# The Greek crisis as a 'morality tale'? An empirical assessment

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### Abstract

Credit and debt are more than just material exchanges within a market economy, but also social constructs embedded in moral judgments about the character of the agents involved. During the recent European Sovereign Bond crisis, some commentators have noted how a similarly loaded moral media discourse juxtaposed 'virtuous' Northern European countries on the one side, and 'spendthrift, lazy' Southern European ones on the other side. In this paper, I provide a quantitative large-N empirical assessment of this phenomenon. I employ a dictionary-based approach inspired by research in social psychology to measure moral content. Upon analyzing more than 14,000 articles published in the Anglo-American and German financial press between 2004 and 2019, I show the extent to which Greece was described in negative moral language. After the initial 'shock' in the fall 2009, the average moral tone turns negative, and more so in the German financial press relative to its Anglo-American counterpart. Moreover, by most measures, it never completely reverts to pre-crisis levels, thus suggesting how 'sticky' economic narratives can become. Against the original expectations, though, there is no evidence that the financial press framed the last and most acute phase of the Greek crisis in 2015 in increasingly moral terms.

# 1 Introduction

Credit and debt are more than just material exchanges within a market economy. Creditors-debtors' relationships are also social constructs embedded in moral judgments about the character - the moral type - of the agents involved. This moral characterization is rooted in a cultural and social environment that links the idea of debt to immorality (Dyson, 2014). While the most overtly religious or philosophically-laden interpretations of debt-credit relations have faded away over time, moral language still permeates and frames public debate on these topics (Fourcade et al., 2013). Traditionally, scholars have analyzed the relationship between morality and debt in the context of inter-personal relations, with individuals in the role of economic agents. Nevertheless, during the recent European Sovereign Bond crisis, many commentators have noted how a similarly loaded moral discourse has transcended the characterization of credit-debt relations among individuals and extended to the collective characterization of entire countries (Van Vossole, 2016; Ojala and Harjuniemi, 2016; Mylonas, 2019). A 'morality tale' has ensued, starkly dividing virtuous Northern European countries on the one side, and spendthrift Southern European ones on the other side (Matthijs and McNamara 2015: 230). To this day, though, we lack a rigorous large-sample investigation of whether, and to what extent, such moral narrative accompanied the European Sovereign Debt crisis. This is what this paper is designed to accomplish.

Overall, the article contributes to our understanding of the media-finance nexus on matters of international credit-debt relations. Theoretically, I provide a framework to understand under which conditions credit-debt relations may be framed in moral terms. Methodologically, I rely on a dictionary-based approach inspired by extent research in social psychology to validate a reliable measure of moral content in economic news coverage. From an empirical perspective, to the best of my knowledge, this is the first large-N quantitative investigation of the relationship between moral language and the Greek sovereign debt crisis. After validating my measure of moral content in written texts, I demonstrate the extent to which, during the financial crisis, Greece has been described in negative moral terms. The empirics show that, not only was the Greek crisis accompanied by an increase in moral language, but also how 'sticky' such a moral framing has been. Against the original

expectations, though, I find no evidence that the financial press framed the last and most acute phase of the Greek crisis in 2015 in increasingly moral terms.

## 2    The moral dimension of sovereign debt

Historically, discourses of debt-credit relations have been intertwined with a moral narrative that is composed of two opposite sides, vice and virtue. Each is associated with debtors and creditors, respectively (Dyson, 2014). The moral status of debt - in the form of favors among friends and neighbors creating personal moral obligations - even pre-dates the emergence of money (Graeber, 2011). Interestingly, to this day the German word *'Schuld'* has two possible meanings: debt and guilt. The moral dimension of debt is a recurrent theme in Western culture and has fascinated diverse thinkers such as Nietzsche, Hume, Smith, Wagner, Shakespeare, Chekhov, Montesquieu, and Jefferson (Dyson, 2014). Some of them despised debt in and of itself on the grounds that there exists no 'engine so corruptive of the government and demoralizing of the nation as a public debt' (Jefferson, 1903). Others, instead, have turned their gaze to the moral dimension of debt repayment within the larger relationship between creditors and debtors. For instance, in George Eliot's *The Mill on the Floss*, the main character's son considers it his personal duty to bail out his father who is experiencing financial bankruptcy. The guilt of the financial loss would have ruined the moral standing of the whole family in front of the entire community (Blake, 2009).

While overtly religious or philosophically-laden interpretations may have faded away over time, moral connotations still permeate public discussions of debt-credit relations (Fourcade et al., 2013). If this is true of debt-credit relations among individuals, according to many observers and scholars such a 'morality tale' has become a common thread in the news media's narrative of the European crisis as well (Krugman, 2012; Fourcade et al., 2013; De Grauwe, 2011). Among others, Krugman has warned against this Manichean view of economic relations, observing that, '[if you talk to German officials] they will portray the euro crisis as a morality play, a tale of countries that lived high and now face the inevitable reckoning' (Krugman, 2012). Such remarks have been echoed by another Nobel Laureate, Stiglitz, who denounced the 'morality tale' concerning Southern European countries' mismanagement of the economy as 'sheer nonsense' and, somehow ironically,

as 'immoral' (Stiglitz, 2015). Likewise, economist Paul De Grauwe repeatedly urged creditors to 'stop playing a game of morality in the Euro Zone' and accept the fact that 'responsibilities are shared by North and South' (De Grauwe 2012: 34). Some journalists and commentators have also been critical of the media's (and policymakers') characterization of the Greeks, who have been 'systematically morally downgraded' (The Conversation, 05-24-2016).[1] Likewise, from the pages of the *New York Times*, Roger Cohen laments the German attitude to see economics as 'a branch of moral philosophy' in which, '[g]rowth is the reward for good behavior. Such virtue includes frugality and avoidance of debt. It goes without saying that, in this view, promoting growth by increasing fiscal deficits is the height of immorality' (Cohen, 2013). Interestingly, even some proponents of austerity measures have been critical of the overall framing of the crisis. For example, economists Alesina et al. (2020: 194-195) notice that, '[t]hose who believe in the anti-deficit view at all costs seem to rely on a somewhat misplaced 'superiority complex,' a view that those who run deficits are somewhat 'morally' inferior to those who never have any debt. This is just bad economics.' Under this perspective, creditor countries have demonstrated that they are able to take care of themselves and should be considered more 'moral' than their disobedient counterpart. By contrast, debtor countries' moral failing is clear in their refusal to follow through their part of the 'social contract', i.e. the implementation of structural reforms needed to embark on a more sustainable debt path. Being at the center of the euro-crisis contagion, Greece is viewed as the archetypal 'culprit' among debtor countries.

Should we regard this moral narrative as merely a rhetorical epiphenomenon? Or might this moral narrative - characterized by its Manichean portrayal of the righteous guardians of fiscal responsibility on the one side and those engaging in profligate and irresponsible spending on the other - have influenced public sentiment and political processes? Two facets of the literature suggest such a possibility. In fact, a vast interdisciplinary literature shows how moral convictions strongly relate to political attitudes and behaviors (Skitka et al., 2005; Bennis et al., 2010). Interestingly, after an initial focus on overtly moral issues (e.g. civil rights), scholars have started to investigate how citizens can hold morally driven views on issues that are ostensibly non-moral, such as economic matters (Ryan, 2014). After all, the question of who should bear the economic repercussions of a financial crisis involves normative considerations. In line with this perspective, Rathbun et al. (2019) present

original survey data from Germany, demonstrating a strong link between respondents' moral convictions and their opinions on debt relief, bailout programs, and conditionality measures in the context of the Greek crisis. Overall, a key takeaway from this research is that while morally held convictions can serve pro-social purposes (e.g. greater political involvement), morally convicted attitudes appear to have, 'a dark side as well' (Skitka et al. 2005: 914). Indeed, previous studies have found that morally convicted attitudes arouse strong negative feelings, inhibit compromise, engender hostile opinions, and inspire punitive actions toward morally distant others (Skitka et al., 2005; Ryan, 2014, 2017; Del Ponte, 2023).

While the above-mentioned studies significantly expand our knowledge of the relationship between morality and political attitudes, the jury is still out regarding the sources of moral convictions. Some scholars conceptualize moral convictions as relatively fixed individual predispositions (or 'intuitions'). In such a case, the media play only an indirect role in so far as they can activate or attenuate pre-existing dispositions (Rathbun et al., 2019). Others, inspired by classical studies on media framing, have investigated the possibility that moral framing may be effective regardless of (or even counter to) one's own predispositions. Such research also intersects with contemporary debates in moral philosophy that challenge 'moral intuitionism' (Sinnott-Armstrong 2006:339). A central question in this debate is the extent to which moral intuitions are 'reliable', i.e. resistant to framing effects. While the empirical research on the matter is still on-going, the crucial question now is not whether, but *to what extent* moral framing can occur (Rehren and Sinnott-Armstrong, 2021). For example, based on a comprehensive meta-analysis of between-subject studies in the literature, Demaree-Cotton (2016) calculates that, on average, 20% of the moral judgements under investigation were vulnerable to framing effects. Likewise, in one of the few attempts at identifying the causal effect of moral framing in a within-subject experimental setting, Rehren and Sinnott-Armstrong (2021) find that between 20 and 27% of subjects experience judgment reversal (defined as participants making opposite judgments as a function of the framing treatment) and that more than 50% of them experience some judgment shift (defined as any significant change in judgment). Finally, it should be noted that all the above studies rely on one-shot moral framing treatment. By contrast, the Greek financial crisis lasted and was reported on, often quite intensively, for several years. It seems reasonable to expect that the effect would be stronger if subjects are exposed to moral framing

repeatedly over time.

## 3   The Greek crisis, the media, and morality

I suggest that there exist three main channels thorough which the media may have framed Greece in moral terms during the European Sovereign Bond crisis. The first channel - already mentioned - concerns the connection between debt and morality. Historically, discourses around debt and credit relations have been tied to moral judgments about the characters of the actors involved (Dyson, 2014). In this regard, then, Greece is deemed guilty of living beyond their means at the expense of the creditors (Küsters and Garrido, 2020), thus leading to the eventual 'economic moral collapse' of the state, as a Danish daily newspaper put it (Berlingske, 12/07/2015).[2] While this historical connection is not specific to Greece as a debtor country, some scholars have argued that the moral cleavage between creditors and debtors was taken to a new level in the European context. Such cleavage took on a religious connotation by pitting creditors' protestant ethic of hard work and conditional solidarity against the Catholic and Orthodox values of compassion, familialist solidarism, and unconditional solidarity (Hien, 2019). The protestant perspective on the individual, which is deeply rooted in economic ordoliberalism, gave rise to a distinct concept of solidarity. Further convinced by the catastrophic experience of the Weimar Republic, ordoliberals rejected the idea of transfer solidarity inherent in the Weimar welfare state's institutions due to its perceived creation of moral hazard, encouragement of improper incentives, and erosion of personal responsibility (Hien, 2019). In the words of the most prominent ordoliberal economist, unconditional inter-societal transfers would inevitably result in a 'total catastrophe of state and society', reducing citizens to being mere 'slaves of the state' (Röpke 1949: 257-258). Instead, assistance should be limited to the bare necessities to avoid distorting the right incentives, specifically the risk of moral hazard, which could deter individuals from adopting the correct ethical behaviors, such as hard work and financial prudence. This form of assistance should be conditional, and the adherence to the right behaviors should be subject to oversight (Hien, 2019). In the context of the European crisis, the ordoliberal root of the dominant narrative is best exemplified in the words of one of the major protagonists of the Eurocrisis, the German Finance Minister and protestant Wolfgang Schäuble. In a 2015 interview with *Der Spiegel*, he quite explicitly tied religious principles to finan-

cial outcomes: '[m]y grandmother, who comes from the Swabian mountains, used to say: benevolence comes close to dissoluteness. There exists a type of catholicity, which very quickly has the opposite effect of what had been intended' (Schäuble, 2015).

The second channel concerns the perceived moral superiority of the creditor states who, unlike their debtors counterpart, manage their economy according to the ethical constraints of balanced budget doctrine (Buchanan, 1976). By ignoring the 'household budget constraint' on state spending, debtors squander the accumulated heritage of the nation at the expense of future generations, thus turning around the 'natural' inclination of individuals to respect the family wealth in order to transmit it to posterity (Buchanan, 1999; Cooper, 2021). Such consideration, in turn, gives creditor a doubly virtuous ethical character. Giving more funds to Greece is considered unfair to hard-working taxpayers in creditor countries and a neglect of their governments' social obligation to protect their interests (Crespy and Schmidt, 2014; Rathbun et al., 2019). Indeed, it is well-known that creditors' governments often framed their positions on and solutions to the crisis in terms of their obligations toward their own taxpayers (Kutter, 2014). This was particularly true of Germany, with the two major parties (CDU/CSU and SPD) in the 'informal grand coalition' backing Merkel's third government being particularly vocal on the need to ease the bailout costs for taxpayers in creditors' countries (Zimmermann, 2014). Moreover, in demanding debts to be repaid, creditors may claim that they are not engaging in selfish material blackmailing, but are fulfilling a 'pedagogical role' which, in turn, will benefit not only them, but the European project as a whole, as well as the future generations of the debtor states. As German economists at the Munich-based Center for Economic Studies put it, '[w]hoever abandons [the principle of liability] places Europe's future in jeopardy.'[3]

This way, a moral evaluation produces discursive legitimacy to sustain political decisions (Fairclough et al., 2003). In the European Union (EU) in particular, the 'pedagogical' aspect intersects with the historical and social cleavage between Northern and Southern Europeans. Historically, the notion of the 'Mediterranean' has been contrasted with the 'European', with the former characterized by a certain mix of indiscipline, extravagance, laziness, irresponsibility, and corrupting tendencies (Van Vossole, 2016). It is Southern countries' membership that poses a risk to an Union otherwise composed of 'good', 'civilized', and 'trained' Northern

European people who, 'work dutifully up to at least 73 and 74 years old and pay more than their share of taxes for the Greek citizens' (Lapavitsas 2010: 293). Within this context, the Northern creditors take it upon themselves to fulfill the pedagogical and ethical role of the stern teacher dealing with 'a truant child who deserves to be punished not only in order to straighten out his own behaviour but also as an example to other kids' (Stavrakakis 2013: 316). Being the most recalcitrant 'student' among debtor countries, Greece has failed to follow its more responsible 'role models', such as Germany, the Netherlands, and Finland (Bickes et al., 2014a). In contrast with the Greeks' reluctance to acknowledge their responsibility, policymakers in creditor countries have often pointed at Ireland as the good pupil in the debtors' classroom. Among others, Angela Merkel herself urged the Greeks to follow the Irish example (Lynch, 2015). According to social psychologists Power and Nussbaum (2014), the creditors' good receptions of the Irish efforts to 'clean up' their fiscal problems may partly stem from 'the pervasive moral logic of the [Irish] nation. Several people we spoke to [in Ireland] believe that the Irish public acknowledges they are partly responsible for their own misfortune and are prepared to reap what they sowed' (Power and Nussbaum, 2014). Under this perspective, the Irish (Greeks) are praised (reprimanded) for accepting (denying) the shift in sentiment at the heart of the European integration project, i.e. the normalization of the idea that strong peer pressure to achieve collective goals is normatively desirable and that those who resist it may be held morally responsible (Dyson, 2014).

Finally, even among Mediterranean countries, Greece stands on its own. The 'cradle' of Western civilization, and its people the 'descendants' of the classical Hellenes, Greece holds a special place in the Western cultural imaginary. Within this context, scholars have denounced how the dominant discourse surrounding the Greek crisis is constructed around a subtle Orientalist structure (Carastathis, 2014). The constant parallelism between Ancient and Modern Greeks signals Europe's veneration of classical Greece, thus implicitly reaffirming Europe's good faith in honoring its moral debt to its ancestors. At the same time, though, it draws our gaze on modern Greeks' failure to live up to the standards set by Ancient Greeks (Gumpert, 2017). As an example, consider the following excerpt from the *Bild*: 'When your ancestors did not know what to do anymore, they went to the oracle of Delphi [...] What would the oracle at Delphi say today? It would say: Greeks, you should cheat no longer! Greeks, you should recognize yourself!' (cited in Mylonas 2019: 121). While analytically

distinct, these channels can reinforce each other in a discursive fashion. A perfect example of this mix appears in the February 2010 issue of the magazine FOCUS. In there, the magazine's cover presents the reader with a photo of Aphrodite giving the finger, accompanied by the headline 'Betrayers in the Euro family.'

In brief, the Greek state and the Greeks are found guilty on multiple fronts and the potential locus of multiple moral failings. First, they have failed to live up to 'natural' expectations about honoring one's debt. Second, they have betrayed the 'European family' by taking advantage of Northern creditors' trust. Finally, they have failed to uphold the moral standards set by their ancestors. Moreover, these failures are likely to be compounded in the eyes of those fellow (mostly) Northern Europeans that adhere to protestant values of hard work and conditional solidarity.

Whether and to what extent this moral discursive framing was *systematic* during the Greek crisis is the main empirical question that I aim to answer. Several scholars of the Greek crisis have suggested that a moral dimension was present. Most of this scholarship has been qualitative and interpretative in nature, usually relying on Critical Discourse Analysis, while quantitative content analysis has focused mostly on core sentence and claims analysis methods (Kutter, 2014; Bickes et al., 2014a; Mylonas, 2019). In both cases, media article's content and tone is usually coded manually. While anecdotal evidence as well as previous studies suggest the use of moral language in the framing of Greece, we lack a more systematic assessment of this phenomenon. The present study complements this body of literature by focusing on a much larger sample of articles and using an automated technique to measure moral sentiment. Borrowing Hart's (2001) analogy, manual coding may be likened to the perspective of a cop in a specific neighborhood, rich in context and detail-oriented. Computer automation offers a bird's eye view, like a helicopter pilot circling the city to monitor overall crime patterns. Hence, the two methods are complementary. As such, I will test the following hypothesis:

*H1: After the beginning of the Sovereign Bond Crisis, the moral tone used in articles concerning Greece becomes more negative.*

A final point is worth noticing. While the hypothesis implies a pre-post comparison around the beginning of the crisis, it does not entail that the crisis itself abruptly *initiated* a new narrative. In fact, the idea that

Southern European countries - and Greece in particular - represent a distinct socio-cultural cluster that has received a pejorative connotation has been around for some time (Brazys and Hardiman, 2015). As such, the Greek government's admission in 2009 and the unfolding crisis arguably tapped into and exacerbated an existent sentiment, which was then amplified by the media.

## 4    Data collection

To evaluate my hypothesis, I assembled an original dataset of articles downloaded from the Factiva and LexisNexis databases for the time period from 2004 to 2019. Hence, the sample covers the period before, during, and after the Greek crisis. The sample is based on financial and business daily news outlets (in both print and online versions). The focus on financial outlets offers several advantages.

The first main advantage of financial/business newspapers is that their coverage of Greece extends for a long enough period of time to test my main hypothesis. Indeed, the hypothesis under study is longitudinal in nature and entails a pre/post comparison in the levels of moral language. While the generalist press (in both quality and tabloid forms) extensively covered the crisis since the fall 2009, Greece received comparatively little coverage before. For example, *The Guardian* published only 18.4 articles per year on Greece - according to the search criteria described below - for the pre-2009 period. Most articles published are also clustered around the same salient events (e.g. the 2004 Summer Olympics). By contrast, the same paper published 311.9 articles per year, on average, for the 2010-2019 period.

Second, an extensive literature in communication studies has repeatedly shown the importance of the generalist/specialist cleavage in style and content (Boukes and Vliegenthart, 2020). In stark contrast with generalist papers, the target audience of specialist news outlets differs from the general population. The main goal of financial media's consumers is to be informed about events that would then inform their financial decisions (Davis, 2006). Indeed, financial newspapers have been found to write from a more international perspective (Allern, 2002) and to emphasize different news factors (Boukes and Vliegenthart, 2020). Clearly, financial outlets' incentive is to engage with, rather than shy away from, complex topics that a more general audience would consider as 'dull' (Manning, 2013). Targeting a relatively sophisticated and already interested audience, the

same factors that would guarantee newsworthiness in mainstream medias - such as negativity, sensationalism, and emotional framing - are perceived as unnecessary and redundant (Doyle, 2006). Hence, given the extensive and well-established literature in media study, the selection of financial news outlets can be interpreted as a 'least likely' case to detect emotional and moral rhetoric. In the Online appendix I provide further evidence to sustain this conjecture. A comparison of moderately pro-EU quality papers (*The Guardian* and *Süddeutsche Zeitung*) with the financial press shows that the former rely more on (negative) moral language than the latter.

Third, while each member state's public opinion tend to rely on their own national media, there is some evidence that individuals interested in economic, business, and financial affairs have a notable preference for the Anglo-American press. While the concept of agenda-setting effects in news media has traditionally been studied in the context of political communication, its fundamental ideas have also proven to be applicable in the realm of financial and business communication (Carroll and McCombs, 2003). More recently, scholars have also investigated the possibility of *intermedia* agenda setting effects - the ways in which media types influence each other - in the business press. Although this literature in the financial and business context is relatively limited, scholars have identified instances of intermedia agenda-setting effects in business news media as well (Zhang, 2018; Cheung et al., 2020; Ritter, 2020). Not surprisingly, both the *Wall Street Journal* (*WSJ*) and the *Financial Times* (*FT*) are commonly regarded as the primary contenders in terms of their agenda-setting influence. They wield the ability to shape the salience (first-level agenda setting) and attributes (second-level agenda setting), such as the tone, associated with specific topics. Significantly, they also exert intermedia agenda-setting impact within their domains of expertise. The *Wall Street Journal* is frequently cited as having a substantial role in setting the agenda for other news organizations (McCombs and Valenzuela, 2020), thus constituting a prime example of 'elites legacy media' (Ritter 2020: 247). While its focus is on the United States (US), it covers European (and global) topics extensively. As for the *FT*, there is little doubt that it holds the title of the preferred source for individuals interested in European economic and financial issues (Davis, 2006; Corcoran and Fahy, 2009). Furthermore, there is evidence suggesting that it exerts influence over other national news media outlets throughout the European Union. As Golding et al. (2007: 147) argue, the *FT* 'has a special position in the EU news landscape' and targets a certain readership comprised of political elites,

businesspersons, and 'other journalists'. Other journalists themselves are no passive readers. As a reporter for an Italian generalist media argues, 'journalists sometimes have to revisit stories they have chosen not to cover, because the *Financial Times* had subsequently reported on them' (Cornia et al. 2007: 95).

The criteria for the journal selection are the following: a) data availability on Factiva and/or Lexis Nexis; b) daily circulation; c) language (English or German). I further exclude some outlets that, while satisfying the above criteria, did not publish enough articles on Greece to allow for a meaningful pre-post- crisis comparison. Based on these criteria, I will test the hypothesis on the following three financial dailies: the *Financial Times*, the *Wall Street Journal*, and *Handelsbatt*. The first two are the highest-circulation financial dailies in English, while the latter is the most prominent financial daily in Germany (Myllylahti, 2014; Barthel, 2015; Buehling, 2021).

The data collection phase faces two main challenges. The first one is to ensure that the articles are about the target country's economy rather than just mentioning it *passim*. The second challenge is to retrieve enough coverage to construct a meaningful time-series. Clearly, there is a trade-off between the two goals. The literature provides little guidance on how to perform the search. After all, it is hard to imagine a rule of thumb that can be generalized to all searches and all topics. Lacking an optimal strategy, some scholars have opted for casting a fairly wide net (e.g. Breeze, 2014), while other scholars have used more restrictive criteria (e.g. Liu, 2014). Keeping the above discussion in mind, my search criteria was as following: a) at least two mentions of the country or the country's adjective or its population (Greece, Greek, Greeks); b) at least two mentions of economics or related words (econom*). These criteria ensure that I can meaningfully capture a time frame that includes both pre- and post-crisis periods. The total number of financial articles retrieved and analyzed is 14806 (*WSJ* = 5375; *FT* = 6171; *Handelsbatt* = 3260).

## 5  Measurement

How can moral content in such a large sample of texts be measured? Since I am interested in assessing and quantifying the presence of a pre-specified frame, I turn to automated deductive approaches to content analysis. Deductive approaches are more appropriate for hypothesis testing, while inductive approaches are best suited

for generating novel insights (Semetko and Valkenburg, 2000). The latter is the approach typically taken in previous scholarship on the Greek crisis in the media (e.g. Mylonas, 2019). Given the hypothesis-testing nature of the research question that this paper addresses, I opt for a dictionary-based approach. The extant literature provides two dictionaries to measure moral content in English written texts: the General Harvard Inquirer (GI) and the Moral Foundations Dictionary (MFD). The latter was recently translated in German as well (Bos and Minihold, 2022).

The General Harvard Inquirer was the culmination of one of the earliest attempts at mapping (the English) language onto affective dimensions. Their research opened up the possibility to study language by quantifying words and phrases along evaluative dimensions, i.e. sentiment analysis. Importantly, following one of the revisions, the authors added two moral categories. These *vice* and *virtue* categories are defined by Dunphy et al. (1974: p.89) as 'characteristics of persons, processes or objects generally regarded by society (a white middle-class American society) as vices (virtues) or misfortunes (good fortunes).' The GI dictionary provides a natural starting point for the methodological goal at hand. The main advantage of this dictionary is its coverage (*n*=1,017; *vice*=498; *virtue*=519) and the main disadvantage is its precision. While the whole dictionary was designed with rigorous linguistic and psychological theories in mind, its purpose was extremely broad, i.e. to measure the overall tone. The addition of the moral categories came only later, when researchers decided to break down the overall positive and negative tags in more fine-grained categories (Dunphy et al., 1974).

A more recent stream of research in social psychology has explored the psychological and linguistic aspects of morality, i.e. Moral Foundations Theory (Haidt, 2001). The project aimed to identify the psychological foundations of moral systems. The researchers identified five moral foundations, supposedly common across time and space: a) harm/care; b) fairness/reciprocity; c) in-group/loyalty; d) authority/respect; and e) purity/sanctity. Importantly, the authors also designed a dictionary to map lemmas to each domain for the purpose of detecting moral content in written texts (Graham et al., 2009). Each of these domains is divided into positive and negative aspects for a total of ten sub-categories. A lengthy discussion of the theory underlying its construction is unnecessary since I do not make use of the different categories. Instead, I will combine them into one general list (*vice* vs *virtue*). The main advantage of the MFD is its precision, given that it was explicitly designed to

measure fine-grained moral dimensions in textual data. Nevertheless, even after combining all the foundations in one overall dictionary, the coverage remains low (*n*=318, *vice* = 151, *virtue* = 167). The dictionary is likely to be well equipped to capture intense moral content, but might not be best equipped to capture the moral loading in contexts that are not intrinsically moral (e.g. financial texts). Importantly, this dictionary is also available in German, thus allowing me to analyze the German media as well.

Finally, it should be noted that the moral content that I am trying to capture is specific to the context of the North-South relationship within the EU. As discussed before, such moral frame revolves around not only the concept of morality per se, but also around the dichotomy of the 'lazy' South vs the 'hard-working' North. As such, I augment the previous dictionaries with another list of words tailored around these more specific concepts. In order to develop this more contextualized list of words, I search for the word 'laziness' and 'hard-working' in the Merriam Webster Thesaurus dictionary online (MW) and choose words under the 'synonym' and 'word related to' categories. The list of words is in the Online appendix. A comparison of the three dictionaries shows that this final addition has some value. In particular, an additional 87 words (37 for *vice*, 50 for *virtue*) are selected.

For each article retrieved, I calculate the 'vice' and 'virtue' scores using the combined dictionary (the list of words belonging to either of the three dictionaries) as well as each individual dictionary separately. In the Online appendix, I validate the combined dictionary (GI + MFD + MW) in two ways. First, I collect and analyze a random sample of 10 religious sermons from American churches and 10 articles on wildlife nature from National Geographic (Fall 2019 issue). Second, I validate the combined dictionary on a data set of newspaper articles, whose moral content was manually coded in Feinberg and Willer (2013). Equipped with a reliable measure of positive and negative moral tone, I calculate the moral sentiment score for each article as follows:

Moral sentiment score = 100*(Virtue-Vice)/Total

Lower scores indicate an increase in negative moral content. To construct the final time series, I take the average moral sentiment scores for each month.

# 6 Empirical results

If Greece was framed in negative moral terms, we should see an appreciable drop in the average moral sentiment scores around the beginning of the crisis in the fall of 2009. Figure 1 shows the monthly mean moral sentiment scores for the *Financial Times* and *Wall Street Journal* as measured by the combined dictionary as well as each individual component. The Online appendix contains the graphs for the two outlets separately. In all graphs, the raw series is the light blue line. For ease of interpretability, I smooth the time series with a 4-month moving average (the thicker black line).

A few features are worth noting. First of all, prior to the beginning of the crisis, the series is characterized by higher volatility and hovers around its mean. With salience being one of the strongest determinants of newsworthiness, the number of articles per month for the pre-crisis period is lower. With fewer articles to aggregate, those with more extreme absolute values have a greater effect on the overall score. Second, we should bear in mind that the absolute scores have little interpretability since we have no prior expectations about what the benchmark moral content in written texts should be during 'normal' times.
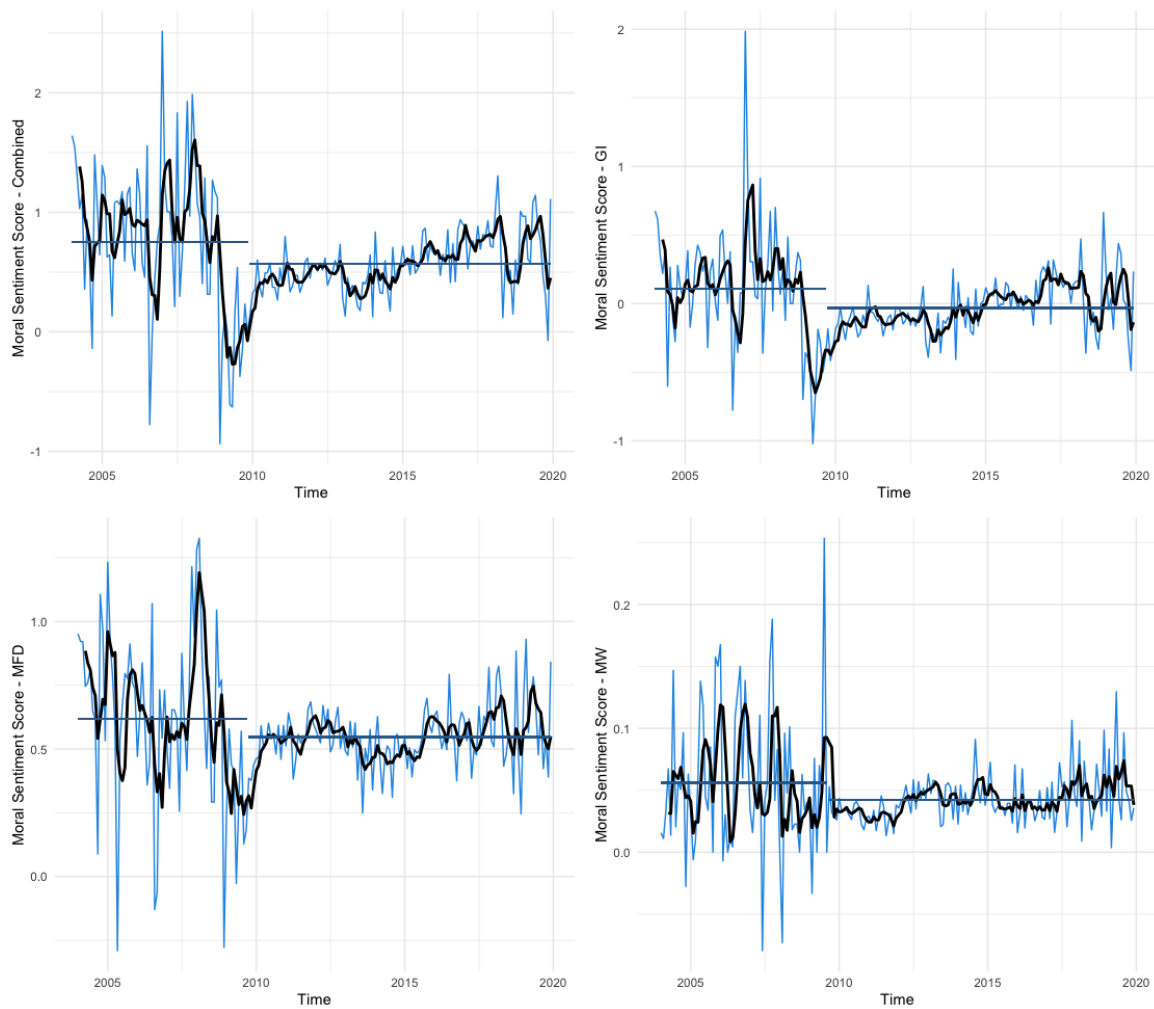
**Figure 1.** Average (*Financial Times* and *Wall Street Journal*) Moral sentiment scores (2004 to 2019).

*Note*: The light blue line shows the raw series, i.e. the moral score averaged across the two outlets over time. The thicker black line shows the four months rolling average. Lower values indicate an increase in negative moral tone. The two horizontal lines show the average moral score pre- and post-crisis. The changepoint location is found using the *changepoint* package in R (Killick and Eckley, 2014). The (a) panel shows the series derived from all three dictionaries combined. The (b) panel shows the series derived from the GI dictionary alone. The (c) panel shows the series derived from the MFD dictionary alone. The (d) panel shows the series derived from the MW dictionary alone.

What the moral sentiment scores allow us to detect, though, is longitudinal change in the level of moral tone over time. Figure 1 clearly shows that, at some point in the fall of 2009, the moral sentiment scores drop in each graph. Interestingly, a sizeable part of the drop is quickly offset. By early 2010, the series recover almost 50% of the initial fall in moral sentiment. What is of particular interest, though, is the persistence of the series. Looking at the series derived from the combined dictionary, the moral sentiment score starts drifting upward

soon after reaching the trough in the Fall 2009. Nevertheless, it never fully recovers. By the end of 2019, the

average negative moral sentiment in reference to Greece is still slightly greater than in the pre-crisis period.

The results are slightly different if we rely on the individual MFD and MW dictionaries. In both cases, there is

only a small upward drift. In the MFD series, the initial drop in moral sentiment is quickly offset, although not

completely. Starting in early 2010, the series reaches a new, lower, plateau. Even in these cases, though, the

moral score never reaches its pre-crisis level. Overall, the media description since the beginning of the crisis

- and, in particular, before the contagion spread to other Southern economies - revolves around the failure of

Greece and Athens' need to make up for the past mistakes. As we can read on the *FT*: 'Let's be clear, public

finance in Greece is a mess. Statistics have been fudged, government pensions have been inflated and reckless

borrowing has been the norm. Drastic remedies are required'(02-11-2010).[4] Indeed, the source of the crisis is

framed as national in nature, an easy task given the preceding events in the fall of 2009. Moreover, the (usually

referred to as) German solution is by and large accepted. Recalcitrant Greece need to be put in its place, one

way or another: 'Under the direction of the other members of the eurozone, the EMF [European Monetary

Fund] would dictate fiscal policy to the sinner.'[5] Generally, the financial press refrains from overt caricatures

of Greeks that might be more common in the popular press. Nevertheless, it readily blames the Greek political

class for taking advantages of the North-to-South reputational transfer underlying the convergence in interest

rates since 1992. Instead of making the most of this window of opportunity to reform its political and economic

system, Greek governments had exploited other EU members as well as investors, finding a way to substitute

'borrowers' credibility' with 'investors' gullibility' (*FT*, 18-11-2011).[6]

While the negative moral tone in the media lasts throughout the crisis and even beyond, the analysis reveals

one surprising finding concerning moral framing in 2015. Unlike other debtor countries, Greece experiences

a second phase of the crisis on its own. This phase culminates in the 2015 elections and the establishment of

the Tsipras government, the Athens-Brussels bargaining over the terms of a new bail-out, the Greek referen-

dum to decide whether Greece should accept the bailout conditions proposed jointly by the Troika (European

Commission, European Central Bank, and International Monetary Fund), and the final backing down of the

Greek government to the creditors in the fall of 2015. Nevertheless, this second phase was *not* accompanied

by a similar increase in negative moral tone. This result is surprising if one considers that, by early 2015, the Greek economy had apparently resumed and successfully marketed new bonds to private investors. In a sense, then, the Greek government's repudiation of the new bailout may have jeopardized the beginning of the very economic turnaround that the country had been waiting for. Under this perspective, one may have expected a surge in moral language to describe the Greek government's 'irresponsible' behavior. To be true, there is no shortage of supporters of the dominant narrative. At a time when the 'Grexit' option is openly discussed by many of the involved parties, the introduction of a new Greek currency is seen as a bitter medicine that may, nonetheless, 'allow the government to deliver structural reforms consistent with an eventual return to the euro, with all sins forgiven' (*FT*, 07-06-2015).[7] Nevertheless, the human dimension of the Greek crisis and the shared responsibility of creditors and debtors is more readily acknowledged. This is most evident in a number of pieces hosted on the online version of the *FT* in response to a previous column written by Francesco Giavazzi and tellingly titled 'Greeks chose poverty - let them have their way' (*FT*, 06-10-2015).[8] In one instance, the author tackles the question directly - 'whether it is really so important to keep Greece inside the EU' - concluding that 'cultural, political, even humanistic and moral considerations oblige everyone to answer this question in the positive'(*FT*, 06-10-2015).[9] In another article, after expressing concerns for the fact that 'the strident views expressed in these pages by [...] Francesco Giavazzi, are shared by many in high office,' the author juxtaposes the view that 'recklessness may be a grievous fault' with the recognition that 'creditors, too, have a duty [to lend responsibly],' concluding that 'it is tragic that the breakdown might occur now, after so much pain has already been suffered' (*FT*, 06-16-2015).[10] The dominant narrative is certainly not replaced, but attenuated in light of the creditors' harsh 'take it or leave it' approach toward Greece and a renewed focus on the anxiety and frustration of Greek ordinary citizens over their savings (*FT*, 06-10-2015).[11]

Overall, visual inspection of the above graphs validates the main hypothesis under study. In addition, I test whether the statistical properties of the series change over time in a more rigorous fashion. To do so, I rely on the econometric literature on structural break and changepoint detection. At its most basic level, changepoint detection refers to the task of determining the moment when the statistical characteristics of a sequence of observations undergo a shift (Killick and Eckley, 2014). I rely on a well-established likelihood-

based framework for changepoint detection (Hinkley, 1970). Since the hypothesis is concerned with a pre-post comparison, the goal is to automatically identify the location of a single changepoint. Define $\tau$ as the unknown changepoint of interest. For an ordered sequence of data $y_{1:n} = (y_1, ..., y_n)$, a changepoint is considered to happen within this set if there is a time, $\tau \in \{1, ..., n-1\}$, such that the statistical properties of $\{y_1, ..., y_\tau\}$ and $\{y_{\tau+1}, ..., y_n\}$ differ in some way. In our case, the null hypothesis corresponds to no changepoint ($m = 0$) and the alternative hypothesis is a single changepoint ($m = 1$). In other words, a rejection of the null hypothesis implies that the estimated parameters and the underlying stochastic properties of the data generating process significantly change at $\tau$. More formally:

$$H_0 : \theta_1 = \theta_2 = ... = \theta_{n-1} = \theta_n$$

$$H_1 : \theta_1 = \theta_2 = ... = \theta_{\tau-1} = \theta_\tau \neq \theta_{\tau+1} = \theta_{\tau+2} = ... = \theta_{n-1} = \theta_n$$

Simply put, we test to see whether at some point between $\tau$ and $\tau+1$ the parameters of the underlying distribution change. The test statistics is constructed as the log-likelihood ratio $H_1/H_0$. For the null hypothesis, the maximum log-likelihood is simply $\log p(y_{1:n}|\hat{\theta})$. Under the alternative hypothesis, the maximum log likelihood for a given changepoint location is equal to $\log p(y_{1:\tau_1}|\hat{\theta}_1) + \log p(y_{(\tau_1+1):n}|\hat{\theta}_2)$. Since the changepoint location is unknown, the maximum is searched for over all possible time points $\tau_1 = 1, 2, ..., n-1$. The test involves choosing a threshold, such that the null hypothesis is rejected for a value sufficiently larger than the the threshold (Killick and Eckley, 2014). I rely on the Bayesian Information Criterion (BIC) to define the critical value. The automatically detected changepoint locations occur between November and December 2009 in the series derived from the combined dictionary, between September and October 2009 in the individual GI and MFD series, and between August and September 2009 in the MW series. As expected, this is approximately around the time when, in October 2009, the new Greek government disclosed the budget deficit to be 12.7% of the gross domestic product, twice higher than the previously announced figure. In each figure, the two horizontal darker blue lines represent each regime. The vertical shift between the two lines represent the average drop in the series level as one moves from the pre-crisis to the post-crisis regime. Based on the combined dictionary series,

the post-November 2009 regime was accompanied by a 24% *increase* in *negative* moral sentiment, on average, relative to the pre-crisis period (see also Table 1 below for the relevant figure for each individual outlet). In the Online appendix, I show the results using an alternative structural change model. Since we have strong theoretical reasons to suggest the changepoint to be in October 2009 - also confirmed by the above empirical analysis - I run a Chow test for a change at a known location. The null hypthesis of no parameter instability is clearly rejected for all four series.

How does the German financial press compare to the Anglo-American financial press? Figure 2 shows the results for the German *Handelsbatt* using the translated Moral Foundation Dictionary (Bos and Minihold, 2022). While the newspaper articles are unavailable prior to January 2008, the overall trajectory of moral tone is easy to discern. A comparison of Figure 2 with the MFD graph in Figure 1 ((c) panel) reveals three interesting features. First, unlike the Ango-American financial press, the *Handelsblatt*'s moral tone does not recover at all in the months immediately following the initial shock. If anything, it decrease until the end of 2011. Moreover, while the English papers exhibit a (small) upward trend over the years, the *Handelsblatt* quickly reaches a new (lower) plateau that remains remarkably consistent until the end of 2019. Second, somehow surprisingly, the *Handelsblatt* does not show any appreciable increase in negative moral tone throughout 2015. On this point, there seems to be no difference across outlets. While somehow at odds with prior expectations, the lack of increase in moral rhetoric in this later stage of the crisis echoes previous findings in the literature. For example, in two qualitative studies on the framing of the Greek crisis in the English and German press, the authors conclude that the harshest phase of anti-Greek sentiment was eventually replaced with a more sympathetic, moderate, and less offending view of the sufferings of the Greeks in the final stages of the crisis (Bickes et al., 2014a; Bickes et al., 2014b).
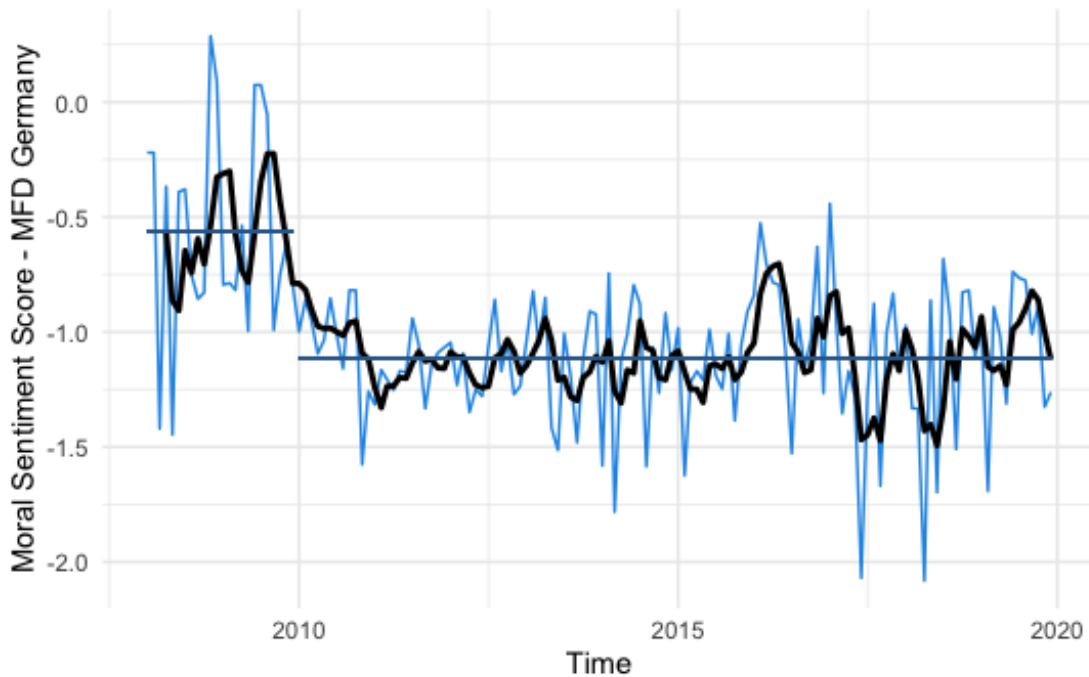
**Figure 2.** *Handelsblatt* Moral sentiment score (2008 to 2019).

Third, while it is tempting to compare the three papers' absolute tonality at any point in time, this would be incorrect. The benchmark moral content in written texts should be during non-crisis times is unknown and there is no reason to expect it to be similar across the two languages. Nevertheless, we can compare the average pre-post crisis differences in moral tone as measured by the MFD across media types (i.e. the percentage change between the horizontal lines in the respective graphs). Table 1 below shows the percentage change in (negative) moral tone for the two sub-periods. Overall, the results comport with what we know about the European crisis and the three outlets: the *WSJ* – with its main focus on the US and a relatively detached attitude toward the European project – shows the smallest increase in negative moral tone (10.3% decrease in the moral sentiment score). By contrast, the London-based *FT* – with its main focus on European affairs - displays a significantly larger increase in (negative) moral tone (27.8%). Finally, the *Handelsblatt* - the only Eurozone-based paper, and with a German-speaking target audience in the business and financial community – displays the largest differentials in moral language, with the average post-crisis moral tone being alomost twice more negative relative to the pre-crisis period.

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**Table 1.** Pre-post crisis changes in moral sentiment score across outlets.

| $\delta$ Pre-Post | Wall Street Journal | Financial Times | Handelsblatt |
|---|---|---|---|
| Moral Foundation Dictionary | -10.3% | -27.8% | -98.1% |

# 7 Conclusion and future research

Overall, the empirical findings vindicate the view regarding the moral framing of the Greek crisis. While the current paper does not empirically test the larger questions concerning the *effects* of moral framing on attitudes and behavior, these empirical results provide a solid first step to tackle these questions in future research.

As some scholars have suggested, the moral framing of creditors-debtors relations puts at stake the dignity, honor, and mutual respect of those involved. Moral language may arouse base emotions such as resentment, grievance, and rage which, in turn, may fuel populist rhetoric in both creditor and debtor countries. Indeed, there is some evidence suggesting that moral judgements play a role in defining individual preferences toward financial bailouts (Rathbun et al., 2019) and that they can attenuate altruistic motives regarding debt repayment (Del Ponte and DeScioli, 2022). Moreover, previous research has shown how media coverage and foreign rhetoric can affect domestic individual attitudes toward fiscal policy (Del Ponte, 2021). In addition, the moral framing of the Greek crisis might have, somehow paradoxically, worsened the creditors' confidence in the Greek government beyond what economic fundamentals would justify (McMenamin et al., 2015). At the same time, the moral stereotyping of Greece may have even played a role in the Greek governments' self-damaging decision to repudiate the 2015 bailout. Indeed, several experimental studies in economics have shown how emotional arousal affects agents' behavior in bargaining games (Andrade and Ariely, 2009). Overall, the 'stickiness' of moral framing in the media may have also played a role in shaping the collective memories of the crisis which, still to these days, differ across citizens in debtors and creditors' countries (Arnemann et al., 2021), thus to some extent offsetting the homogenizing effects of the Euro currency as a symbolic identifier of European identity (Negri et al., 2021; Nones, 2023).

Finally, a further extension of this line of research would investigate the opposite narrative that originated in debtor countries. Indeed, a diametrically opposed moral characterization also gained currency in Southern European countries. In this case, the moral discourse revolves around a narrative of oppression according to

which Northern countries are merciless and unfair in their treatment of the periphery. The exploration of such a narrative and the possible effects of moral frames on attitudes/behavior are left for future research.

# Notes

1. The full article is available at https://theconversation.com/a-false-morality-tale-blocks-the-resolution-of-the-greek-debt-crisis-59754.

2. The full article is available at https://www.berlingske.dk/internationalt/fakelaki-statens-forfald.

3. The full article is available at https://www.euractiv.de/section/finanzen-und-wirtschaft/news/ifo-institut-zu-euro-bonds-europas-zukunft-nicht-aufs-spiel-setzen/.

4. The full article is available at https://www.ft.com/content/e7168fc6-1740-11df-94f6-00144feab49a.

5. The full article is available at https://www.ft.com/content/87df9ea4-741d-11e0-b788-00144feabdc0.

6. The full article is available at https://www.ft.com/content/daa7c5e8-11e9-11e1-a114-00144feabdc0.

7. The full article is available at https://www.ft.com/content/1c3d812f-16ed-3022-a491-4a57e19d2403.

8. The full article is available at https://www.ft.com/content/2bc11fe8-0dd5-11e5-9a65-00144feabdc0.

9. The full article is available at https://www.ft.com/content/643d5cd6-0ecc-11e5-8aca-00144feabdc0.

10. The full article is available at https://www.ft.com/content/a614c36c-141f-11e5-9bc5-00144feabdc0.

11. The full article is available at https://www.ft.com/content/3d1ad87c-0f76-11e5-897e-00144feabdc0.

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# Online appendix

**The Greek Crisis as a "Morality Tale"? An Empirical Assessment**

Nicola Nones

# Contents

# 1 List of Words (Webster-Marriage Dictionary)

**Immoral Lemmas**

"lazy", "laziness", "spendthrift", "vice", "vicious", "improper", "incorrect", "indecorous", "naughty", "unbecoming", "unseemly","debased", "debauched", "degenerate", "depraved", "dissolute", "libertine", "unprincipled", "perverted", "reprobate", "unscrupulous", "indecorous", "atrocious", "vile", "nefarious", "arrant","evil-minded","immoral", "erring", "dishonorable", "indecent","villainous","objectionable", "blameworthy", "dishonest", "sinful", "unethical", "unrighteous", "wicked", "unreliable", "untrustworthy", "sin", "unconscionable", "ruthless", "unsavory", "unsavoury", "dishonourable", "careless", "lax", "derelict", "disregardful", "neglectful", "neglecting", "negligent", "infamous", "remiss", "dawdle", "dillydally","goof","idle","idleness", "indolent", "slothful", "sluggish", "addict","profligate","deceit", "deception","deceptive","fraudulent","helpless", "helplessness", "irresponsible","irresponsibility","loser","manipulate","manipulation","ordeal","indecent", "corrupted","feckless","reckless", "moralistic", "pharisaical".

**Moral Lemmas**

"decent","ethical", "good", "honest", "honorable", "right-minded","straight", "upright", "virtuous", "correct", "decorous", "proper", "seemly", " high-minded", "noble", "principled", "commendable", "exemplary", "legitimate", "creditable","esteemed", "law-abiding", "menschy", "reputable","respected","upstanding", "blameless", "guiltless", "immaculate", "incorrupt", "innocent", "inoffensive", "irreproachable", "unobjectionable", "angelic", "lily-white", "pure", "scrupulous", "spotless", "uncorrupted", "unerring", "goody-goody", "rectitudinous", "self-righteous", "assiduous", "bustling","diligent","hopping","laborious", "sedulous", "animated","astir", "buzzing","flourishing", "humming","thriving","vibrant", "absorbed","energetic", "engrossed","responsibility","hard-working","vigorous", "indefatigable", "tireless", "untiring".

## 2 Validation

I validate my dictionary in two steps. First, I collect and analyze 10 religious sermons from American churches (texts available at http://www.sermonindex.net/modules/articles/) and 10 articles on wildlife nature from National Geographic (Fall 2019 issue). While certainly not a hard test, this first validation step is necessary. If my dictionary-based score was unable to distinguish between articles about porcupine mating life and religious preaching, we would not be capturing the concept of interest. Second, I validate my measure on a data set of manually coded articles. I rely on a study by Feinberg and Willer (2013), in which the authors manually coded a selection of 232 newspaper articles on environmental issues to capture the presence of the five moral domains underlined in Moral Foundation Theory. The authors coded each of the five moral foundations. I compute a general moral content variable by summing up the five scores. Then, I compare the overall manual score with the moral loading computed with my own dictionary. The authors did not distinguish between positive and negative moral content. Hence, I use the the sum of vice and virtue scores for validation purposes.

Regarding the first validation step, as we can see from the box-plot and the descriptive statistics table below, my measure is clearly able to distinguish between texts when there are theoretically strong expectations about the presence or lack of moral content.

Figure A1: Combined Dictionary
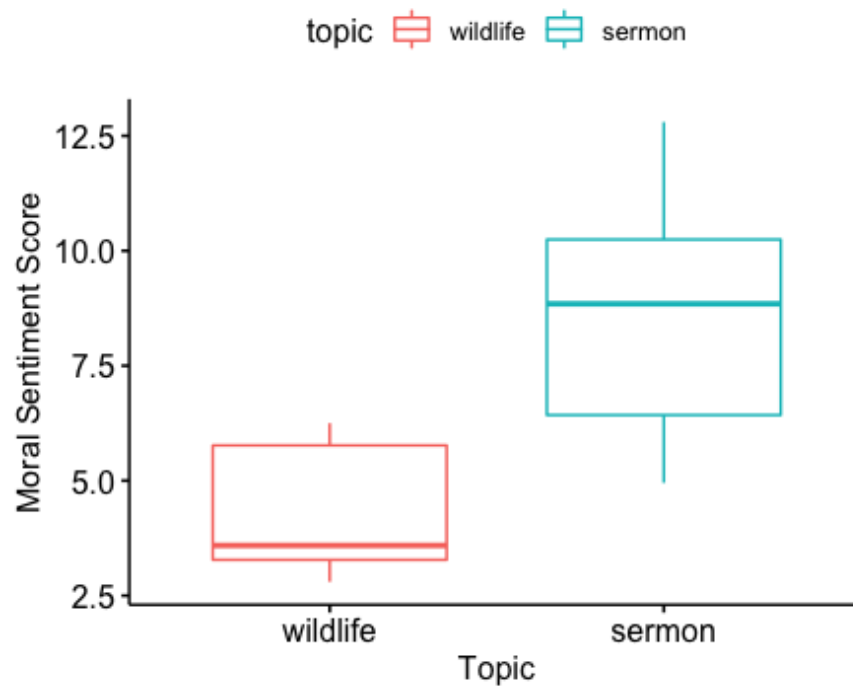


The mean and median moral content in sermons is more than two times higher than the equivalent statistics for the national geographic articles. Moreover, the minimum score for sermon (4.952) is higher than the average score for national geographic articles (4.294). Incidentally, the national geographic article with the highest moral content is about the effect of human-induced climate change on birds migration. Thus, it is systematically different from the others insofar as moral evaluations are likely to be associated with anthropogenic environmental issues. More formally, I run a non-parametric Wilcox test. With a p-values lower than 0.01, we reject the null hypothesis that the two samples come from the same distribution with the same median.

Overall, the combined dictionary captures well the differences in moral content between the two corpuses.

Table A1: Sermons vs National Geographic

| Dictionary 1 | Average | Max | Min | Median |
|---|---|---|---|---|
| Sermon | 8.630 | 12.800 | 4.952 | 8.846 |
| Nat. Geographic. | 4.294 | 6.250 | 2.801 | 3.591 |

Moving on to the next step, the figures below presents the Pearson correlations between the manually

coded moral content and the dictionary-based scores for all the articles in Feinberg and Willer (2013). While the correlation is far from perfect, the dictionary clearly captures some of the same variance as the manual scores. Indeed, the strength of the Pearson correlation between my measure and the manually coded score is in line with previous publications. To the best of my knowledge, Kraft (2018) is the only paper using this same data-set to validate a dictionary-based measure of morality. The author's reported correlation is lower ($r = 0.27$) than mine ($r = 0.37$).

Figure A2: Combined Dictionary - All Articles
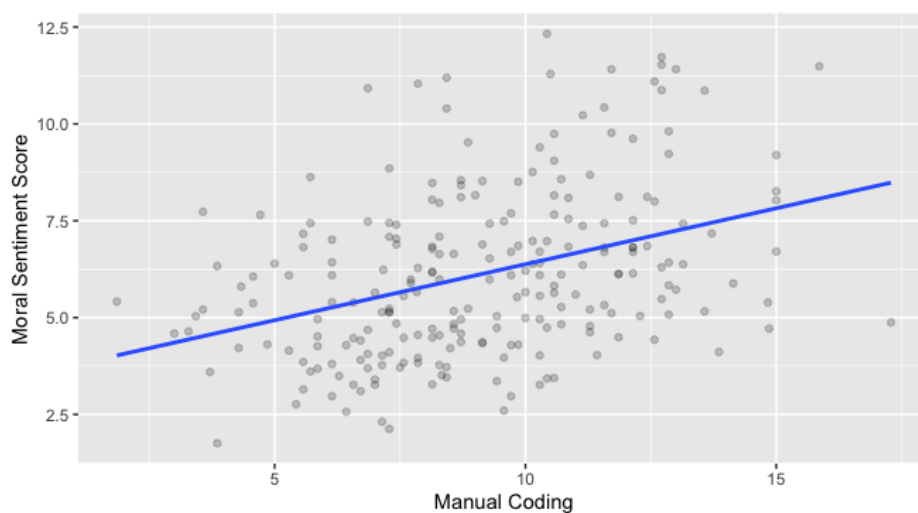


Moreover, the sample of manually coded articles from Feinber and Willer happens to contain a sub-sample ($n$=69) of articles from the *Wall Street Journal*. As this is one of the newspapers that I analyze, it is worth checking the correlation between my measure and the manually coded score for this subset of the data. Reassuringly, as the figure below attests, the correlation is even higher ($r$=0.42).

Figure A3: Combined Dictionary - WSJ Only
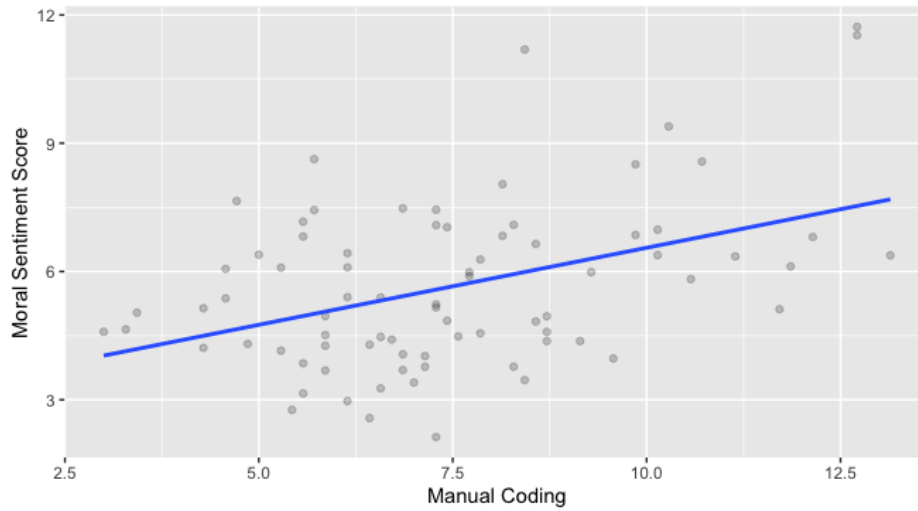


## 3 The Financial press vs the Quality press

Table A2: OLS Regression - Difference in Tone across Media Types (MFD Dictionary)

|  | (1) Handelsblatt vs SZ | (2) Handelsblatt vs SZ | (3) FT vs Guardian | (4) FT vs Guardian |
|---|---|---|---|---|
| Finance (Dummy) | 0.051** | 0.049*** | 1.180*** | 1.186*** |
|  | (0.024) | (0.025) | (0.015) | (0.015) |
|  |  |  |  |  |
| Year-Month FE | No | Yes | No | Yes |
|  |  |  |  |  |
| Constant | -1.149*** | -0.964** | -0.633*** | -0.511*** |
|  | (0.015) | (0.091) | (0.012) | (0.079) |
| Adj R Squared | 0.001 | 0.011 | 0.476 | 0.479 |
| N | 6425 | 6425 | 7269 | 7269 |

Standard Error in Parenthesis * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

# 4 Individual Outlets Moral Sentiment Scores

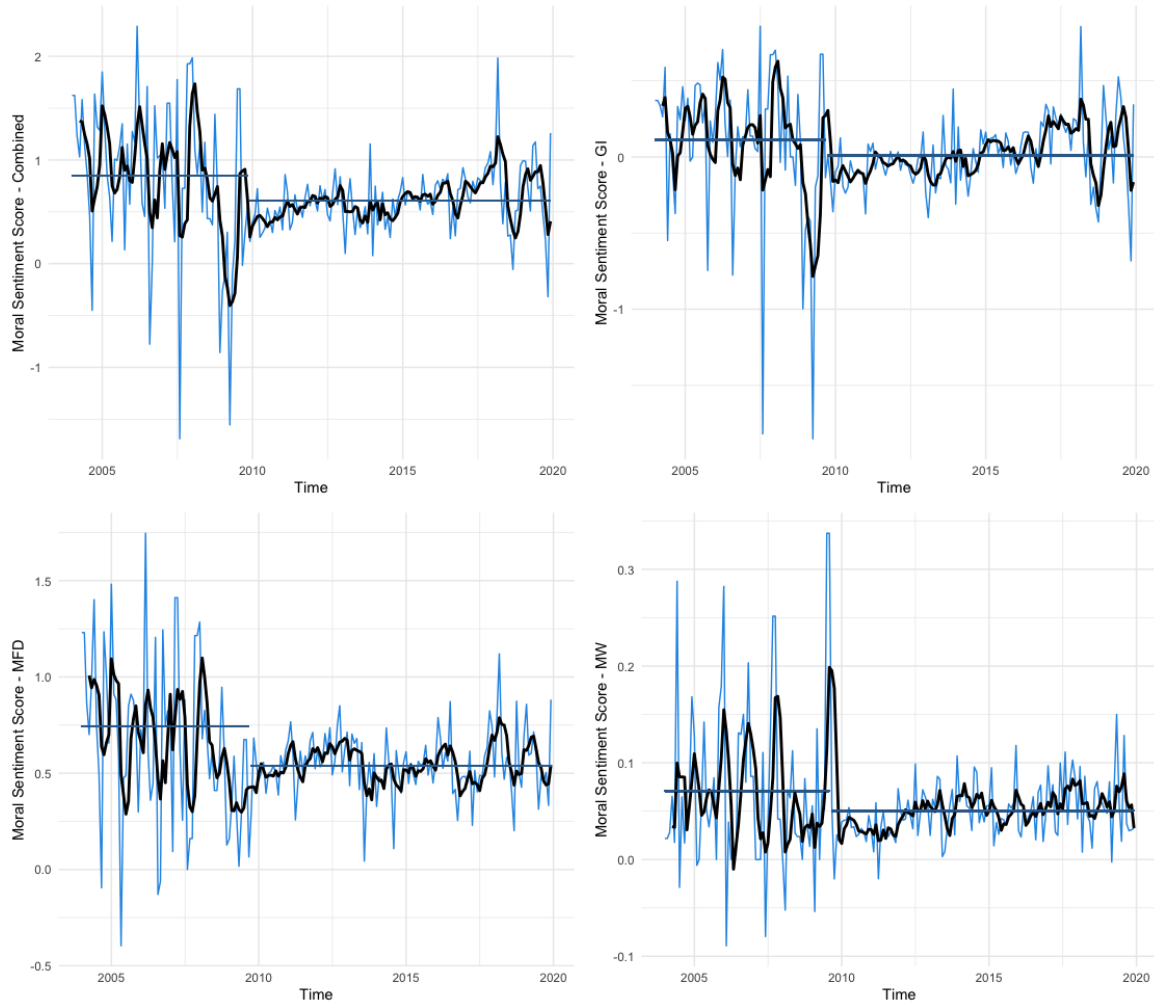Figure A4: *Financial Times* Moral Sentiment Scores (2004-2019)
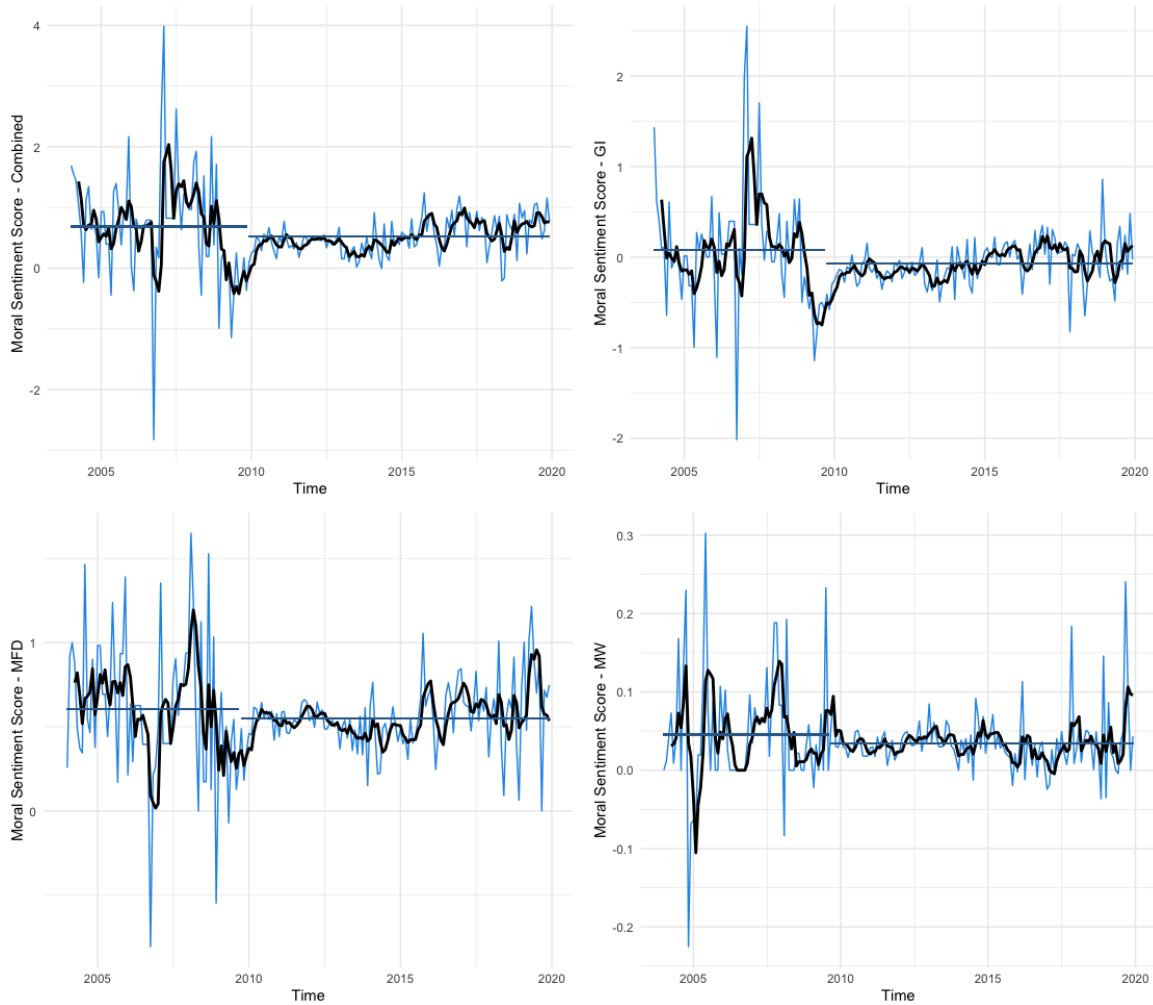
Figure A5: *Wall Street Journal* Moral Sentiment Scores (2004-2019)

# 5   Alternative Tests for Structural Break

Table A3: Chow tests on the Average (*Financial Times* and *Wall Street Journal*) Moral Sentiment Scores

|  | Combined Dictionary | GI | MFD | MW |
|---|---|---|---|---|
| F Statistics | 10.670 | 8.439 | 4.189 | 5.260, |
| P-value | 0.001 | 0.004 | 0.042 | 0.023 |

The null hypothesis is that there is no parameter instability before and after October 2009.

# References

Feinberg, M. and Willer, R. (2013). The moral roots of environmental attitudes. *Psychological science*, 24(1):56–62.

Kraft, P. W. (2018). Measuring morality in political attitude expression. *The Journal of Politics*, 80(3):1028–1033.