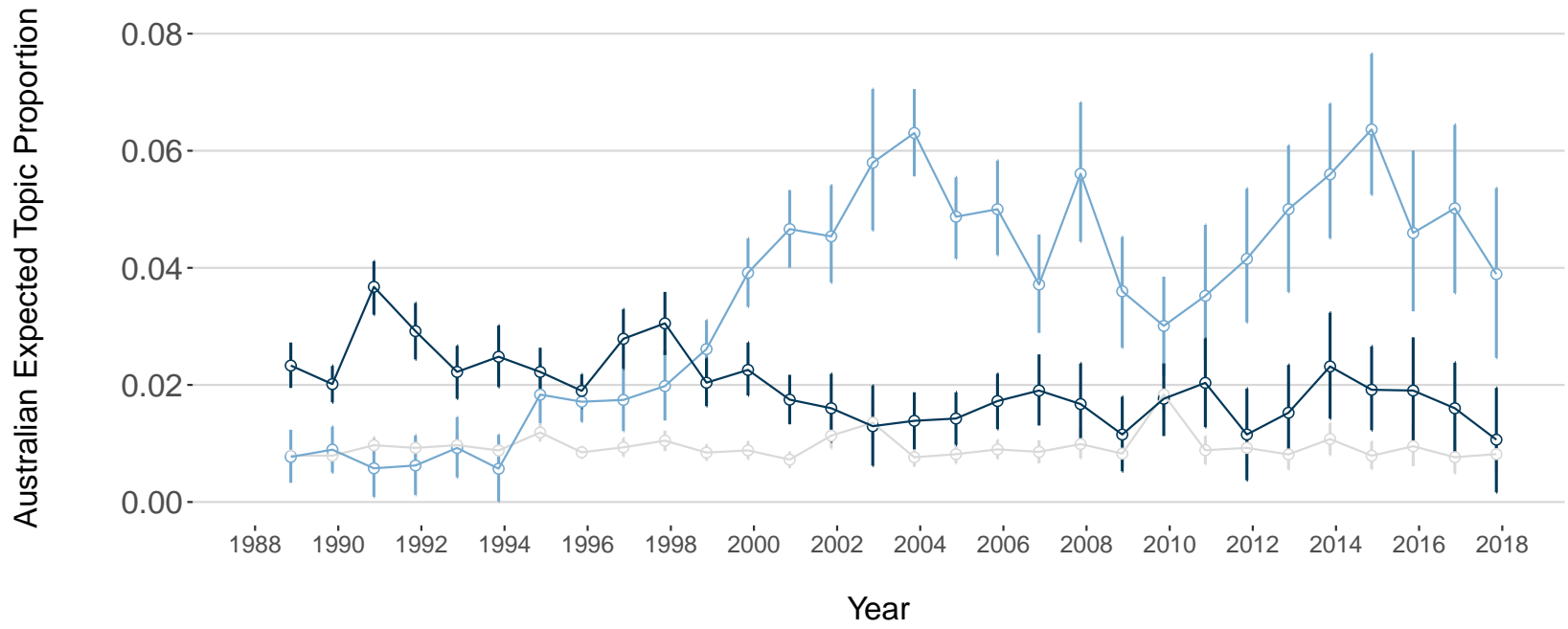
Figure 3 presents time series estimates showing the evolution of the topics discussed above between 1986 and 2018 in both Australia and Germany. The upper graph clearly shows that the industrial investment topic always played a relatively minor role in Australia. In contrast, the estimated proportion of the competitiveness topic in Australia was relatively prominent in the late '80s and early '90s. However, discussions about financial investment in reference to the current account have gained increasing importance over time: by the



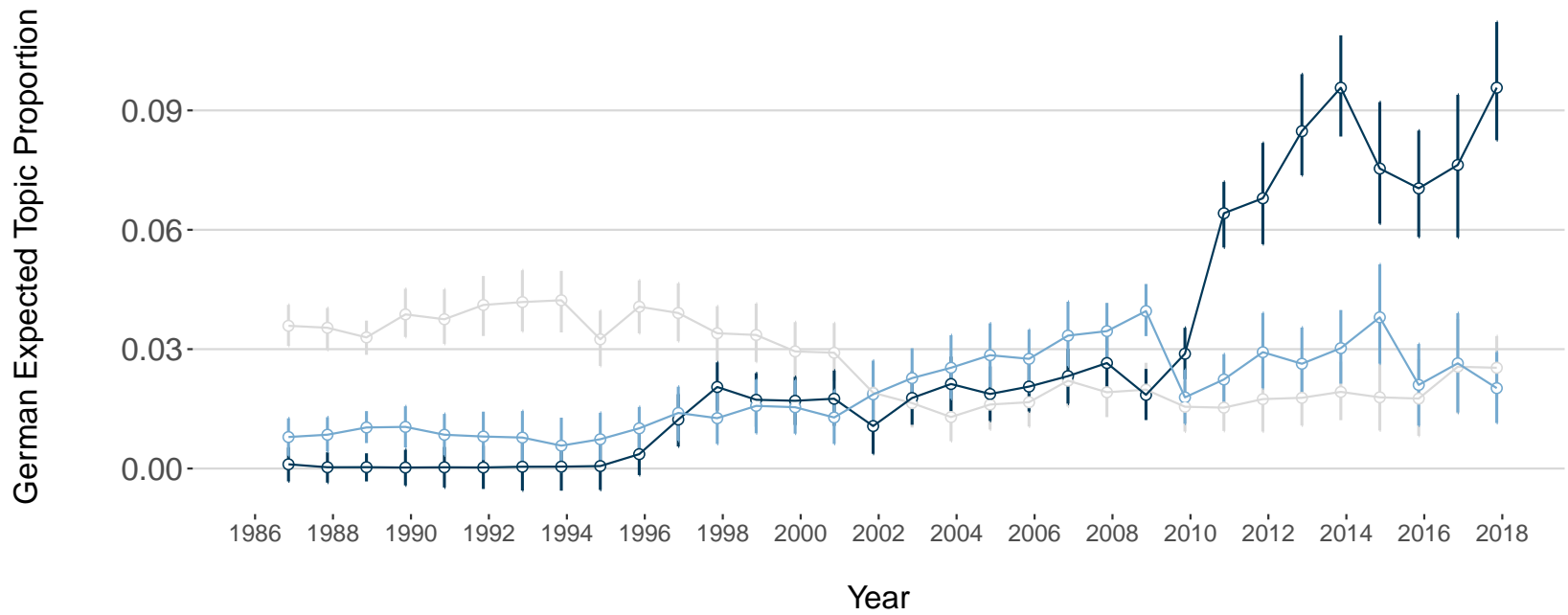
mid-90s they started receiving more attention than issues of competitiveness, and this has consistently remained so until nowadays. It may be no coincidence that this shift happened when the so-called “Pitchford thesis” gained prominence (Belkar, Cockerell and Kent, 2007). This thesis, put forward by the Australian economist John Pitchford, suggests that a current account deficit is not necessarily a problem and can be optimal (Pitchford, 1989). This is the case if rational individuals decide to borrow money from abroad and repay these loans with returns from their investment.

The picture for Germany is the opposite. The lower graph in Figure 3 exhibits a consistent pattern of prevalence of the two competitiveness topics vis-à-vis the financial investment one: with the only exception of the years preceding the Global Financial Crisis, the two topics defined by the term “wettbewerbsfähigkeit” are estimated to always have greater coverage than financial investment. Also, it is important to notice how the German media’s view of competitiveness has shifted over time from a more domestic perspective, expressed by the industrial competitiveness topic, to a European one, expressed by the cluster of words ascribed to international competitiveness. Our analysis suggests that the Eurozone crisis has greatly contributed to shaping German sensitivity to competitiveness issues. All in all, this is consistent with our expectations on the evolution of German public discourse from the Reunification period to nowadays.

**Figure 3:** Time Series Estimates of Relevant Topics for Australia and Germany, 1986-2018



Topic — Industrial Investment — Financial Investment — Competitiveness



Topic — Industrial Competitiveness — International Competitiveness — Investment

Additional insights are provided by A4 in Appendix A.1, which shows the estimated topic proportions by newspaper for Australia and Germany, respectively. For Australia, the upper graph shows that the relative prevalence of financial investment discussions in articles related to the the current account balance is particularly driven by the Australian Financial Review. Instead, estimated topic proportions for competitiveness and financial investment topics in the Australian and the Sydney Morning Herald, respectively, are not significantly different from each other. For Germany, the discussion on international competitiveness are mainly driven by the Süddeutsche Zeitung and Die Welt. Conversely, the coverage of this topic is much lower in the Handelsblatt, which appears to have devoted greater proportions of text to industrial competitiveness over the considered period.

Overall, these results confirm the presence of two different narratives of the current account balance in Australia and Germany. In Australia, public discourse tends to highlight issues of investment more than in Germany. Importantly, financial investment is devoted most attention, which is consistent with the saving-investment perspective's emphasis on international financial flows. Conversely, the German media tend to highlight issues of competitiveness in relation to the current account balance more than Australian ones. Hence, public discourse in Germany tends to promote a neo-mercantilist view on the current account.

The final step of our analysis is a qualitative examination of articles that report about the current account in the context of competitiveness from March 2000 to January 2018. We compare how the current account position in general and its connection to the concept of competitiveness is portrayed in German and Australian newspapers. In Germany, the fact that Germany runs a persistent current account surplus is portrayed very positively. Several articles celebrate Germany's trade surplus and its status as "world champion in exporting" (Exportweltmeister), which is described as "the result of the companies' enormous efforts".<sup>10</sup> While critical remarks made by the OECD and the IMF about the dangers of imbalances are reported, they are eclipsed by chancellor Merkel's assertion that "current account balances

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<sup>10</sup>"Ergebnis enormer Anstrengungen der Unternehmen" (Die Welt, 2007).

are also testimonials of performance.”<sup>11</sup> In response to French criticism on the same topic, one article describes France as a “country that is jealous of Germany’s current account balance and systematically tries to direct attention away from its own lack of competitiveness.”<sup>12</sup>

Australian newspapers have a very different view on their country’s current account balance. While some concern is expressed that the deficit might leave them “exposed if global economic conditions turn sour” (Sydney Morning Herald, 2006), a fair number of articles highlight the upsides of a deficit by referring to its positive relationship with investment. Several articles differentiate between ‘good’ and ‘bad’ current account deficits and describe ‘bad’ current account deficits as a result of fiscal deficits (The Australian, 2001; Sydney Morning Herald, 2005*a*). Furthermore, some articles connect the deficit to a real estate boom and explicitly stress the saving-investment perspective, explaining that the current account is “equivalent to national investment minus national saving” (Sydney Morning Herald, 2005*b*).

With regards to the connection between the current account balance and competitiveness, Australian newspapers often use the term ‘competitiveness’ in the context of exchange rate fluctuations that make it easier or harder for Australian exporters to sell their products abroad (The Australian, 2001; Sydney Morning Herald, 2005*a*). In a typical account, they argue that the “rising dollar is corroding Australia’s competitiveness” (Sydney Morning Herald, 2005*a*). This is not to deny that there are some who see the current account deficit as “a clear sign that Australian industry is not especially competitive” (Sydney Morning Herald 2005*a*, see also Sydney Morning Herald 2004). But at the same time, there is a tendency to single out the influence of external events for Australian lack of competitiveness. In an editorial, the left-leaning Herald even launches a pointed attack against the trade-competitiveness

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<sup>11</sup> “Leistungsbilanzen sind auch Leistungszeugnisse” (Die Welt, 2010).

<sup>12</sup> “Land, das dem Nachbarn die Aussenhandelsbilanz neidet und systematisch versucht, von der eigenen Wettbewerbsschwäche abzulenken” (Die Welt, 2011).

perspective, arguing against “the obsession with international competitiveness and ‘mercantilist thinking’ - the belief that a country’s trade balance is like a business’s profit and loss statement, where the aim is to export as much as you can and import as little as you can” (Sydney Morning Herald, 2007).

Summing up, there is a marked difference between German and Australian newspapers in the way they depict the current account and its determinants. The German newspapers analyzed are likely to write about the current account in the context of competitiveness and wages. In contrast, the Australian newspapers stress the role of saving and investment. They rarely describe the current account as the direct consequence of competitiveness and tend to interpret the latter as a result of external influences.

While the analysis in this section has pointed out differences between the Australian and the German perspective on the current account, it has not clarified whether the documented divergence in economic narratives has an independent causal effect on individuals’ perceptions of macroeconomic issues related to the current account. After all, different public discourses could be the consequence rather than the cause of how individuals in different countries conceive of the functioning of the economy. By employing an experimental research design, the next section directly addresses this issue.

## **6 Survey Experiment**

We conduct a survey experiment to determine whether the differences identified in newspaper content in different countries have a causal impact on citizens’ attitudes. A priori, one could imagine that citizens are uninformed about current account imbalances, that their opinions are determined by their cultural and media context, or by their personal economic situation such as whether they work in an export-oriented industry. An experiment allows us to evaluate how exposure to the competitiveness or savings-investment perspectives in-

fluences their opinions, and isolate this effect from other spurious correlations between these opinions and demographic, social or economic differences.

In employing this experiment as a test of the theory that public discourse drives external imbalances, we rely on a few key assumptions. First, we presume that the policies adopted are determined on average by public opinion (democratic responsiveness). Secondly, we are assuming that the publics to which policy is responsive are like the participants of our study (external validity), in the sense that they read newspapers or consume other news that contain the investment-savings and competitiveness frames as we identified above in newspapers. Finally, since such experimental effects have been shown to diminish over time, we expect that such exposure is repeated and/ or is more common in the lead-up to important policy decisions (on the basis that journalists write about issues relevant to upcoming decisions).

In the experiment, participants are exposed to one of three conditions. All three conditions present a basic explanation of current account balances, but (1) the ‘no framing’ condition presents no further interpretation of the imbalance. In the two experimental treatments, participants read additional text explaining either (2) the competitiveness or (3) the savings-investment perspective, where the interpretation of these perspectives is grounded in the text analyses of newspaper content presented in the previous section. For details of the question wording, see Figure 4, in which for simplicity we present the version for Australia. As Australia regularly runs deficits, respondents were told that the country faces a deficit and, following the possible treatment conditions, are asked whether they would support policies to reduce the deficit. The experiment in Germany, which is a surplus country, presented the opposition condition, in which the investment-savings treatment describes money outflow because investors decide to invest abroad, while the competitiveness treatment points to the high competitiveness and low production costs; and the government proposes a ‘loosening’ of economic policies to reduce the surplus.

**Figure 4:** Survey Question Wording Example (Australia)

We will now ask you a few questions about Australia’s external economic relations and the current account. Australia has a persistent current account deficit that is expected to continue unless policy changes are made. A deficit means that Australia is importing more goods from abroad than it is exporting to other countries. It also means that more money is flowing into the country from abroad than there is flowing out to other countries.

*Investment-savings treatment*

“Experts say that the persistent deficit is a result of high attractiveness of investments in the Australian economy compared to the level of savings. In particular, money comes in because foreign firms and investors are deciding to invest in Australia’s economy.”

*Competitiveness treatment*

“Experts say that the persistent deficit is a result of the low competitiveness of Australian producers. In particular, Australian goods and services are expensive compared to goods and services produced abroad because of the high production costs in Australia.”

*Policy Response*

“The government, together with employers’ associations, labor unions, and the central bank, has several possibilities to affect the current account. Imagine that the Australian prime minister announces “belt-tightening” measures to reduce the current account deficit.

To what extent do you approve of this announcement?

(1-5 scale: strongly disapprove=1, somewhat disapprove, neither approve nor disapprove, somewhat approve, strongly approve=5)

Following the treatment, participants are presented with a policy package that would reduce the existing imbalance (and which has additional distributional and economic effects on wages, investments, etc.) and are then asked whether they approve of the proposed change on a five-point scale (from “strongly disapprove” to “strongly approve”). They are subsequently asked to evaluate individual components of the policy package.

While the policy package that respondents evaluate is hypothetical, respondents are presented a situation that reflects the situation of the country in which the survey is conducted. That is, in Germany respondents are informed that the country runs a consistent

current account surplus and consider policies that would reduce this surplus, while in Australia they are informed of a deficit and policies to reduce this deficit. One might object that the descriptions should be identical in both countries, such as by assigning participants in both countries to either a deficit- or a surplus- treatment as well as to the treatments suggesting how such imbalances should be interpreted. However, such an approach would simply add an artificial and unrealistic counterfactual, for example asking Germans to believe their country runs deficits, or imagine a world in which it did so, while reducing the power available to analyze the experimental condition that is of interest.

A second possible critique to this approach is that we cannot distinguish the magnitude of the effects due to the investment-savings perspective as opposed to the competitiveness perspective. While this could be a topic for future investigation, it is not strictly necessary to our claim that such perspectives causally generate differences in opinion on imbalance-reducing policies.

The survey experiment was conducted in Germany and Australia in the summer of 2018 with 2,043 respondents. Respondents came from the survey company Respondi's standing panels. The surveys took place between August 6 and August 26, 2018. Respondents were screened to match the sex and age profile of each country based on census data (for ages 18-65). The survey included questions for other political economy experiments and the order of appearance of the experiments was randomized. The median respondent required 18 minutes to respond to the full survey, so here we drop respondents who took less than 5 minutes to respond, as it is practically impossible to respond meaningfully to the questions in such a short period.



## 6.1 Survey Experiment Results

First we consider the success of the randomization, not because there is any particular doubt about the survey firms' computer randomization but because of the small attrition created when respondents do not complete the survey or are dropped because they completed the survey in less than five minutes. We present summary statistics and balance tests in Appendix tables A2 and A3. These results confirm the randomization was effective as expected with respect to these covariates.

To examine the causal effect of the treatments on participants opinion, we first look at the approval for the policy package to reduce the imbalance, that is to reduce the deficit in Australia and to reduce the surplus in Germany.

**Figure 5:** Histogram of Policy Approval Responses by Treatment, Country

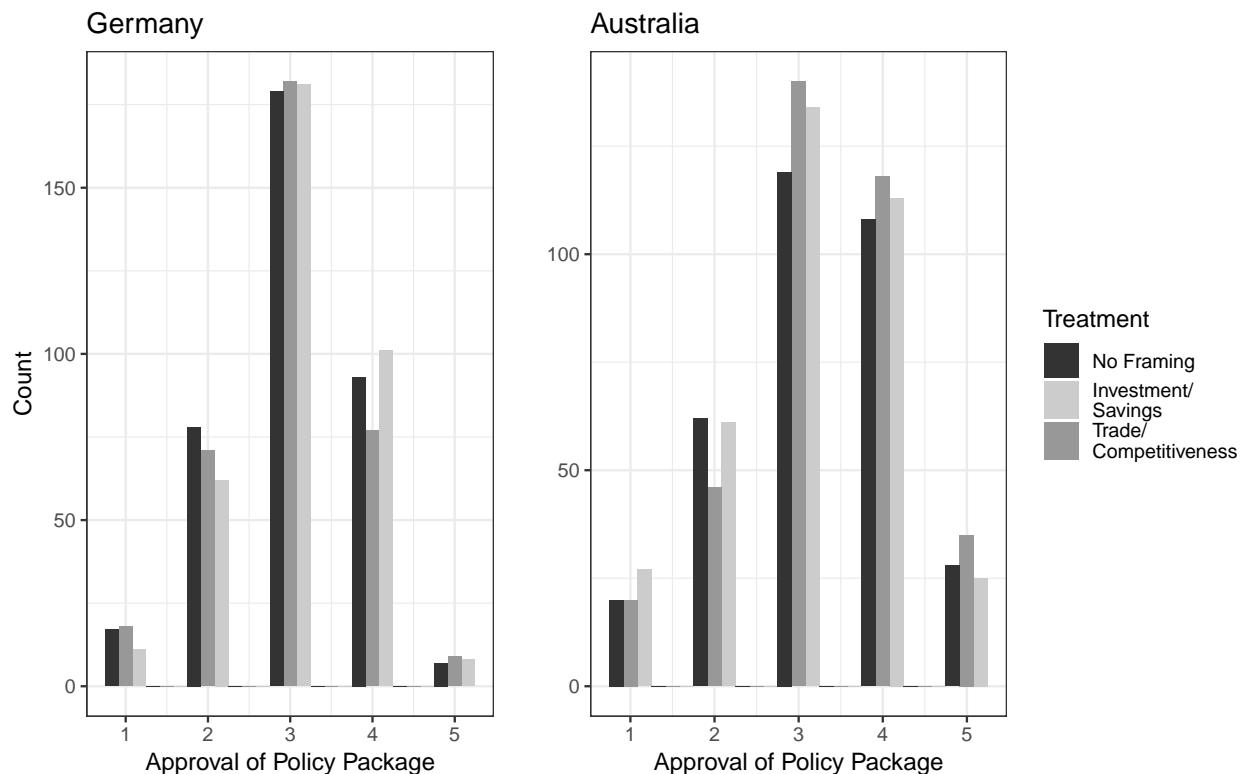


Figure 5 shows the raw distributions of approval ratings for a package to address the

current account balance, by country. Note that here “Approval of Policy Package” refers in German case to a policy to reduce the surplus while in Australia it refers to a package to reduce the deficit. It suggests that Germans are generally more reluctant to approve a policy that would reduce their surplus than Australians are willing to approve a package that would reduce their deficit. Although a fair amount of Germans responded “approve” or “strongly approve” (4 or 5), more than 40% Australians did so. It is also clear from these raw counts that the treatments caused people to move in the expected directions. In Germany, the investment-savings perspective convinced more people to approve a policy package to reduce the surplus, while in Australia the trade/competitiveness treatment caused more people to support a package to reduce their deficit.

To see whether these results are statistically significant, Figure 6 presents the effect of treatments with 95% confidence intervals, relative to two alternatives. (1) On top, a counterfactual perspective is compared to the opposite framing which is the status quo for that country, for which the effect is statistically significant. So, for example, in Germany the approval for a package to reduce the surplus is greater for the investment-savings treatment than for the competitiveness perspective. (2) On the bottom, a counterfactual perspective is compared to the no-framing condition, in which only basic information about current account balances is presented, which is not statistically significant.

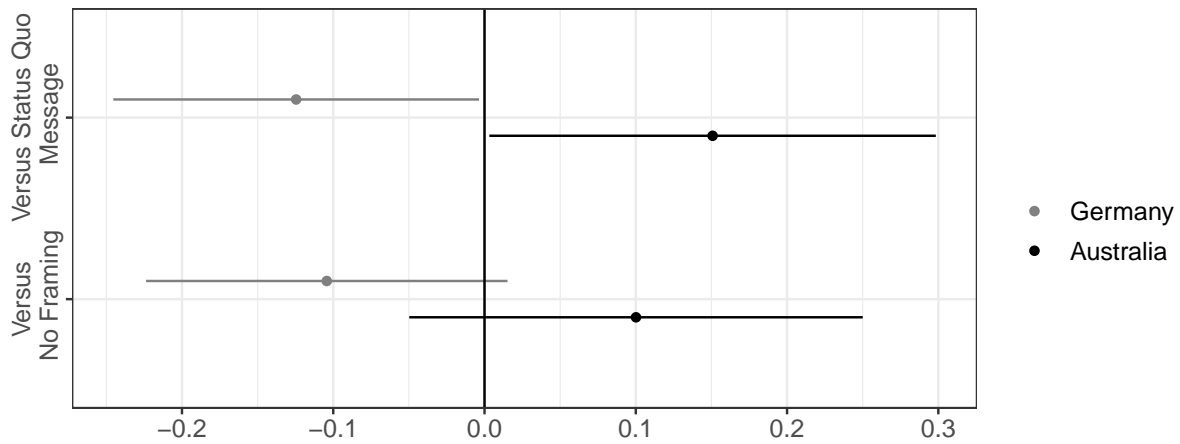
While the magnitude of the causal effect is not large relative to the full range of possible options (about one-eighth of a standard deviation), if we compare the treatment effect to the pre-treatment measure of left-right political preferences,<sup>13</sup> we find that the treatment effect is 50% greater than the difference in right- versus left- individuals in Germany and many

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<sup>13</sup>The left right scale is a composite score of four questions on social policies reduced to one dimension using principal-components analysis. The questions ask about support for (1) redistribution of wealth (2) state-ownership of public services and industries, (3) whether government should take responsibility to provide for individuals, and (4) whether people can only get rich at the expense of others.

more times greater than the political differences in Australia (presented visually in Appendix Figures A5 and A6). Similarly, the difference in each country is about four times greater than the difference of those who work in a traded versus a non-traded industry. On the one hand, these effects might diminish over time, but repeated exposure to these perspectives might generate effects greater in magnitude than those observed in this experiment.

**Figure 6:** Causal effect on Policy Package Approval by Country



The outcome is the approval of a package to reduce the existing imbalance (reduce a surplus in Germany or the deficit in Australia). Above, we compare the counterfactual treatment (Investment-Savings in Germany and Competitiveness in Australia) versus the status quo interpretation, while below compares the counterfactual treatment to a baseline in which only basic information is provided.

These results provide support for Hypothesis 2, suggesting that public discourse on the nature of the current account balance can influence opinion on policies that help determine that balance. The results with respect to approval of specific policies that would reduce the imbalance is also consistent with the general measure, except that in Germany there is lower approval for wage increases and spending (although these results are not significant), and there is greater variance and more missing values than in the general measure.<sup>14</sup>

<sup>14</sup>The specific measures are (1) Measures to limit wage increases, (2) Measures to limit government spending, (3) Measures to reduce access to credit, and (4) Measures to promote private savings. In Germany, the variance of the general measure is 0.70 versus a mean of 0.80 for the specific measures; in Australia the

Furthermore, the causal results are robust, that is the coefficient is of similar magnitude and significant if one includes controls for demographics, measures of sophistication, left-right- policy preferences, and participation in export-oriented industries, as should be the case in expectation given that the treatments are randomly assigned (Table 4). This suggests that the findings are not a result of a randomization failure in which by chance a particular demographic was over-represented in one of the treatment arms.

**Table 4:** Robustness of Treatment Effect Controlling for Demographics, Industry, Sophistication

	<i>Germany</i>				<i>Australia</i>			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Treatment	-0.125** (0.062)	-0.124** (0.062)	-0.126** (0.063)	-0.127** (0.062)	0.151** (0.075)	0.151** (0.075)	0.150** (0.075)	0.148** (0.075)
Male		0.017 (0.062)	0.023 (0.063)	0.007 (0.064)		0.204*** (0.075)	0.205*** (0.075)	0.180** (0.077)
% Exported			-0.165 (0.197)	-0.145 (0.197)			-0.065 (0.176)	-0.058 (0.176)
Sophistication				0.028 (0.027)				0.049 (0.030)
L vs R Values				0.039 (0.025)				-0.003 (0.028)
Age Dummies		Y	Y	Y		Y	Y	Y
N	720	720	720	720	719	719	719	719
R <sup>2</sup>	0.006	0.013	0.014	0.019	0.006	0.041	0.041	0.045

Note:

\*p<0.1; \*\*p<0.05; \*\*\*p<0.01

These results provide evidence that citizens' opinions are not fixed but respond to differences in the perspectives to which they are exposed. After all, exposure to these interpretations is still limited in our experiment. In reality, the dominance of one perspective in the newspapers means that citizens are consistently and permanently exposed to one of

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variances are 1.03 and a mean of 1.56.

these interpretation over long periods of time. This implies that there are significant implications for the differences in newspaper coverage identified in the previous section, and suggests counterfactually that if citizens were widely exposed to different interpretations of the current account balance, their opinions on policies to adjust these imbalances would also change. Furthermore, given that citizens are generally exposed to multiple different kinds of media on repeated occasions over time, the results could be seen to suggest that at least for “sophisticated” voters, the results represent a lower-bound of the real world effects.

## 7 Conclusion

This paper examines political support for external imbalances and the policies that generate them by examining the ideas transported in the public discourse. Our comparative analysis of Australia, a notorious deficit country, and Germany, a notorious surplus country, reveals important differences. The Australian newspapers tend to portray the external balance as the result of households’ and firms’ decisions about saving and investment. They tend to view competitiveness as the result of external factors. German newspapers report about the current account predominantly in the context of exports and competitiveness, although investment is also mentioned. Furthermore, they interpret the current account as an expression of a country’s performance by framing a surplus as an achievement.

These differences are compatible with two distinct theoretical perspectives on external balances, which represent the international dimension of different national growth models. One, the saving-investment perspective, tends towards an attitude of ‘benign neglect’ and stresses the importance of capital flows that are the result of rationally acting firms and households. The other, the trade perspective, tradables the role of wages and competitiveness and tends to recommend an active governance that ensures a continuous surplus. Our paper presents a systematic analysis how these ideas generate political support for external imbalances and the underlying economic strategy that generates these imbalances. Political

debates, e.g. about the imbalances in the Eurozone, have repeatedly pointed to the presence of such distinct theoretical lenses in different countries (Brunnermeier, James and Landau, 2016; Jones, 2016). Our analysis allows us to explore this claim in a larger context, beyond the current, politicized debates surrounding the European debt crisis.

The results illuminate the process how economic ideas help to secure support for diverging national growth strategies and the domestic economic institutions that back these strategies (Hall and Soskice, 2001; Baccaro and Pontusson, 2016). Although institutional complementarities are important determinants of economic policies, these institutional arrangements must be supported by a broad societal coalition in order to be most effective. We show that the ideas that prevail in the public discourse help to generate such mass political support for the policies and outcomes that follow from domestic economic institutions. By interpreting outcomes through one, dominant theoretical perspective, they are seen as being in the personal interest of citizens and the national interest of the entire country.

Our findings indicate that resolving international economic imbalances might be as much about communication as it is about economics, and points to the need to better understand the determinants of public discourses.<sup>15</sup> The experimental results suggest the limitation of a critical view that sees economic imbalances as simply the result of different policies that are nonetheless each optimal given countries' different factor endowments. For even if such policies are welfare maximizing, it is important to understand how such 'optimal' policies are maintained given that, as our results show, if citizens were presented with a different interpretation it would shift their opinion on such policies. While speculation about what or who is driving such differences in public discourse upstream is beyond the scope of this article, our research underlines the importance of seeking out more information about these processes.

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<sup>15</sup>E.g., the relative power of social coalitions. See, e.g., Haffert 2017.

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# Appendix

## A Additional Text Analysis Material

### A.1 Structural Topic Model – Selection of the Number of Topics

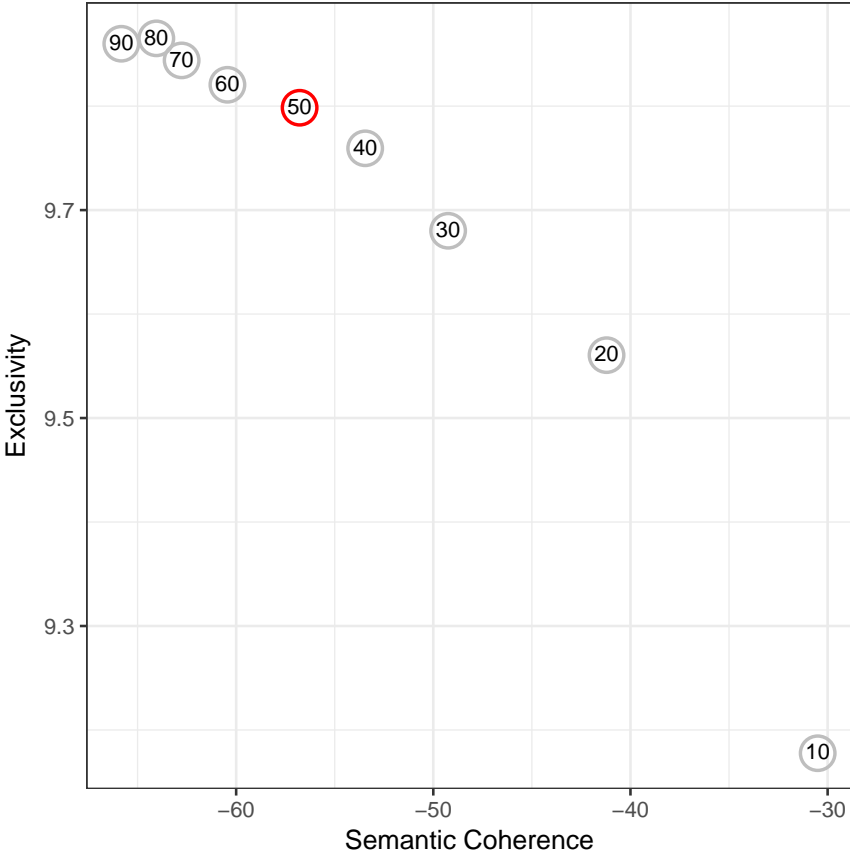
STM assumes a fixed user-specified number of topics and there is not a “right” answer to the number of topics that are appropriate for a given corpus (Grimmer and Stewart 2013). However, there exist criteria to evaluate the quality of topic model performance. Following Roberts, Stewart and Tingley (forthcoming), we focus on topic exclusivity (Bischof and Airolodi 2012; Airolodi and Bischof 2016) and semantic coherence (Mimno et al. 2011). In general, topic exclusivity is easier to obtain with higher numbers of topics, while attaining high semantic coherence is relatively easier by having a few topics dominated by very common words (Roberts et al. 2014). Hence, there appears to be a trade-off between exclusivity and semantic coherence (see Roberts et al. 2014: 1070). Given our research objective, we are interested in topics that are specific enough to be ascribed to one of the two aforementioned perspectives. Therefore, we value exclusivity relatively more than semantic coherence, although we want to avoid having too many topics without significant improvements in topic exclusivity.

First, we conduct several tests with different numbers of topics to assess the degree of exclusivity that is needed to obtain results that are easy to interpret in the light of our research question. We use the German corpus for this preliminary tests. We find that below 50 topics we can not be confident enough that the word clusters produced by STM yield results that are easily ascribable to either the savings-investment or the competitiveness perspective analysed in this paper. Starting from 50 topics instead, the degree of granularity of the topics is sufficiently high to have results that are appropriate to our research question.

Second, after establishing that the right degree of topic exclusivity lies around 50 topics,

we assess the semantic coherence-exclusivity trade-off for a variety of models with different numbers of topics, and verify whether the model with 50 topics is on the semantic coherence-exclusivity “frontier”, namely, whether it is not strictly dominated by any other model in terms of both semantic coherence and exclusivity (Roberts et al. 2014). Given that the estimation of models with a relatively high number of topics is very computationally intensive, we initially focus on round numbers from 10 to 90. Figure A1 plots the results of our evaluation. The figure provides a measure of topic quality through a combination of semantic coherence and exclusivity of words to topics. The trade-off between exclusivity and semantic coherence emerges quite clearly, as exclusivity appears to be an increasing function of STM topic number, while semantic coherence decreases as the number of topics increases.

**Figure A1:** Exclusivity and Semantic Coherence Measures for Varying Numbers of Topics



NOTES: This figure shows exclusivity and semantic coherence scores for nine topic models estimated on the German corpus of newspaper articles. The number associated with each observation corresponds to the number of topics included for each model whose exclusivity and semantic coherence is reported.

However, two observations support the decision to use a topic model with 50 topics. First, the model with 50 topics is not strictly dominated in terms of both semantic coherence and exclusivity (which, for instance, is not the case for the topic model with 90 topics). Second, the increase in exclusivity for models with more than 50 topics is less than proportional to the loss in semantic coherence from increased topic numbers. In other words, while increasing the number of topics provides sizeable gains in exclusivity up to 50 topics, for higher topic numbers these gains are proportionally lower than the loss in semantic coherence.

In sum, we conclude that 50 is the optimal number to obtain results that are relevant for our research question. Estimating 50 topics provides us with enough leverage in topic exclusivity, while avoiding the presence of too many topics at the expense of semantic coherence.

## A.2 Structural Topic Model – Text Excerpts from Relevant Topics

In this section, we present text excerpts from the theoretically relevant topics identified in the paper. German texts have been translated by the authors:

- **Industrial Investment Topic - Australia**

*Sydney Morning Herald - 12 October, 1994*

“Small and medium-sized companies are set to lead the recovery in business investment and jobs over the coming year, new figures show. Business expects to increase investment in capital equipment by 7.7 per cent in the December quarter. [...] The high level of business investment is almost certain to be reflected in continuing high levels of imports of equipment, one of the main factors in last month’s larger-than-expected \$2.13 billion current account figure. The Opposition Treasury spokesman, Mr Peter Costello, warned that Australia’s current account deficit was as bad as in 1990 when the then Treasurer, Mr Keating, called a recession to deal with it.”

- **Financial Investment Topic - Australia**

*The Australian - 27 April, 2002*

“Foreign funds, with a very much greater volume of cash under management, also want diversified investments, and they only need to put a fraction of their portfolio into Australia to have a big impact on asset prices here. The idea that Australia lacks investment opportunities is given the lie anyway by the fact that our current account deficit has averaged around 4.5 per cent of GDP over the 1980s and 1990s. The counterpart of this is a capital account surplus. In other words, investment opportunities here substantially exceed local savings, not surprising in a relatively small economy with a big resource base. The theories come and go, but Australia’s economy and equity markets continue to outperform their band of critics.”

- **Competitiveness - Australia**

*The Australian - 5 September, 2013*

“Increased business complaints about the burden of government regulation and the efficiency of the workplace relations system has seen Australia drop one place in a World Economic Forum ranking of global competitiveness. [...] Former Future Fund chairman David Murray said the report highlighted “serious weaknesses in Australia’s ability to adapt its economy to achieve higher productivity and overcome structural weaknesses in the budget and current account”. “In particular, it highlights the rigidity of the labour market, which is governed by a system over 100 years old which was designed for a closed, protected economy,” he told *The Australian*. “This will not change until the unions make a genuine attempt to promote productivity improvement and move away from a purely political organisational stance.”

- **Industrial Competitiveness - Germany**

*Handelsblatt - 17 May, 1990*

“German products are in demand in Belgium. High technical standard, good quality as well as an excellent customer service, this is what Belgian companies appreciate

about German products. The delivery reliability of their German partners is also praised. These factors help German companies to consolidate their market share over the years.”

- **International Competitiveness - Germany**

*Süddeutsche Zeitung - 21 March, 2010*

“Germany and its industry are not only in European competition. Only two-thirds of our exports remain in the EU. Beyond these borders - and increasingly, of course, in the EU territory itself - Germany is already experiencing tough price competition from technologically often equal low-wage countries, for example in Eastern Europe and China. By now, China is undercutting Hamburg’s port crane industry by 25 percent! A general German wage increase in mechanical engineering, which indeed feeds Germany, would be extremely dangerous. And unlike the Chinese currency, the euro has been appreciably upgraded in recent years. For the weaker countries, further appreciation - which would make their exports more expensive - would be difficult to sustain.”

- **Investment - Germany**

*Handelsblatt - 23 September, 1988*

“There will certainly be a new bull market because, firstly, the profits of companies are much higher and, secondly, because inflation will be very high. At the same time, however, we are experiencing a massive contraction of available stocks. Since 1984, around one-eighth of all stocks in the US have disappeared from the market - through acquisitions, share redemptions, etc. In addition, there is a lot of foreign money trying to invest in US equities. And finally, the US pension funds have more and more money, which is looking for investment. Last but not least: The IRA regime (a form of US tax-advantaged stockpile) will generate huge demand for US equities.

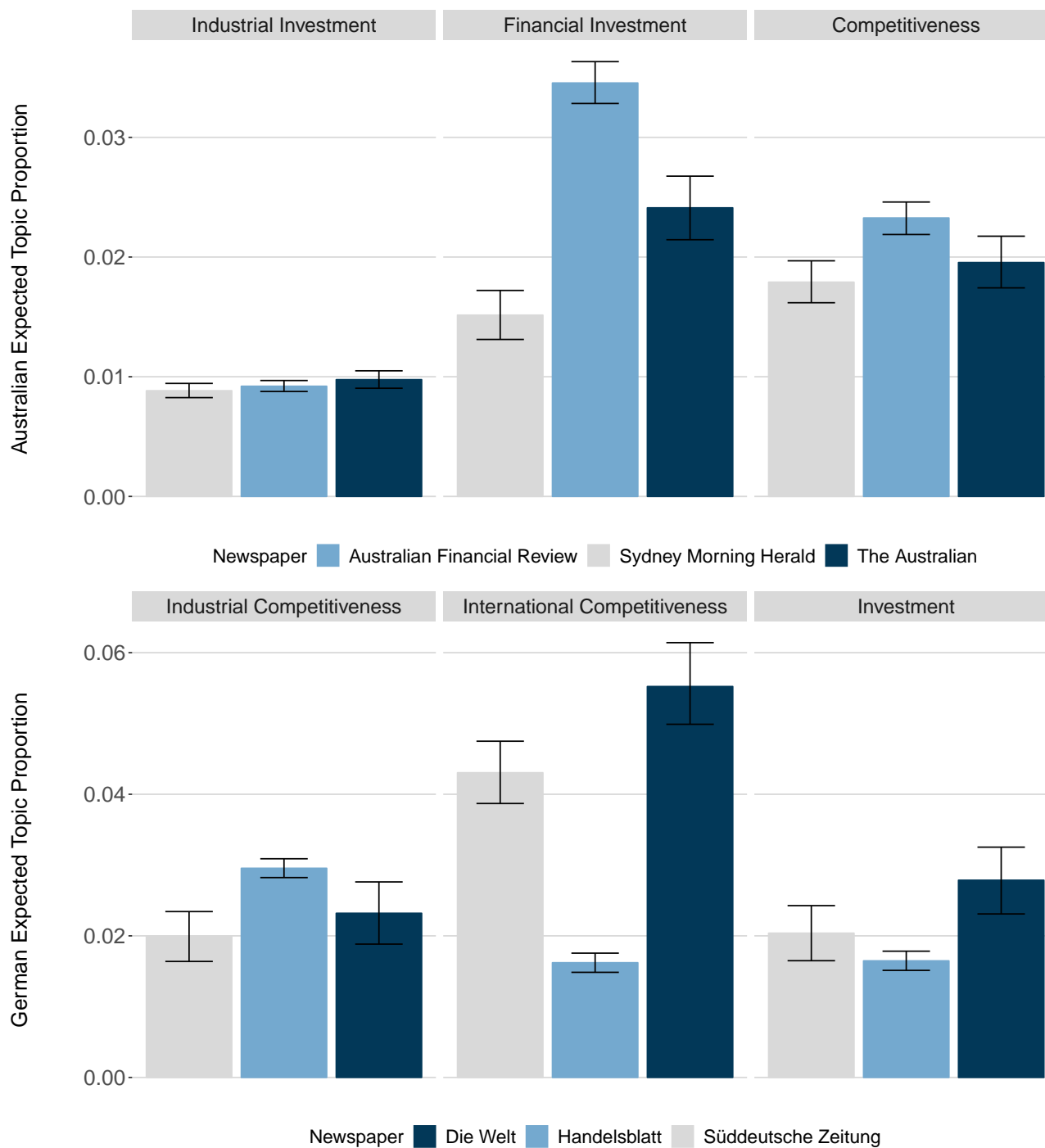
Interviewer: So the trade and budget deficits of the US do not worry you?

Those are huge problems. Debt is generally a bad thing. And in this context, I must emphasise again and again that you should never buy stocks on a par. A top decree should be: stay free of debt.”

### **A.3 Structural Topic Model – Further Analysis**



**Figure A4:** STM Results by Australian and German Newspapers





## A.4 Dictionary-Based Approach

In order to perform an initial assessment of differences in the interpretations in the Australian and German media, we apply a dictionary-based approach. Dictionaries are often used to measure text content for a wide set of issues: these range from racial policy preferences in media outlets (Kellstedt, 2000) to budget rhetoric by presidential nominees (Burden and Sanberg, 2003); from populism in election manifestos (Rooduijn and Pauwels, 2011) to sentiment in political texts (Young and Soroka, 2012). Building on the previous literature using this method, we proceed as follows. First, we define the set of words whose frequency we want to assess. Keeping the procedure as simple as possible, we choose “investment” and “savings” for the saving-investment perspective, and “competitiveness” and “productivity” for the trade perspective. Second, to ensure that the additional search terms are really connected to the current account and do not appear randomly in another part of the article, we consider only words that are located within a window of 25 words around the terms “current account” and “trade balance”.

Table A1 shows the relative frequencies. Generally, the frequencies for all four words confirm our expectations. Australian newspapers are more likely to mention words associated with the investment perspective than those connected with the trade perspective. Indeed, one or both terms of the investment perspective appear in relevant word-windows for 8528 documents, which reflects 49.6% of the documents in the Australian text corpus. In contrast, the terms associated with the competitiveness perspective appear with a much lower frequency, i.e. slightly more than 16% of Australian newspaper articles. For German newspapers, it is the other way around. Although the absolute number of all occurrences is lower in German articles (which can be explained by the higher number of possible word variations that are specific to German language), it is straightforward to observe that competitiveness-related words are used with much higher frequency than those from the investment-savings perspective. Competitiveness or productivity are referenced in 969 relevant word-windows, constituting the 6.5% of German articles, while investment and savings are mentioned only

314 times – namely, in 2.1% of German documents. If we consider single words, we observe that the results are driven by the words “investment” and “competitiveness”, which occur with a higher frequency in both the Australian and German newspaper articles.

**Table A1:** Results from Dictionary-Based Analysis

	Investment / Savings	Trade / Competitiveness	Investment	Savings	Competitiveness	Productivity
Australia	8528 (49.6%)	2802 (16.3%)	7525 (43.8%)	2901 (16.9%)	1383 (8%)	1854 (10.8%)
Germany	314 (2.1%)	969 (6.5%)	160 (1.1%)	159 (1.1%)	751 (5.1%)	313 (2.1%)
The Australian	1622 (48.3%)	467 (13.9%)	1410 (42%)	560 (16.7%)	467 (13.9%)	339 (10.1%)
Sydney Morning Herald	2384 (47%)	747 (14.7%)	2056 (40.4%)	878 (17.3%)	747 (14.7%)	475 (9.3%)
Australian Financial Review	4522 (51.7%)	1588 (18.1%)	4059 (46.4%)	1463 (16.7%)	1588 (18.1%)	1040 (11.9%)
Die Welt	30 (3%)	135 (13.6%)	16 (1.6%)	14 (1.4%)	135 (13.6%)	34 (3.4%)
Süddeutsche Zeitung	57 (4%)	198 (13.7%)	31 (2.1%)	27 (1.9%)	198 (13.7%)	313 (5.1%)
Handelsblatt	227 (1.8%)	636 (5.1%)	113 (0.9%)	118 (1%)	636 (5.1%)	206 (1.7%)

NOTES: This table presents the results of the dictionary-based analysis. Each cell shows the absolute number of documents in which the considered category of words appears, and – in parentheses – the relative frequency of occurrence – namely, the ratio between the number of documents of occurrence and the total number of documents for given country (or newspaper). The first two columns present results aggregated by word category: the investment-savings category is given by the terms “investment” and “savings”, while the trade-competitiveness category consists of the terms “competitiveness” and “productivity”. The remaining columns show results disaggregated by single words. The first two rows present results aggregated by country – namely, Australia and Germany. The remaining rows show results disaggregated by newspaper within each country.

The picture does not change when we disaggregate results by newspaper. The findings are not driven by any specific media outlet: all Australian newspapers reference more investment and savings than investment and productivity in the relevant word-windows, while the opposite is true for all German newspapers. Interestingly, in both cases the two ideologically opposite newspapers – the Australian and the Sydney Morning Herald in Australia, Die Welt and the Süddeutsche Zeitung in Germany – have very similar frequency distributions of the considered terms. Instead, both the Australian Financial Review and the Handelsblatt – namely, the business newspapers – show a higher difference in the frequencies of competitiveness-related terms vis-à-vis investment and savings.

## B Additional Survey Experiment Material

**Table A2:** Summary Statistics

	Australia			Germany		
	No Framing	Competitiveness	Investment	No Framing	Competitiveness	Investment
Sex	0.53 [0.50]	0.47 [0.50]	0.46 [0.50]	0.48 [0.50]	0.49 [0.50]	0.49 [0.50]
Age	7.23 [3.19]	6.85 [3.25]	6.85 [3.31]	7.21 [3.27]	7.10 [3.15]	7.21 [3.20]
Percent Exported	0.09 [0.21]	0.09 [0.21]	0.10 [0.22]	0.06 [0.16]	0.06 [0.17]	0.05 [0.15]
Sophistication	1.80 [0.21]	1.68 [0.21]	1.63 [0.22]	1.74 [0.16]	1.68 [0.17]	1.69 [0.15]
Left vs Right Values	-0.28 [1.30]	-0.13 [1.27]	-0.26 [1.37]	-0.06 [1.30]	-0.15 [1.23]	-0.13 [1.25]
Duration (min)	28.86 [64.60]	31.24 [93.97]	31.12 [144.02]	117.26 [780.56]	78.36 [377.89]	80.34 [447.55]
Date started			(2018-08-10 for all)			
	[2.90]	[3.03]	[3.00]	[2.76]	[2.66]	[2.63]

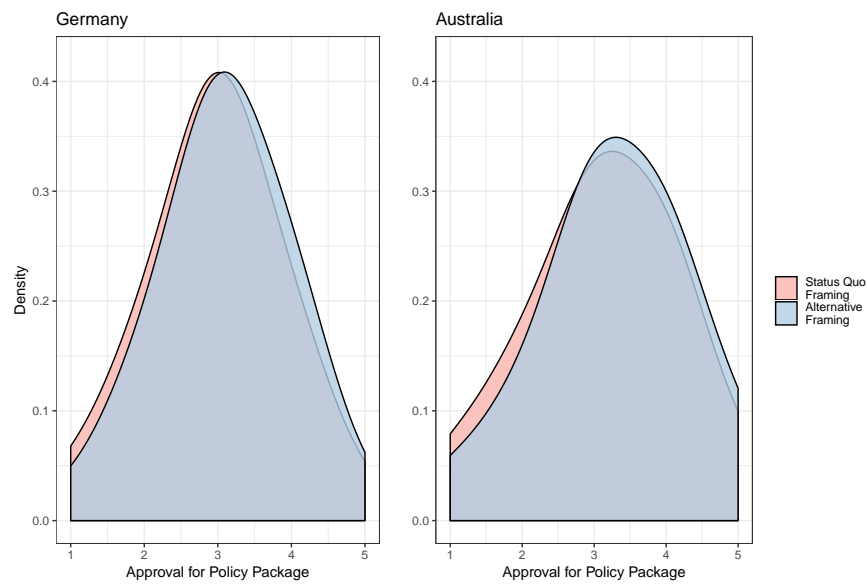
NOTES: Mean values reported followed underneath by standard deviation in square brackets, by treatment arm.

**Table A3:** Balance Tests

	Australia		Germany	
	Competitiveness	Investment	Competitiveness	Investment
Sex	-0.06 (0.04)	-0.07 (0.04)	0.00 (0.04)	0.00 (0.04)
Age	-0.38 (0.25)	-0.38 (0.25)	-0.11 (0.24)	0.00 (0.24)
Percent Exported	-0.01 (0.02)	0.01 (0.02)	0.00 (0.01)	-0.01 (0.01)
Sophistication	-0.11 (0.10)	-0.17 (0.10)	-0.06 (0.09)	-0.05 (0.09)
Left v Right Values	0.16 (0.10)	0.02 (0.10)	-0.09 (0.09)	-0.07 (0.09)
Duration (minutes)	2.38 (8.10)	2.26 (8.09)	-38.91 (41.95)	-36.92 (41.77)
Date Started	0.05 (0.23)	0.02 (0.23)	-0.07 (0.20)	-0.08 (0.20)

NOTES: Each column compares one of the framing treatments to the No-Framing condition, with each element determined by the coefficient and standard error from running a separate regression of the variable in question on an indicator for the treatment.

**Figure A5:** Density of Policy Package Approval by Treatment



**Figure A6:** Density of Policy Package Approval by Left- Right Preferences

