Formal institutions, informal institutions, and red tape: A comparative study

Wesley Kaufmann1 | Reggy Hooghiemstra2 | Mary K. Feeney3

1Tilburg Institute of Governance, Tilburg University, Tilburg, The Netherlands
2Department of Accounting, University of Groningen, Groningen, The Netherlands
3School of Public Affairs, Arizona State University, Phoenix, AZ, USA

Correspondence
Wesley Kaufmann, Tilburg Institute of Governance, Tilburg University, Tilburg, Noord-Brabant, The Netherlands.
Email: w.kaufmann@uvt.nl

Firms across the globe are affected by red tape, but there is little academic research on how country-level institutions shape red tape perceptions. Drawing on institutional theory, we argue that a variety of formal and informal country-level institutions affect perceptions of red tape in the private sector. We test our hypotheses using six data sources, including the World Economic Forum and the World Bank. Our results indicate that red tape is weakly associated with a country’s level of formalization and rule enforcement effectiveness and more prevalent in federal as opposed to unitary states. As for informal institutions, we find that red tape perceptions are more pronounced in countries with an increased conservative political ideology, higher levels of corruption, and cultures that emphasize individualism and uncertainty avoidance. We conclude with a discussion of the implications for theory and practice.

1 | INTRODUCTION

The red tape literature can be characterized as ‘one of the most popular and even defining topics for empirical researchers in public management’ but it also has ‘some troubling knowledge gaps’ (Brewer et al. 2012, p. 289). One of these gaps is the institutional context that may either mitigate or exacerbate red tape. Another is the focus on red tape in public organizations, especially because most national and supranational better regulation programmes primarily aim to reduce red tape for private organizations (Helm 2006; Radaelli 2010). The main aim of this study is to fill these gaps by examining how institutional context explains cross-national differences in perceptions of red tape in the private sector.

We follow a recent stream of literature that conceptualizes red tape as being subjective in nature (e.g., Kaufmann and Feeney 2012, 2014). For example, Pandey and Kingsley (2000, p. 782) define organizational red tape as ‘impressions on the part of managers that formalization (in the form of burdensome rules and procedures) is detrimental to the organization’. While most existing studies have focused on organizational formalization as a red tape driver (e.g., Pandey and Scott 2002; Kaufmann and Feeney 2012), we are interested in understanding how a country’s institutional context affects perceived red tape created by government rules, regulations, and procedures.

Although public administration scholars have given scant attention to the concept of red tape in the private sector, the World Economic Forum’s Executive Opinion Survey (Schwab 2014), in which thousands of business leaders
in almost 150 countries participated, shows that the perceived burden of complying with governmental administrative requirements differs considerably across countries. On a 7-point Likert scale (with 7 indicating 'extremely burdensome'), executives from Venezuela scored the highest with an average of 5.4 while the lowest was an average of 1.8 for Qatar executives. While these figures indicate variation in red tape perceptions across countries, it remains unclear to what extent country-level institutions inform these differences.

Drawing on institutional theory, we argue that a variety of country-level institutions affect perceptions of red tape. We posit that while rules and procedures are a necessary condition to do business, the 'constraints that human beings impose on themselves' (North 1990, p. 5)—the institutions in a particular country—affect basic attitudes toward those rules and procedures and, ultimately, perceptions of red tape in the private sector. The institutions driving red tape perceptions can be formal and informal. Formal institutions include constitutions, contracts, and form of government (e.g., North 1990, 1991; Lowndes 1996; Farrell and Héritier 2003), while informal institutions include ‘traditions, customs, moral values, religious beliefs, and all other norms of behavior that have passed the test of time’ (Pejovich 1999, p. 166).

Following Kostova (1997), we focus on those formal and informal institutions that are most relevant for the context of our study. Specifically, we include three formal institutions (formalization, rule enforcement effectiveness, and federalism) and three informal institutions (corruption, political ideology, and culture) that are reflected in both the existing red tape literature (e.g., Bozeman 2000; Bozeman and Feeney 2011) and comparative research on institutions at the country level. The formal institutions capture rules and government structures, while the informal institutions focus on ideology and culture. While other measures of formal and informal institutions could be included in a study on institutions and red tape (e.g., institutional age, political contentiousness, and number of regulatory bodies), we believe that our set of formal and informal institutions captures a wide range of relevant country-level institutional dimensions.

Formalization captures the number of written rules in an organization or within specific rule domains at the (supra-)national level (e.g., Pugh et al. 1968; Kaufmann and Van Witteloostuijn 2012, 2016) and is positively associated with red tape (Bozeman 2000). The effectiveness of rule enforcement also plays a part in red tape. If rules are not enforced effectively, their associated compliance burden is more likely to be viewed as excessive and pointless by firms when compared to a situation of effective rule enforcement that creates a level playing field (La Porta et al. 2000). The third formal institution that probably affects red tape in the private sector is whether a state is unitary or federal. Generally speaking, interdependencies between different levels of government are more complex in federal states (e.g., Chubb 1985; Nelson 1990), which implies higher levels of red tape.

Informal institutions can include norms such as corruption, political ideology, and culture. Studies in development economics assume that higher levels of corruption are associated with more red tape (e.g., Guriev 2004). Furthermore, societies characterized by a more conservative view of the role of government are generally more critical of government rules and regulations (Michaud et al. 2009; Gauchat 2012). As a result, red tape perceptions should be higher in these societies compared to societies with more liberal views on the role of government. In societies with a high level of collectivism, group interests take precedence over an individual's interests (e.g., Hofstede 2001). Since government rules and regulations primarily aim to serve the public interest (Bozeman 2000), we expect that more collectivist societies are associated with lower levels of perceived red tape. Prior research has also found that societies high in uncertainty avoidance prefer extensive rules and regulations to mitigate uncertain situations (e.g., House et al. 2004), which means that the burden of government rules and regulations (e.g., red tape) is likely to be lower in high uncertainty avoidance societies.

We conduct an analysis of red tape perceptions in the private sector using data from six sources including the World Economic Forum and the World Bank. In so doing, we are conducting the first comparative cross-country study on red tape. This study provides valuable insights into red tape dynamics for both scholars and policy-makers. In the following section, we introduce our hypotheses linking research on formal and informal institutions to red tape. Next, we present our data and methods. We then present our results and conclude with a discussion of how this research informs theory and practice.
2 | INSTITUTIONS AND RED TAPE

Externally mandated rules, procedures, and regulations are necessary in the business domain to facilitate activities of the firm. Government rules often aim to create a level playing field and reduce uncertainty for firms, but can also be perceived by business leaders as dysfunctional (Bozeman 1993, 2012). We argue that perceptions of red tape created by government rules are affected by a country's institutional framework. We focus on three formal (formalization, rule enforcement effectiveness, and federalism) and three informal institutions (corruption, political ideology, and culture) that theory and previous research indicate are particularly relevant for the study of red tape in the private sector (e.g., Bozeman 2000; Pandey and Scott 2002; Bozeman and Feeney 2011).

2.1 | Formal institutions and red tape

2.1.1 | Formalization

Formalization, denoting 'the extent to which rules, procedures, instructions and communications are written' (Pugh et al. 1968, p. 75), is intertwined with the concept of red tape. Research indicates that at the organizational level, higher levels of formalization are associated with more red tape (Bozeman 2000). Red tape theory assumes that government formalization in the form of external rules and regulations is the main driver of red tape for public and private organizations alike (Bozeman 1993; Bozeman and Feeney 2011). Taken together, these arguments imply that government rules and regulations are an important driver of red tape in the private sector.

Studies in the rule ecology domain conceptualize formal rules as belonging to populations of rules that (co-)evolve (March et al. 2000; Van Witteloostuijn and de Jong 2010; Kaufmann and Van Witteloostuijn 2011). Kaufmann and Van Witteloostuijn (2012) draw on this line of research to propose a conceptual model that highlights how European and national rule stocks jointly affect organizational red tape. Kaufmann and Van Witteloostuijn (2016) suggest that there is an increased chance of overlap and redundancies in formalization if the same subject matter is regulated at different hierarchical levels, thus leading to more red tape. Many countries have initiated regulatory reform programmes aimed at reducing red tape stemming from supranational rules, national rules, and the implementation of supranational rules at the national level, especially in the business domain (Brewer and Walker 2010; De Jong and Van Witteloostuijn 2015), thus increasing different levels of rules on the same subject matter.

Moreover, the relationship between external rules and organizational red tape has been tested in the context of the external control model of red tape (Bozeman 1993; Bozeman and Feeney 2011). This model seeks to explain how the external environment drives organizational red tape. Brewer et al. (2012) find that organizations facing higher levels of external control report higher levels of red tape, and that this relationship is mediated by informal communication and devolved management. Similarly, de Jong and Van Witteloostuijn (2015) focus on the impact of external regulation on perceived red tape in the context of Dutch private organizations. The authors argue that red tape perceptions are driven not only by the cost of regulation, but also by inconsistencies and changes in regulation. In sum, there is strong evidence in the red tape literature to suggest that formalization in the form of government rules, regulations, and procedures is positively associated with red tape:

\[ H1: \text{There will be a positive association between country-level formalization and perceptions of red tape in the private sector.} \]

2.1.2 | Rule enforcement effectiveness

Effective rule enforcement is a necessary condition for countries to ensure that government rules and regulations achieve their functional goals and minimize red tape. La Porta et al. (2000) argue that the enforcement of laws is equally as important as the content of those laws. How effectively government rules and regulations are enforced differs substantially across countries, for at least two reasons. First, there is a straightforward relationship between
the amount of resources available for rule enforcement and enforcement effectiveness. Understaffed rule enforce-
ment agencies and court systems will have a harder time identifying and taking action against rule-breakers than
agencies with generous budgets (Stigler 1970). Thus, rule enforcement quality is expected to be higher in richer
countries (La Porta et al. 1996).

Second, political pressures and preferences may hamper rule enforcement. Shotts and Wiseman (2010) argue
that bureaucratic agents can promote or dampen their political superior’s interests by deciding whether or not a cer-
tain case will be investigated in the first place. Even if a case of possible non-compliance is brought to the attention
of agents such as prosecutors or regulators, political preferences may block effective rule enforcement. For example,
Gerber et al. (2004) discuss how voters passed a proposition in 1986 that made English the official language in
California. Yet, the new law was not supported by key officials, and was barely enforced. When a complaint was
filed with the Attorney General about trilingual election materials in San Francisco, the Attorney General responded
that the proposition ‘required only that official publications be made available in English, not that they be offered in
English only’ (Gerber et al. 2004, pp. 43–44). This is an example of effective rule enforcement being undermined by
political context.

The relationship between compliance burden and achieving the rule’s functional object, or goal, becomes partic-
ularly strained in the absence of effective enforcement. If high-quality rule enforcement ensures a level playing field,
then a lack thereof is likewise associated with arbitrariness, obscurity, and ambiguity. Indeed, firms may wonder
why they are incurring the costs of complying with poorly enforced rules in the first place. We expect poorly
enforced rules to be associated with increased perceptions of red tape.

H2: There will be a negative association between the effectiveness of rule enforcement in a country
and perceptions of red tape in the private sector.

2.1.3 Federalism

Type of government is another formal institution that probably affects red tape. The literature distinguishes
between unitary and federal states, where the former centralizes decision-making authority while the latter dele-
gates more decision-making to local governments. The key difference between the two types is not necessarily the
devolution of power to local governments as such, but rather ‘the existence within federal states of institutional
guarantees that the division of powers will not be arbitrarily changed without the consent of territorial sub-units’
(Castles and McKinlay 1979, p. 174). As a result, the interdependencies between different levels of government can
be considered more complex in federal than unitary states (Scholz and Wei 1986; Nelson 1990). This additional
institutional complexity impacts red tape in the private sector in three ways.

First, rules may be more likely to entail red tape from the outset in federal systems due to what Bozeman
(1993) refers to as negative sum process and negative sum compromise. Negative sum process relates to those
instances where participation requirements are so extensive that even stakeholders having no interest to participate
are required to do so. As such, rules aimed at enhancing participation in a federal system become a source of red
tape themselves. Negative sum compromise occurs when a rule is intended to serve so many different objectives
that it ends up serving none (Bozeman and Feeney 2011). While this type of dynamic holds for most if not all rule-
making situations, it is particularly likely to occur in federal states that are multi-layered and ‘often criticized for pro-
ducing deadlock, slowing down decision-making processes, or producing inefficient policy solutions’ (Biela
et al. 2014, p. 505).

Second, policy change is more difficult to achieve in a federal system where stipulated majority requirements
are more pronounced, multiple political levers are in place that can defeat proposals for change, and the central gov-
ernment’s political competence is limited as compared to unitary states (Castles and McKinlay 1979). The inability
of federal policy-makers to change policies quickly may result in rule-evolved red tape. Rule-evolved red tape exists
when good rules go ‘bad’ (Bozeman 1993). There are many reasons why a rule that was initially effective becomes
dysfunctional over time. For example, rule drift occurs when the meaning of a rule gets lost over time. Or unforeseen changes in the rule's functional object or implementation can lead to rule-evolved red tape (Bozeman and Feeney 2011). The most effective way to remedy rule-evolved red tape is to change or abolish the rules that have become dysfunctional. However, it can take longer to change or abolish an ineffective rule in federal states.

Third, the institutional requirements of federal states can lead to variations in formal institutions at the local level. For example, Nelson (1990, p. 444) argues that US local governments have been characterized as fragmented, like a "crazy-quilt" of overlapping boundaries and with little in the way of coordination and cooperation among local authorities. The inefficiencies caused by this type of institutional design are exacerbated by the fact that best practices are not easily transferable from one local government to another within a federal system. Hendriks and Tops (1999) note that institutional reforms in the Federal Republic of Germany are created through bottom-up rather than top-down processes, limiting the transfer of best practices between local governments to highly non-specific models. Given the complexity and multi-layered rules and regulations in federal states, we expect red tape to be more pronounced in federal states as opposed to unitary states.

H3: There will be a positive association between federal states and perceptions of red tape in the private sector.

2.2 Informal institutions and red tape

Informal institutions guide human behaviour and decision-making processes (North 1990; Crossland and Hambrick 2011). Drawing from the red tape literature, we focus on three informal institutions: political ideology, corruption, and culture. We operationalize culture with two dimensions: individualism and uncertainty avoidance.

2.2.1 Political ideology

A key assumption in the literature is that most red tape derives from government rules and regulations (Bozeman and Feeney 2011; Brewer et al. 2012). There are two related scenarios in which government rules may increase perceptions of red tape for businesses. In the first scenario, government regulates policy areas that restrict firm behaviour and does so in a way that is perceived by firms as being ineffective. In this case, red tape is the result of poorly designed rules (rule-inception red tape) or rules that turn bad over time (rule-evolved red tape) (Bozeman 1993). In the second scenario, perceptions of red tape result from government rules and regulations in a certain policy area that firms believe should not be regulated in the first place. Instead, firms may argue that better outcomes can be achieved through alternatives to regulation, such as voluntary compliance or industry self-regulation (e.g., Gunningham and Rees 1997). It is important to realize that in both scenarios firms may perceive red tape merely because they are opposed to government interference, either in a particular form or more generally. Hence, red tape complaints should not be taken at face value without taking into account overall rule costs and benefits (Bozeman 2012).

Assessments of the effectiveness and appropriateness of government rules and regulations are intertwined with ideological stances on the role of government. Individuals with a more conservative ideology prefer smaller government and greater market freedom, whereas liberals prefer government to have a greater influence on society (Lavertu and Moynihan 2013). Many conservatives argue that the welfare state undermines the vitality of a competitive, private economy and results in a lack of self-reliance among citizens, in particular the poor, and stifles businesses from being innovative (Skitka and Tetlock 1993). Generally speaking, conservatives feel that government is trying to do too much and it does so ineffectively, resulting in opposition to government regulation (Michaud et al. 2009; Gauchat 2012). In comparison, liberals view government regulation as necessary to ensure fairness, equity, environmental health, or worker safety. This line of reasoning is supported by Kaufmann and Timmers (2017), who found that individuals with a more conservative political orientation are more dissatisfied with
organizational red tape than are more liberal individuals. Thus, we expect that in countries with a more conservative view of the role of government, business leaders will be more likely to perceive government rules and regulations as entailing red tape.

\[ H4: \text{There will be a positive association between a more conservative political ideology in a country and perceptions of red tape in the private sector.} \]

2.2.2 | Corruption

Corruption is arguably one of the most commonly mentioned informal institutions related to red tape. The relationship between corruption and red tape is complex as the two are linked reciprocally: ‘red tape makes corruption possible, and corrupt bureaucrats may increase the extent of red tape so they can extract additional bribes’ (Mauro 1998, p. 12). Corrupt bureaucrats can use red tape to slow down administrative procedures and demand ‘speed money’ in exchange for minimizing administrative delays (Mauro 1995).

Existing research on administrative delay argues that red tape is reflected in how long it takes an organization to perform core organizational tasks. Bozeman et al. (1992, p. 292) note that ‘the irritation with red tape is not necessarily, then, inherent in rules and procedures but is a response to delays caused by superfluous rules and procedures, as well as delays in the decision-making process’. Administrative delay is typically operationalized as a set of questions asking respondents to indicate the amount of time it takes to carry out specific tasks inside the organization, such as purchasing equipment, contracting for services, and hiring personnel (Bozeman and Kingsley 1998; DeHart-Davis and Bozeman 2001). Yet, cumbersome interactions with government officials to acquire permits or licences can create delays within the firm, driving red tape perceptions. If corrupt officials hold up administrative procedures, these procedures are likely to be viewed as entailing red tape, even if the procedures themselves are streamlined. This leads to the following hypothesis:

\[ H5: \text{There will be a positive association between a country’s level of corruption and perceptions of red tape in the private sector.} \]

2.2.3 | Culture

Culture guides human behaviour as it provides members of society with schematic, mental models about what is appropriate versus inappropriate, legitimate versus illegitimate, and good versus bad. These mental models are acquired in the early years of an individual’s life and, hence, have a strong impact on an individual’s behaviour and choices.

Studies in the cross-cultural domain define national culture in terms of taxonomies consisting of several cultural dimensions. One of the most influential and commonly used taxonomies is Hofstede (2001), who distinguishes four cultural dimensions, namely collectivism versus individualism, uncertainty avoidance, power distance, and masculinity versus femininity. In line with Kostova’s (1997) recommendations as well as prior research in the business domain (e.g., Mueller and Thomas 2000; Crossland and Hambrick 2011), we focus on two of these institutional dimensions that are theoretically linked to perceptions of business red tape: individualism versus collectivism and uncertainty avoidance.

2.2.4 | Collectivism versus individualism

A fundamental and widely studied cultural dimension is individualism versus collectivism which relates to the extent that members of a society are supposed to look after themselves or are embedded in groups (Hofstede 2001; Triandis 2001). In collectivistic countries, the interests of the group are considered to be more important than individual interests. As a result, the individual has duties and mutual obligations to other group members and a strong need to maintain harmony in the group (Markus and Kitayama 1991; Hofstede 2001; Oyserman et al. 2002). In contrast,
personal independence, rights above duties, personal autonomy, promoting self-reliance, and self-fulfilment are more central in individualistic countries (e.g., Triandis 2001).

Entrepreneurs perceive government rules and regulations differently based on individualism and collectivism. Prior research indicates that entrepreneurial behaviours are associated more strongly with individualism than with collectivism (e.g., Hayton et al. 2002; Pinillos and Reyes 2011; Terjesen et al. 2016). This positive association is directly linked to traits common among business people and entrepreneurs, such as a desire for autonomy, independence, and a need for personal development (e.g., Block et al. 2013; Simón-Moya et al. 2014). Licht and Siegel (2006) suggest that entrepreneurs’ job satisfaction largely depends on levels of perceived independence and autonomy. Similarly, Morris et al. (1993) note that individual autonomy encourages perseverance needed to pursue business and entrepreneurial activities. Since government rules and regulations generally limit freedom of action, independence, and autonomy, it is likely that— notwithstanding the fact that many of these rules are effective and meet valid objectives— external rules are more quickly perceived as red tape in countries that are more individualistic in nature. Accordingly, we hypothesize:

\[ H6a: \text{There will be a positive association between the level of individualism in a country and perceptions of red tape in the private sector.} \]

2.2.5 | Uncertainty avoidance

Uncertainty avoidance is the degree to which members of a society feel uncomfortable with and even threatened by uncertainty and ambiguity (Hofstede 2001). Individuals in high uncertainty avoidant countries possess a greater proclivity for consistency, orderliness, and structure and attempt to reduce uncertainty by relying on established social norms, rituals, and bureaucratic practices (e.g., Hofstede 2001; House et al. 2004). In societies characterized by low uncertainty avoidance, people are generally more open to accept change, attach less value to predictability, and are more willing to take risks (Hofstede 2001).

One way for individuals to reduce uncertainty is to rely on rule-based mechanisms (Wennberg et al. 2013), which involve higher degrees of rules and regulations (Baptista 2007) that make clear how individuals are expected to act (House et al. 2004). This general preferred approach to dealing with uncertainty and ambiguity in a country also affects how business people and entrepreneurs perceive the effectiveness of rules and regulations. Individuals living in countries with high levels of uncertainty avoidance are more likely to view red tape as a necessary by-product of regulation. In contrast, in low uncertainty avoidant countries “conflict and competition can be controlled within the rules of “fair play”” (Mueller and Thomas 2000, p. 61). Hence, in low uncertainty avoidant countries, business people and entrepreneurs are likely to feel more constrained by rules and regulations, and thus experience more red tape. We hypothesize:

\[ H6b: \text{There will be a negative association between the level of uncertainty avoidance in a country and perceptions of red tape in the private sector.} \]

3 | METHODS

3.1 | Data sources

Data on red tape and corruption are taken from the Executive Opinion Survey (EOS) of the World Economic Forum (WEF), which is part of its Global Competitiveness Report. Since 1979, the WEF sends out the EOS annually to capture the opinions of business leaders on a broad range of topics related to competitiveness that are not easily captured by official statistics (Browne et al. 2014). The EOS is available in more than 40 languages so as to...
prevent differences in proficiency in English (or any other major language) from influencing the results. Respondents include business executives from small and medium-sized enterprises as well as large firms representing the main sectors of the economy (agriculture, manufacturing industry, non-manufacturing industry, and services) (e.g., Chan and Cheung 2008). While the number of responses collected differs from one year to the next, about 12,000 executives from over 140 countries participate on average. The EOS produces aggregated measures of a country’s business climate, including government efficiency, infrastructure, and competitiveness of economic performance (Knack 2007; Chan and Cheung 2008). As a result, the WEF only makes measures at the country level available. These country-level measures are based on the simple arithmetic mean of the scores of the respondents from a certain country.

We merged the EOS data with a number of other data sources. We used World Bank data to capture a number of formal institutions and control variables. Our measure for political ideology is taken from the World Values Survey. The World Values Survey, which started in 1981, is a cross-country project coordinated by the Institute for Social Research that gauges human beliefs and values in almost 100 countries. It consists of seven data waves to date and uses a standardized questionnaire to assemble information about demographics, self-reported economic characteristics, and answers to specific questions about religion, political preferences, and attitudes. While detailed information per individual respondent is available per country per wave, we follow the same procedure as other cross-country studies to arrive at average scores per country per year (e.g., Pevzner et al. 2015).

Cultural dimensions are taken from Hofstede (2001), which is one of the most common and frequently used frameworks for studying national culture (Chan and Cheung 2008; Taras et al. 2010). Hofstede’s dimensions are based on data gathered between 1967 and 1973 in 20 languages from over 88,000 employees for a large multinational organization active in 72 countries. Country-level factor analysis resulted in four dimensions of culture: power distance, individualism versus collectivism, uncertainty avoidance, and masculinity versus femininity. We also include data on federalism and type of legal system from two sources (Spamann 2008; Treisman 2008; see e.g., Fan et al. 2009 and Spamann 2010 for previous studies using these measures). Using among other sources the CIA Factbook, we verified whether the grouping into federal and unitary states remains representative for more recent years.

In sum, our dataset consists of six different sources, which enables us to address concerns about common source bias that are prevalent in public administration research (Jakobsen and Jensen 2015; see also Podsakoff et al. 2003) and answer calls for combining independent data sources when using survey measures (Favero and Bullock 2015). The sampling period starts in 2006 and ends in 2014.

3.2 | Variables

Our dependent variable, Red tape, comes from the Executive Opinion Survey. Respondents were asked to respond to the following item on a 7-point scale (with 1 indicating not burdensome at all, and 7 indicating extremely burdensome):2 ‘In your country, how burdensome is it for businesses to comply with governmental administrative requirements (e.g., permits, regulations, reporting)?’ This country-level measure is only available as the simple arithmetic mean of the scores of executives from a certain country participating in the survey. With regard to our independent variables for formal institutions, Formalization is operationalized as the number of start-up procedures to register a business, taken from the World Bank’s Doing Business Project. This particular measure captures ‘the number of external parties, usually government-related, that the entrepreneur faces before his new business is registered’ (Ho and Wong 2007, p. 192). Hence, a larger number of procedures indicates that more government agencies are

---

1For example, the 2006 survey involved about 11,200 respondents from 125 countries, while there were 14,000 respondents from 148 countries in the 2014 survey.

2Scores were reverse coded from the original dataset for ease of interpretation. Hence, higher scores on this variable imply higher levels of red tape, which is in line with existing red tape measures.
involved in the process of registering a business, which implies in turn that the overall process is more formalized.³ Our formalization measure has been used in prior research to study the association between business regulatory quality and economic growth (Djankov et al. 2006), and the relationship between regulation and the formation rate of businesses (Van Stel et al. 2007). While this measure cannot account for intra-country differences in the number of procedures required for starting a business, it does provide a consistent formalization measure that is appropriate for studying country-level differences of this formal institution associated with red tape in the private sector.

The measure, Rule enforcement effectiveness, comes from the World Bank’s Doing Business Project. This variable measures the number of calendar days required to enforce a contract from the filing of a lawsuit in court until the final determination of the lawsuit. The World Bank argues that the relative ease with which contractual obligations can be enforced through courts (e.g., in terms of the number of days required to enforce a contract) is an important indicator of the effectiveness of a country’s legal institutions (Doing Business 2017). Djankov et al. (2008) and Nunn (2007) use this enforcement measure as an indicator of legal system and judicial quality in their comparative country-level studies on debt enforcement efficiency and trade patterns. Federalism is a dummy variable that assumes a value of one if a country has a federal system in which entities, such as states or provinces, share power with a national government (e.g., the US, Germany and Spain) and zero otherwise (Treisman 2008).

To capture informal institutions, our independent variable Political ideology is taken from the World Values Survey and is based on an item that asked respondents to indicate on a 10-point scale their views on the role of government, where 1 = ‘People should take more responsibility to provide for themselves’ and 10 = ‘Government should take more responsibility to ensure that everyone is provided for’; hence higher scores on this variable imply that, on average, people living in that country believe that the government should take more responsibility to ensure that everyone is provided for.⁴

The variable, Corruption, is an average score across five components of the EOS: ‘In your country, how common is it for firms to make undocumented extra payments or bribes in connection with (1) imports and exports; (2) public utilities; (3) annual tax payments; (4) awarding of public contracts and licences; (5) obtaining favourable judicial decisions?’ Response categories range from 1 = never occurs to 7 = very common.⁵

The cultural dimensions individualism and uncertainty avoidance are from Hofstede (2001). The variable, Individualism, captures ‘the degree to which people in a country prefer to act as individuals rather than as members of groups’ (Hofstede 1994, p. 6). A higher score on this dimension implies that a society is more individualistic. Uncertainty avoidance measures ‘the extent to which a society feels threatened by uncertain and ambiguous situations and tries to avoid these situations by providing greater career stability, establishing more formal rules, not tolerating deviant ideas and behaviors, and believing in absolute truths and the attainment of expertise’ (Hofstede 1980, p. 45). A higher score indicates a society that is more uncertainty avoidant. Crucially, in our study that encompasses nine years of data, the cultural measures do not change over time as various scholars in the cross-cultural domain have argued that culture changes only very slowly (e.g., Minkov 2013). In line with existing research, we assume that these Hofstede scores accurately represent differences across countries in terms of individualism and uncertainty avoidance (e.g., Beugelsdijk et al. 2015; Eringa et al. 2015).

We also include a number of control variables that may be related to red tape in the private sector. Government size is operationalized as the general government final consumption expenditure as a percentage of GDP, taken from the World Bank database. The reasoning behind including this control variable is that a larger government may result in more red tape (Bozeman 1993; Bozeman and Feeney 2011). Drawing from Spamann (2008), we include a dummy variable, Common law, to control for the type of legal system. One mechanism by which type of legal system may affect red tape is through the level of procedural formalism, which is how the law regulates the

³Notably, our formalization measure is part of the Starting a Business topic of the World Bank’s Doing Business Project. The main focus of this topic is to simplify registration formalities. See e.g., http://www.doingbusiness.org/~/media/WBG/DoingBusiness/Documents/Methodology/Survey-Instruments/DB17/DB17-SB-questionnaire-en.pdf?la=en
⁴Scores were reverse coded from the original dataset for ease of interpretation.
⁵Scores were reverse coded from the original dataset for ease of interpretation.
operation of courts. Djankov et al. (2003, p. 453) find that procedural formalism is ‘systematically greater in civil than in common law countries, and is associated with higher expected duration of judicial proceedings, less consistency, less honesty, less fairness in judicial decisions, and more corruption’, which implies that red tape may also be more extensive in civil law systems.

Third, we control for economic growth as executives are likely to be less critical of government policies and, by extension, will perceive less red tape, if the economy is doing well. This variable is measured as the annual percentage growth rate of GDP at market prices based on constant local currency, obtained from the World Bank. Finally, in all our estimations we include year fixed effects (by including year dummies for 2007 to 2014) to control for possible differences in red tape between years. We winsorize each of the continuous variables at the top and bottom 1% to minimize the impact of extreme values.

4 | RESULTS

4.1 | Descriptive statistics and correlations

Tables 1a, 1b, and 2 provide descriptive statistics and correlations for our dependent and explanatory variables.

The dependent variable, red tape in the private sector is perceived differently across countries, ranging from an average response of 1.802 to 5.106 with a mean of 3.688. In Table 1b we observe a modest decreasing trend in

### TABLE 1A  Descriptive statistics for full sample

| Variable                          | N    | Maximum number of countries | Mean   | SD    | Min   | Max   |
|-----------------------------------|------|-----------------------------|--------|-------|-------|-------|
| Red tape                          | 1,229| 151                         | 3.688  | 0.672 | 1.802 | 5.106 |
| Formalization                     | 1,193| 151                         | 8.015  | 3.556 | 1     | 18    |
| Rule enforcement effectiveness    | 1,202| 150                         | 610.889| 287.801| 211   | 1.459 |
| Federalism                        | 1,011| 119                         | 0.168  | 0.374 | 0     | 1     |
| Political ideology                | 765  | 92                          | 3.707  | 0.962 | 1.794 | 5.871 |
| Corruption                        | 1,229| 151                         | 3.500  | 1.172 | 0.694 | 5.290 |
| Individualism                     | 610  | 69                          | 43.805 | 24.010| 6     | 91    |
| Uncertainty avoidance             | 610  | 69                          | 67.279 | 23.133| 8     | 100   |
| Government size                   | 1,134| 145                         | 15.932 | 5.673 | 5.222 | 36.810|
| Common law                        | 1,209| 148                         | 0.194  | 0.396 | 0     | 1     |
| Economic growth                   | 1,203| 150                         | 3.767  | 3.987 | -7.821| 15.240|

### TABLE 1B  Descriptive statistics for red tape per year (n = 1,229)

| Year | Mean   | SD    | Min   | Max   |
|------|--------|-------|-------|-------|
| 2006 | 3.912  | 0.652 | 1.802 | 5.046 |
| 2007 | 3.798  | 0.676 | 1.802 | 5.106 |
| 2008 | 3.732  | 0.689 | 1.802 | 5.106 |
| 2009 | 3.711  | 0.664 | 1.802 | 5.106 |
| 2010 | 3.704  | 0.650 | 1.802 | 5.078 |
| 2011 | 3.708  | 0.669 | 1.802 | 4.955 |
| 2012 | 3.573  | 0.681 | 1.802 | 4.982 |
| 2013 | 3.546  | 0.652 | 1.802 | 5.106 |
| 2014 | 3.571  | 0.648 | 1.802 | 5.106 |
| Overall | 3.688 | 0.672 | 1.802 | 5.106 |
| Variables                          | 1    | 2    | 3    | 4    | 5    | 6    | 7    | 8    | 9    | 10   | 11   |
|----------------------------------|------|------|------|------|------|------|------|------|------|------|------|
| Red tape                         | 1.00 |      |      |      |      |      |      |      |      |      |      |
| Formalization (log)              | 0.315| 1.00 |      |      |      |      |      |      |      |      |      |
| Rule enforcement effectiveness (log) | 0.239| 0.234| 1.00 |      |      |      |      |      |      |      |      |
| Federalism                       | 0.111| 0.070| −0.066| 1.00 |      |      |      |      |      |      |      |
| Political ideology               | −0.094| −0.134| −0.001| 0.208| 1.00 |      |      |      |      |      |      |
| Corruption                       | 0.605| 0.457| 0.318| −0.102| −0.295| 1.00 |      |      |      |      |      |
| Individualism                    | −0.015| −0.513| −0.341| 0.154| −0.153| 0.523| 1.00 |      |      |      |      |
| Uncertainty avoidance            | 0.458| 0.277| 0.239| 0.012| 0.444| −0.393| −0.216| 1.00 |      |      |      |
| Government size                  | 0.042| −0.199| −0.011| −0.025| −0.185| −0.280| 0.675| 0.077| 1.00 |      |      |
| Common law                       | −0.227| −0.119| 0.052| 0.135| 0.228| −0.133| 0.139| −0.576| −0.168| 1.00 |      |
| Economic growth                  | −0.141| 0.176| 0.036| −0.044| 0.023| 0.140| −0.304| −0.101| −0.230| 0.048| 1.00 |

Note: This table presents Pearson correlations. Numbers in parentheses are p-values.
perceived red tape. We also see considerable variation across countries when it comes to formal and informal institutions. For example, it takes on average about eight procedures to start a business, the variable formalization ranges from one to 18 procedures. In a few cases, the correlation coefficient between the independent variables is greater than 0.5, which may indicate possible multicollinearity issues. To address concerns about multicollinearity, we obtained variance inflation factors (VIFs); all VIFs were less than 4.0, indicating that multicollinearity is not a problem.

### 4.2 Regression results

We use pooled OLS regression to test our empirical predictions in the main analyses and clustered standard errors by country to control for intra-country error correlation problems. We log-transformed both measures for formalization and rule enforcement effectiveness before entering them into the regression models so as to minimize heteroscedasticity issues. All regressions include year fixed effects. The regression results are reported in Table 3.

Columns 1 to 4 in Table 3 report the results of the estimation using OLS regression with standard errors clustered by country. Column 1 shows a controls-only model. In column 2, we add variables that represent the formal institutions and observe a considerable increase in $R^2$ from 0.108 to 0.267. In support of H1, we find a positive significant association between country-level formalization and red tape in the private sector ($\beta = 0.430; p\text{-value} < .01$). Column 2 suggests a significantly positive association ($\beta = 0.001; p\text{-value} < .01$) between our measure for rule enforcement effectiveness and red tape. As a higher value on this variable translates to a larger number of calendar days required to enforce a contract, implying a less effective enforcement system, this significant positive association supports H2. The results in column 2 suggest a significantly positive association between red tape perceptions and federalism ($\beta = 0.216$), albeit at a marginally significant level ($p\text{-value} < .10$), thus supporting H3.

Column 3 presents the results regarding the impact of the informal institutions on red tape. First, it is important to note that the number of countries is reduced to 53 countries due to the relatively 'limited' coverage of countries by Hofstede. Second, we observe a positive association between political ideology and red tape ($\beta = 0.150; p\text{-value} < .05$). We find support for H5, which expected a positive association between corruption and red tape ($\beta = 0.491; p\text{-value} < .01$). The results indicate positive associations between red tape and individualism ($\beta = 0.009; p\text{-value} < .01$) and uncertainty avoidance ($\beta = 0.009; p\text{-value} < .01$), thus supporting H6a and failing to confirm H6b.

Column 4 of Table 3 presents the results of the full model. While the results regarding the informal institutions remain constant, the effects of the formal institutions are reduced as only the measure of formalization remains significant. These results suggest that the effects of formal institutions on red tape are—to some extent—crowded out by informal institutions.

To test the reliability of the statistical results, we ran a number of sensitivity checks. First, as our dependent variable cannot assume negative values, the use of OLS may lead to biased estimators. We reran the analyses using Tobit regression (with standard errors clustered by country). Column 5 in Table 3 shows the results. The results are consistent with our earlier model estimation. In line with Becker (2005), we excluded non-significant control variables to avoid biased parameter estimates. The results (untabulated) of the full model based on this model are similar to those reported in column 4.

---

6 We also ran two Tobit regression models in which, in addition to the control variables and year fixed effects, we included either the formal or informal institutions. The (untabulated) results are qualitatively similar to the results reported in Table 3, columns (2) and (3).

7 Since we are looking at a longer period of time, it is possible that political conditions have changed. To account for the possibility that perceptions of red tape changed as a result of political changes, we ran a robustness check in which we included an additional control variable which measures a country’s political stability. To construct this variable, we followed Bellettini et al. (2013) and relied on the Database of Political Institutions 2015 (available at: http://www.worldbank.org/en/research). Specifically, political stability is measured as the longest tenure in office of main political entities (e.g., the largest governing party and a country’s chief president/prime minister/etc.). The main results (available on request) remain qualitatively similar, while the political stability variable itself is not statistically significantly associated with red tape.
|                          | Column 1 | Column 2 | Column 3 | Column 4 | Column 5 | Column 6 |
|--------------------------|----------|----------|----------|----------|----------|----------|
| Formalization (log)      | 0.430*** | 0.198**  | 0.198**  | -0.022   |
|                          | (0.109)  | (0.099)  | (0.097)  | (0.069)  |
| Rule enforcement effectiveness (log) | 0.001*** | 0.000    | 0.000*   |
|                          | (0.000)  | (0.000)  |
| Federalism               | 0.216*   | 0.111    | 0.111    | 0.185*   |
|                          | (0.159)  | (0.100)  | (0.098)  | (0.124)  |
| Political ideology       | 0.150**  | 0.120**  | 0.120**  | 0.009    |
|                          | (0.074)  | (0.070)  | (0.069)  | (0.036)  |
| Corruption               | 0.491*** | 0.432*** | 0.432*** | 0.390*** |
|                          | (0.045)  | (0.048)  | (0.047)  | (0.035)  |
| Individualism            | 0.009*** | 0.009*** | 0.009*** | 0.011*** |
|                          | (0.003)  | (0.003)  | (0.003)  |
| Uncertainty avoidance    | 0.009*** | 0.010*** | 0.010*** | 0.009*** |
|                          | (0.003)  | (0.003)  |
| Government size          | -0.003   | 0.017*   | 0.029*   | 0.042*** |
|                          | (0.009)  | (0.010)  | (0.015)  | (0.015)  |
| Common law               | -0.386***| -0.318** | -0.023   | 0.097    |
|                          | (0.136)  | (0.146)  |
| Economic growth          | -0.034***| -0.027** | 0.004    | 0.004    |
|                          | (0.010)  | (0.010)  | (0.011)  | (0.011)  |
| Year: 2007               | -0.116   | -0.106   | -0.013   | -0.024   |
|                          | (0.029)**| (0.028)**| (0.025)  | (0.024)  |
| Year: 2008               | -0.253   | -0.215   | 0.020    | 0.007    |
|                          | (0.045)**| (0.047)**| (0.054)  | (0.053)  |
| Year: 2009               | -0.416   | -0.329   | -0.023   | -0.034   |
|                          | (0.075)**| (0.075)**| (0.096)  |
| Year: 2010               | -0.278   | -0.192   | 0.117    | 0.112    |
|                          | (0.052)**| (0.055)**| (0.055)**|
| Year: 2011               | -0.298   | -0.187   | 0.124    | 0.128    |
|                          | (0.056)**| (0.058)**| (0.054)**|
| Year: 2012               | -0.444   | -0.277   | 0.008    | 0.025    |
|                          | (0.061)**| (0.065)**| (0.068)  |
| Year: 2013               | -0.432   | -0.312   | -0.063   | -0.043   |
|                          | (0.056)**| (0.066)**| (0.067)  |
| Year: 2014               | -0.424   | -0.274   | -0.033   | -0.013   |
|                          | (0.064)**| (0.072)**| (0.073)  |
| Intercept                | 4.250*** | 2.529*** | 0.165    | -0.374   |
|                          | (0.173)  | (0.359)  | (0.524)  |
| (Pseudo) R²              | 0.108    | 0.267    | 0.685    | 0.727    |
| N countries              | 143      | 116      | 53       | 50       |
| N obs                    | 1,117    | 928      | 451      | 429      |

Notes: This table presents the results of regression analyses of determinants of red tape. Columns (1) to (4) are based on OLS with standard errors clustered by country. Column (5) is based on a Tobit regression with standard errors clustered by country. Column (6) is based on a random effects panel estimation. Standard errors are reported in parentheses. * , ** , and *** denote significance at the .10, .05, and .01 levels, respectively. The p-values are one-tailed for directional hypotheses and two-tailed otherwise.
As an additional robustness check, column 6 in Table 3 shows the results of panel estimation using random effects. The advantage of panel estimations over OLS estimations is that panel models are better able to mitigate concerns regarding omitted variable bias by measuring change within a group. Since we have multiple variables that do not change over time (e.g., individualism and uncertainty avoidance), we cannot use fixed effects panel models. The results regarding the informal institutions generally remain unchanged in our random effects model. Regarding the formal institutions, however, we no longer find an association between country-level formalization and the dependent variable.

5 | CONCLUSION

We used an institutional framework and multiple data sources to investigate the relationships between country-level formal and informal institutions and perceptions of red tape in the private sector. With regard to formal institutions, our findings show that red tape perceptions are positively but weakly associated with the level of formalization in a country and more prevalent in federal as compared to unitary states. The effectiveness of rule enforcement also has a positive statistically significant effect on red tape in the private sector. Our findings indicate that among informal institutions there is more red tape reported in countries with a more conservative view of the role of government, in more corrupt countries, and countries that are more individualistic in nature.

Reports of red tape in the private sector are higher in societies with more uncertainty avoidance, possibly because executives, as compared to the average member of society, are more annoyed by rules that limit their level of discretion and hamper decision-making speed. Hence, while more uncertainty avoidant societies may feel a need for more rules, executives might be more likely to chafe under perceived red tape. Alternatively, since we are modelling the perceptions of executives (i.e., high performers), it is possible that because these are societies that on average avoid uncertainty, executives are entrepreneurial outliers who seek uncertainty and feel constrained by rules and red tape. Finally, individuals living in societies with high uncertainty avoidance may feel conflict about rule adherence. Minkov and Hofstede (2014, pp. 168–69) replicate Hofstede’s uncertainty avoidance dimension with a representative sample of EU respondents and conclude that ‘[uncertainty avoidance] reflects a population’s desire to create and maintain strict formal rules and laws for others but not a tendency for personal adherence to them. Rather, high [uncertainty avoidant] societies seem to be characterized by a generalized belief that “Strict rules and laws are a good thing if others, not myself, follow them”’ (italics in original).

Before discussing the contributions of this research, it is important to note the limitations. First, we argue that red tape is a perceptual concept that does not necessarily correlate with ‘objective’ dimensions of red tape. Ideally, researchers combine objective and subjective red tape measures and explore their correlations in detail. For example, perceptual red tape measures can be linked to measures of compliance and implementation costs. Second, we have included a limited number of formal and informal institutions that are particularly relevant for the study of red tape in the private sector. Given the plethora of research on institutions in the economics and organization studies literatures, scholars may extend our framework by looking at other formal and informal institutions. Furthermore, given that this is the first study to link formal and informal institutions to red tape, we do not look at potential inter-relations between the various institutions.

Third, our focus in this study has been on country-level institutions, but more work is required to explore the dynamics between institutions and red tape at and between other levels of analysis. Explicitly linking the institutional context of sector and industry may shed light on why red tape is not perceived in an identical way across organizations. Similarly, more work is required to understand how organizational- (e.g., firm size and complexity) and individual- (e.g., personality traits) level characteristics interact with country-level institutions in the context of perceived red tape.

Fourth, some of our measures for institutions are rather crude, in that they may not fully reflect national or local differences. For example, our rule enforcement measure looks at the number of days required to enforce a contract,
but does not explicitly take into account that the number and average contract value of enforcement cases may differ substantially between countries. Furthermore, parties in certain countries may be unable or unwilling to enforce a contract in court in the first place. Yet, the variables used in this study to capture institutional differences at the national level are the most comprehensive set available, to the best of our knowledge.

Despite these limitations this research makes several important contributions. Our findings show that informal institutions explain substantially more national variance in perceived red tape in the private sector than do our measures of formal institutions. Indeed, we find a pattern in our analysis of informal institutions crowding out some of the effects of formal institutions. These findings indicate that red tape is, at least to some extent, perceptual in nature. At the same time, most existing research conceptualizes red tape as being an entirely ‘objective’ manifestation of formalization. Scholars should develop and test new concepts to capture the perceptual nature of red tape and continue to investigate the ways in which informal institutions shape reports of red tape in the public, private, and nonprofit sectors.

Our finding that individuals may perceive different levels of red tape based on the informal institutional context is also relevant for policy-makers, in particular those in a position to create rules and regulations. Informal institutions change slowly, if at all. If we accept that rule-makers are unable to change (country-level) informal institutions that are largely driving perceived red tape, then it may be very difficult for ambitious regulatory reform programmes at the organizational and national levels to deliver convincing results. This is not to say that rule-makers should not aim to design, implement, and enforce written rules in the most effective and efficient way, but it does imply that a certain level of perceived red tape is likely to be unavoidable or will continue to be reported within particular cultural contexts.

We contribute to the existing red tape literature by focusing on red tape in the private sector. Arguably, red tape studies investigating unnecessary burdens on businesses created by government rules and regulations more closely reflect current policy debates. This implies that scholars need to consider a wider range of stakeholders rather than focus primarily on public managers, and look explicitly at external rules and regulations as a driver of organizational red tape.

REFERENCES

Baptista, R. (2007). Culture, political institutions, and the regulation of entry. Comparative Labor Law and Policy Journal, 28, 785–815.

Becker, T. E. (2005). Potential problems in the statistical control of variables in organizational research: A qualitative analysis with recommendations. Organizational Research Methods, 8, 274–289.

Belletti, G., Berti-Ceroni, C., & Prarolo, G. (2013). Political persistence and economic growth. European Journal of Political Economy, 31, 165–179.

Beugelsdijk, S., Maseland, R., & Hoorn, A. (2015). Are scores on Hofstede’s dimensions of national culture stable over time? A cohort analysis. Global Strategy Journal, 5, 223–240.

Biela, J., Hennl, A., & Zons, G. (2014). Between deadlock and decentralization: Bargaining dynamics in federal states. Regional & Federal Studies, 24, 505–525.

Block, J., Thurlk, A. R., Van der Zwan, P., & Walter, S. (2013). Business takeover or new venture start? Individual and environmental determinants from a cross-country study. Entrepreneurship: Theory and Practice, 37, 1099–1121.

Bozeman, B. (1993). A theory of government ‘red tape’. Journal of Public Administration Research and Theory, 3, 273–304.

Bozeman, B. (2000). Bureaucracy and red tape. Upper Saddle River, NJ: Prentice Hall.

Bozeman, B. (2012). Multidimensional red tape: A theory coda. International Public Management Journal, 15, 245-265.

Bozeman, B., & Feeney, M. K. (2011). Rules and red tape: A prism for public administration theory and research. Armonk, NY: M. E. Sharpe.

Bozeman, B., & Kingsley, G. (1998). Risk culture in public and private organizations. Public Administration Review, 58, 109–118.

Bozeman, B., Reed, P. N., & Scott, P. (1992). Red tape and task delays in public and private organizations. Administration & Society, 24, 290–322.

Brewer, G. A., & Walker, R. M. (2010). The impact of red tape on governmental performance: An empirical analysis. Journal of Public Administration Research and Theory, 20, 233–257.

Brewer, G. A., Walker, R. M., Bozeman, B., Avellaneda, C. N., & Brewer Jr., G. A. (2012). External control and red tape: The mediating effects of client and organizational feedback. International Public Management Journal, 15, 288–314.
Skitka, L. J., & Tetlock, P. E. (1993). Providing public assistance: Cognitive and motivational processes underlying liberal and conservative policy preferences. *Journal of Personality and Social Psychology, 65*, 1205–1223.

Spamann, H. (2008). Appendix to the ‘Anti-Director Rights Index’ revisited. Retrieved from: http://www.spamann.net/

Spamann, H. (2010). The ‘Antidirector Rights Index’ revisited. *Review of Financial Studies, 23*, 467–486.

Stigler, G. J. (1970). The optimum enforcement of laws. *Journal of Political Economy, 78*, 526–536.

Taras, V., Kirkman, B. L., & Steel, P. (2010). Examining the impact of Culture’s Consequences: A three-decade, multilevel, meta-analytic review of Hofstede’s cultural value dimensions. *Journal of Applied Psychology, 93*, 405–439.

Terjesen, S., Hessels, J., & Li, D. (2016). Comparative international entrepreneurship: A review and research agenda. *Journal of Management, 42*, 299–344.

Treisman, D. (2008). Decentralization dataset. Retrieved from: www.sscnet.ucla.edu/polisci/faculty/treisman/Papers/Decentralization.xls

Triandis, H. C. (2001). Individualism–collectivism and personality. *Journal of Personality, 69*, 907–924.

Van Stel, A., Storey, D. J., & Thurik, A. R. (2007). The effect of business regulations on nascent and young business entrepreneurship. *Small Business Economics, 28*, 171–186.

Van Witteloostuijn, A., & de Jong, G. (2010). Ecology of national rule birth: A longitudinal study of Dutch higher education law, 1960–2004. *Journal of Public Administration Research and Theory, 20*, 187–213.

Wennberg, K., Pathak, S., & Autio, E. (2013). How culture moulds the effects of self-efficacy and fear of failure on entrepreneurship. *Entrepreneurship & Regional Development: An International Journal, 25*, 756–780.

How to cite this article: Kaufmann W, Hooghiemstra R, Feeney MK. Formal institutions, informal institutions, and red tape: A comparative study. *Public Admin.* 2018;96:386–403. https://doi.org/10.1111/padm.12397