Citizen Confidence in the Public Service: An Examination of Established and Emerging Democracies in North America and Eurasia

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DEDICATION

To my mother, Nuriya Abylaeva (Кыргыз Республикасынын эмгек сиңирген мугалими) and to the memory of my father, Ryskul Aitaliev (1940-1997) (Кыргыз Республикасынын маданиятына эмгек сиңирген ишмер). The following dedication is written in Kyrgyz.

Билимдин кудурети менен балдарга руханий мунара курап, билим жарааты ок жараатынан катуу экенин, бала көңүлү гүлдөй назик экенин терең сезген, мээрими менен бала көңүлүн кубантууга өмүрүн арнаган. Билимдин гүлүн терип, билимди дыйкандай багып, ширинин тандап мага берген энем Нурияга Абылаевага арнайм.

Күнүгө жарык таңда турган сайын,
Колумду жылуу сууга жууган сайын,
Кыдырдай сизди эстейм атакебай,
Жарык күн жакшылыгын сунган сайын.
Жүрөктө терең сактап жүрөм сизди,
Алкыштын айтпай кебин, таппай эбин
Атам Рыскул Айталиевге.

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ABSTRACT

How do levels of confidence in the public service differ across countries? Are these attitudes about the public service determined by similar individual-level attributes across countries? Do country-level correlates explain variation between countries in citizen attitudes toward the public service? Data from the 2005-2009 World Values Survey for 21 North American and Eurasian countries, in addition to aggregate-level measures of national context, are analyzed using multilevel binary logistic regression.

The study shows that there is a significant amount of variation in the confidence attitudes not only within each country but also across countries. Citizens of Switzerland, Sweden, Norway, and Finland are the most positive about the public service. On the other hand, citizens of Poland, Slovenia, and Moldova are the most critical. At the individual-level, it is reported that age, government employee status, interpersonal trust, and confidence towards other government institutions are positively correlated with confidence in the public service. At the aggregate-level, variation in the level of confidence in the public service across countries is correlated with the quality of governmental institutions and the extent of corruption.

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CHAPTER I
INTRODUCTION AND GENERAL INFORMATION

Section 1.1: Research topic

The political trust literature has grown enormously in recent years, mainly because declining trust in government has sparked an interest in this topic. Survey-based studies show that in the mid-1960s, Americans had confidence in their political institutions (Putnam 2000). However, between 1964 and 1999 the percentage of Americans who trusted that the government in Washington would do what was right "most of the time" or "just about always" fell from 76 to 20 percent (ANES 1958-2008). A number of comparative studies examined whether other Western democracies experienced a similar reduction in trust of their political institutions (Norris 1999; Pharr and Putnam 2000). These studies revealed that declining trust in government was not unique to America. Indeed, diminishing levels of trust in government were occurring simultaneously in countries with different political systems and cultures (Inglehart 1997a, 1997b; Newton and Norris 2000; Norris 1999; Van de Walle 2007). Although several studies have demonstrated that confidence in the civil service is not as low as in political institutions (Suleiman 2003), a lack of trust in the civil service is troubling.

Declining trust in government is one of the central problems in modern politics (Ruscio 1996). Public trust and confidence in government are important for cooperation and collective action, which are the main building blocks for a healthy and functioning democracy (Marlowe 2004; Putnam 2000). The more trustworthy citizens perceive government to be, the more likely they are to accept mandates of courts and other

government authorities (Tyler 2006). Ultimately, trust will improve the potential for better government performance.

Citizens experience government through interactions with "street level" bureaucrats. Therefore, government employees play an important role in shaping citizens' trust in government (Lipsky 2010). Citizens and elected officials who maintain high levels of trust in public administrators will be likely to provide them with more discretionary authority and less direct oversight (Marlowe 2004). Successful governance requires public support for the implementation of policy programs (Miller 1974; Ruscio 1996). Trust has to stay above some minimal level if public policy programs are to continue to function (Kim 2005).

Section 1.2: Status of the research literature

The deficit of trust in government has raised concern about the legitimacy of the public bureaucracy and its role in governance. Public administrators across the globe have looked to modernization efforts as a means to enhance public attitudes, with the reforms of the "new public management" gaining broad international implementation. Implicit in these reforms is the idea that public trust can be cultivated by improving the performance of the public bureaucracy and the services it delivers (Barnes and Gill 2000; Gelders and Van de Walle 2007; Pollitt and Bouckaert 2004; Van de Walle and Bouckaert 2003). However, this approach assumes that public trust in the public service has a common set of correlates across nations. Yet, little research has been conducted to empirically test this assumption.

In light of the New Public Management reforms, public administration scholars have turned their attention to studies of citizen attitudes towards the public service and

the causes and consequences of these views (Ariely 2011). Most of the studies have examined citizens' attitude towards the quality and performance of the public service (Van de Walle and Bouckaert 2003), and very few have actually focused on citizen trust toward the civil service (Marlowe 2004; Van de Walle 2007; Van de Walle, Van Roosbroek, and Bouckaert 2008). The majority of these studies have examined individual-level factors such as demographic characteristics and satisfaction with specific services (Marlowe 2004). Most of the studies have been single country analyses. Very few have examined attitudes toward the public sector from a cross-national perspective (Anderson and Tverdova 2003). Most research on public trust has focused on attitudes toward government in general or in specific political institutions (Richardson, Houston, and Hadjiharalambous 2001) such as the legislative and executive branches, or individual political leaders (Marlowe 2004). In short, there is much to be learned about particularized trust in public service.

Section 1.3: Research questions

This study seeks to contribute to a better understanding of public trust in government by focusing on trust in the civil service. The research addresses the following questions: How do levels of trust in the civil service differ across countries? Are these attitudes about public service determined by similar individual-level attributes across nations? Do national-level correlates explain variation between nations in citizen attitudes toward public service? In addition to the demographic and attitudinal variables included in the country-specific models, national-level correlates are examined.

Section 1.4: Research approach

The primary source of data used in this analysis is the World Values Survey (2009). The World Values Survey (WVS hereafter) is a global research project that explores people's values, beliefs, and attitudes, and how they change over time. It is carried out by a worldwide network of social scientists who, since 1981, have conducted representative national surveys in almost 100 countries (WVS 2014).

The analysis is conducted in three stages. First, descriptive statistics are analyzed so that different levels of trust in the civil service across countries can be identified. Second, binary logistic regression models for each country are performed to examine whether attitudes about the civil service are determined by similar individual-level attributes across countries. Third, in addition to the demographic and attitudinal variables included in the country-specific models, national-level correlates are examined. To explain variation between countries, multilevel binary logistic regression models are estimated by pooling together all the national samples.

Section 1.5: Contribution to the literature

Political trust is essential in the creation and maintenance of strong democracies. This study aims to enhance an understanding of political trust and how it is formed. This research seeks to make several contributions.

The study examines what attitudes citizens have toward the civil service. It explores and determines similar individual attributes and attitudes of trust in the public service across the nations. The main contribution of this study is that it accounts for

cross-national variation in attitudes. It examines whether trust in the civil service is influenced by the nature of a nation's government.

In methodological terms, the study examines attitudes toward the public sector using a cross-national investigation. It offers explanations beyond a specific national context. Multilevel analyses of cross-national survey data enable to account for explanations at the macro-level and to examine their relation to individual-level variables. Namely, the multilevel analysis facilitates an investigation of how the specified macro-level elements influence citizen attitudes toward the public sector. In other words, the study assesses how the characteristics of social structure affect individuals. Examination of the cross-national differences in political science has become a popular tool (Steenbergen and Jones 2002), but its adoption with the public administration field is less common (Heinrich and Hill 2010). Thus, this work contributes to the study of bureaucracy by employing cross-national (comparative) analysis.

CHAPTER II
LITERATURE REVIEW

Section 2.1: What is trust?

To understand the nature and extent of citizen trust in the public service, it is necessary, first, to define what trust means and then to define what political trust means.

Section 2.1.i: Definition of trust

The concept of trust is both simple and complex. It is simple because it is used in daily language. And, it is complex because it is used to explain a wide variety of social concepts. Houston and Harding (2013) define trust as "a willingness to rely on others to act on our behalf based on the belief that they possess the capacity to make effective decisions and take our interests into account" (p. 55). These scholars distinguish two dimensions of trust: competence and care (trustworthiness) (see also Carnevale 1995; Citrin and Luks 2001; Keele 2007; Kim 2005; Metlay 1999; Poortinga and Pidgeon 2003; Putnam, Pharr, and Dalton 2000). The competence or cognitive dimension is based on rational judgments about the ability of the trustee to accomplish a stated goal and act consistently (see also Calnan and Rowe 2006; Ruscio 1996). On the other hand, trustworthiness is an effective dimension. It is grounded on the belief that the trustee's action is not motivated by self-interest but rather takes into account the interests of the trustor. LaPorte and Metlay (1996) describe it as "the belief that those with whom you interact will take your interests into account, even in situations where you are not in a position to recognize, evaluate, and/or thwart a potentially negative course of action by

'those trusted'" (p. 342) (see also Calnan and Rowe 2006; Fukuyama 1995; Hardin 1998; Ruscio 1997; Taylor-Gooby 2006). Offe (1999) proposes a somewhat similar definition:

> Trust is the belief concerning the action that is to be expected from others. The belief refers to probabilities that (certain categories of) others will do certain things or refrain from doing certain things, which in either case affects the well-being of the holder of the belief, as well as possibility the well-being of others or relevant collectivity. Trust is the belief that others, through their action or inaction, will contribute to my/ our well-being and refrain from inflicting damage upon me/us (p.47).

Levi and Stoker (2000) suggest that a definition of trust entails elements described below. Trust is a belief about the future actions or inactions of others and their outcomes (see also Gambetta 2000; Hardin 1998, 1999, 2000, 2001; Levi 1998; Luhmann 1988; Misztal 1996; Offe 1999; Sztompka 1999). Trust is relational: X trusts Y to do A, in doing so, X makes him/ herself vulnerable to Y. Thus, trust involves risk since there is no certainty about the future outcomes (Gambetta 2000; Luhmann 1988; Offe 1999; Sztompka 1999). Trust is a judgment. One can trust or distrust the other, or trust or distrust to a certain degree. Trust judgments inspire a course of action. Distrust may inspire vigilance in and monitoring of a relationship. Thus, trust judgments reflect belief about the trustworthiness of other people, groups, or institutions. The above definitions of trust discuss to some extent interpersonal trust that is trust one person places in another individual. The next section discusses political trust.

Section 2.1.ii: Definition of political trust

Political trust is the trust that people place in political institutions or their leaders. It links ordinary citizens to the political system that is intended to represent them (Mishler and Rose 2001, p. 30). Hardin (1998, 2000) argues that trust in government is not analogous to personal trust. Personal trust is much richer and involves a reciprocal

relationship. Therefore, Hardin (1999) suggests that one should speak of confidence in government and not of trust in government (p. 31). Nevertheless, scholars use both terminologies in their studies of citizen attitudes towards government. For example, Katzenstein (2000) uses the word "confidence" in defining what political trust means: political trust is "the public's confidence in representative democratic institutions, including political parties, parliament, bureaucracies, the legal system, the police, and the armed forces" (p. 122). Citrin and Muste (1999) add to the definition the citizenry's expectations of government: "Political trust indicates confidence that authorities will observe the rules of the game and serve the general interest" (p. 465).

Thus, political trust can be regarded as an evaluative orientation of citizens toward their political system, or some part of it, based upon their normative expectations (Hetherington 1998, p. 791; Miller 1974, p. 952). As Miller and Listhaug state, trust is "a summary judgment that the system is responsive, will do what is right, and take into account citizens' interests even in the absence of constant citizens' scrutiny" (Miller and Listhaug 1990, p. 358, see also Gamson 1968). Blind (2007) suggests that "political trust happens when citizens appraise the government and its institutions, policy-making in general and/or the individual political leaders as promise-keeping, efficient, fair and honest" (pp. 3-4). When one says that government has lost public trust and confidence, it means that the public believes that government neither intends to take the public interests into account nor would government have the competence and capacity to act effectively even if it tried to do so (LaPorte and Metlay 1996).

Trust in government is thought to be generally associated with government's ability to deliver services, maintain economic growth, protect citizens, and resolve basic

social issues (Nye 1997). Some policy-makers have generally referred to the performance of a specific public service as an explanation for decline of trust in government (Van de Walle 2007). Policy initiatives such as the National Performance Review in the United States and New Public Management in Europe were part of government reforms that emphasized competitive, customer-driven, and market-based solutions to perceived inefficiencies in the delivery of government services. These reforms assumed that public trust can be cultivated by improving the performance of public bureaucracy and the services it delivers.

Section 2.2: Importance of the trust

Section 2.2.i: Why trust is important to governing broadly

Why is trust so important? According to Robert Putnam (2000), "Honesty and trust lubricate the inevitable frictions of social life" (135). In many ways, trust acts as a facilitator for solving the shared collective problems of a pluralist society. Trust links citizens with the government and institutions that represent them therefore trust enhances both the legitimacy and the effectiveness of democratic government (Bianco 1994; Citrin and Muste 1999; Inglehart 1997b; Levi and Stoker 2000; Putnam 1993a, 1993b). No government can have the absolute trust of its citizens because the power of any government represents a threat to individual freedom and welfare (Mishler and Rose 1997). Notwithstanding this affirmation, government should have a minimum level of confidence of its citizens to operate effectively. Trust is fundamentally important for a healthy and functioning democracy (Almond and Verba 1963; Mishler and Rose 2005; Putnam 1993a, 1993b). It engenders citizen compliance with public policies, encourages

political participation, and contributes to perceptions of governmental legitimacy (Levi and Stoker 2000).

At stake is the efficacy and stability of democratic government, its ability to represent interests and solve social and economic problems (Hetherington 2005; Nye, Zelikow, and King 1997; Pharr and Putnam 2000). Institutional trust translates into diffuse political support and is critical for "the survival and the effective functioning of democratic institutions" (Mishler and Rose 2005, p. 1051; see also Easton 1965, 1975; Gibson, Caldeira, and Baird 1998; Gibson and Caldeira 2003). Trust encourages the public's acceptance of democratic values and ideals (Norris 1999). To the contrary, political distrust undermines government legitimacy, threatens political stability, and facilitates support for undemocratic regimes (Muller, Jukam, and Seligson 1982; Rose, Mishler, and Haerpfer 1998; but see Mishler and Rose 2005). Further, trust stimulates citizen participation in political life (Brehm and Rahn 1997; Fukuyama 1995; Norris 1999; Putnam 1993a, 2000; Uslaner 1999, 2002). Citizens who trust the government are more likely "to vote, follow politics, feel a sense of civic duty, and have high levels of political knowledge" (Mishler and Rose 2005, p. 1068). According to Gamson (1968), political mobilization and activism are driven by political trust. In the context of government, political trust influences whether or not citizens view the state as being politically legitimate, determines to what degree citizens will consent to government demands, and impacts the levels of political participation undertaken by citizens (Levi and Stoker 2000). Simply put, political trust is essential for the proper functioning of democratic governance.

In order for a democratic state to wield its authority in a productive fashion, it must be judged by its citizens as being legitimate. As Tyler (1998) declares, "Beyond being able to secure compliance, authorities need to be able to gain *voluntary* acceptance for most of their decisions. Legal, political, and organizational theorists have long recognized that voluntary acceptance of the decisions and rules of organizational authorities is important to the ability of those authorities to function effectively" (p. 271). As trust in politicians and institutions decline, so too could support for democracy itself (Crozier, Huntington, and Watanuki 1975; Easton 1965). Without trust, citizens are less likely to pay taxes and support government policy (Yang and Holzer 2006).

Trust is especially important for generating public support for programs that entail some perceived risk or sacrifice (Hetherington 2005). Specifically, political trust is significant for the support of redistributive programs, such as welfare and food stamps, and race-targeted policies. When trust is high, the "haves" are more likely to make the sacrifices necessary to assist the "have-nots." Hetherington observes that the public policy in the United States has become more conservative since the 1960s. However, the American public has not become more conservative. Hetherington explains this puzzle by demonstrating a strong link between political trust, public opinion, and policy outcomes. Generally speaking, when the public is more trustful, the government responds with more liberal public policy. In contrast, when the public is more distrustful, the government responds with more conservative public policy.

At the same time, "a certain amount of rational distrust is necessary for political accountability in a participatory democracy" (Barber 1983, p. 166). In the extreme case, one can argue the public choice view of government as a Leviathan. Citizens should

mistrust their government as this would be a natural position for them to defend themselves against a Leviathan. Distrust could be interpreted as a realistic view of government. However, this view fails to explain why the level of confidence was high in the past.

Section 2.2.ii: Why trust is important for public administration

For public administration specifically, trust is fundamentally important because it addresses a number of central and interrelated concerns: discretion, accountability, oversight, public cooperation and compliance with laws and regulations (Marien and Hooghe 2011, Marlowe 2004; Scholz and Lubell 1998; Taylor-Clark, Blendon, Zaslavsky, and Benson 2005). Several examples from the literature emphasize these points. For instance, Murphy (2004) examines the role of trust with regard to individuals accused of tax evasion and finds that when these individuals feel poorly treated, it leads to a decrease in trust, which in turn affects their willingness to comply. This suggests that actions on the part of public administrators – as simple as acting fairly, treating others with respect, and entering into friendly consultation – engender trust. In this case, increasing levels of trust translates into greater citizen compliance. Scholz and Pinney (1995) also find a similar relationship between trust and acquiescence with tax laws. Likewise, Tyler (1998) argues that public trust increases citizens' compliance with government regulations based on the premise that trusting citizens are more likely to believe that government will treat them fairly.

Trust is also important to management for reasons other than merely securing citizen compliance. For example, Zand (1972) reveals that the introduction of increased levels of trust can dramatically affect problem solving effectiveness. In an experimental

study, he finds that there are highly significant differences in the level of problem-solving effectiveness between business executives primed to expect trusting relationships with other actors in their environment as opposed to untrusting. These results suggest that trust, when properly nurtured, can positively affect problem-solving effectiveness. While this investigation did not examine trust relationships with regard to the public sector, nonetheless, its implications for public management are stark. Trust, if manifested at sufficient levels, has the capacity to break the ice between entities and thus helps to enable program implementation and facilitate effective decision making.

Trust in government may also affect the willingness of a person to enter public service (Nye 1997). In other words, distrust of government may negatively affect the ability of government to recruit people to work in the public sector. The 1998 Pew Research Center study finds that those who distrust the federal government are less likely to believe the federal government is a good place to work, to recommend to young people to start their careers in government, or to say they would personally prefer working for the government over business (Pew Research Center 1998).

Section 2.3: Public trust in government and civil service

Section 2.3.i: Declining public trust in government

During the last decades, many countries have moved from a non-democratic government to a democratic one (Huntington 1991). However, it seems paradoxical that the geographical spread of democracy has been followed by "erosion" of its essential elements in old advanced democracies on both sides of the Atlantic (Dogan 1997, 2005). Crozier, Huntington, and Watanuki (1975) define this phenomenon as a "crisis of democracy" in the nations of North America, Europe, and Japan. The main symptoms of

weakening democracy are "erosion" of confidence in political institutions and the leaders of those institutions (Chanley, Rudolph, and Rahn 2001; Citrin and Luks 2001; Dalton 2005; Dogan 2005; Hetherington 2005; Kaase 1999; Klimgemann 1999; Norris 1999; Nye, Zelikow, and King 1997; Pharr and Putnam 2000). Decades of responses to the same survey questions show diminished political trust in government in a number of advanced industrial democracies (Levi and Stoker 2000).

United States

The longest and clearest downward trend in trust has been observed in the United States. In 1962 the National Election Studies (ANES) introduced trust-in-government questions, which were:

> "… designed to tap the basic evaluative orientations towards the national government. The criteria of judgment implicit in these questions were partly ethical, that is honesty and other ethical qualities of public officials were part of what the sample was asked to judge. But the criteria extended to other qualities as well, including the ability and efficiency of government officials and the correctness of their policy decisions" (Stokes 1962, p. 64).

National survey questions in the U.S. reveal a strong decline in trust among the general population starting from 1964. During the six-year period from 1964 to 1970, American responses on trust in government decreased by 17% (Miller 1974). In comparison, during the previous six-year period from 1958 to 1964 the decline in trust was only about 2% (Miller 1974). The strong, secular decline of political confidence started in the 1960s with the beginning of the Vietnam War, and was reinforced by the Watergate Scandal (Katzenstein 2000). During the first half of the 1980s there was a temporary upswing of political confidence but the decline continued as the Iran-Contra scandal burst in 1986. There was another slight increase in political confidence in 1994.

In his analysis of surveying data from various sources, Dalton (1999) finds a large and significant decline of citizen confidence in the institutions of government between 1952 and 1994. Such a rapid degree of change in trusting attitudes has alarmed scholars and triggered a number of studies. A downward trend in confidence in government has been observed not only in the United States but also in Europe.

Western Europe

A number of surveys conducted in almost all of the European countries have shown that a large proportion of citizens, in some cases the majority, have "none" or "little" confidence in the main institutions of the political regime: parties, government, parliament, high-level administration, courts, army, and police, as well as in their leaders (Dogan 2005). There seems to be strong evidence that trust in government and its officials has declined across Europe. Studies that examine the World Values Surveys in Western Europe have shown considerable decline of citizens' confidence in public authorities and institutions such as the police, the armed forces, and the Parliament between 1981 and 1990 (Inglehart 1999; Listhaug and Wiberg 1995).

Furthermore, Dalton (1999) shows that in the mid-1990s the cross-national magnitude of these changes is clearly much greater than the changes that occurred in the 1980s (see also Nye 1997; Nye and Zelikow 1997). However, Newton (1999) criticizes this assertion because the sources for data are mostly single-country surveys, which are not fully comparable. In addition, the survey questions asked in Western Europe have often differed from those posed in the United States (Nye, Zelikow, and King 1997). Nevertheless, Newton and Dalton agree that in the 1990s the decline of trust in public institutions has been higher than in private ones (Katzenstein 2000). Dalton writes "there

is clear evidence of a general erosion in support for politicians and political institutions in most advanced industrial democracies" (1999, p. 63). Alesina and Wacziarg (2000) further argue that the decline in confidence is larger for the United States than for Western European democracies.

Eastern Europe

The level of mistrust is significantly different between West and East European countries (Dogan 2005). For example, in the 1999-2000 European Values Study the proportion of people who expressed a negative opinion ("little" or "no confidence") on parliament, army, police, public administration, courts, and social security is higher in the East compared to West. Mishler and Rose (2001) observe:

> "Across the 10 post-communist societies, public reactions to the new social and political institutions range from skepticism (the midpoint on the 7-point trust scale) to outright distrust. The median citizen in post-communist societies actively distrusts five of the institutions and is skeptical about the remaining six. Distrust is greatest for political institutions, especially parliaments and parties, which are actively distrusted by 59% and 69% of citizens, respectively. The least democratic institution of the state, the military, enjoys the highest level of popular trust (46% are positive), although the median citizen is still skeptical and nearly a third actively distrust the military. Across all institutions, an average of 31% of respondents express positive trust, 22% are skeptical, and 47% are distrustful" (p. 41).

The erosion of confidence has common traits across nations (Dogan 2005). First, the erosion of confidence is not a one-time phenomenon that is attached only to a particular economic or political event. The analysis of several surveys conducted since 1960s has demonstrated that it is rather a persistent phenomenon that has been observed over the last three or four decades. For example, the decline in trust in the U.S. in the 1960-s and 1970-s was triggered by citizens' reactions to the war in Vietnam, Watergate, and civil rights initiatives; however, the level of trust did not increase as the politicians

associated with these events left the office (Levi and Stoker 2000). These and other findings suggest that declining trust reflect more than incumbent-specific dissatisfactions of government (Levi and Stoker 2000).

Second, the decline of the public trust is an international phenomenon. It has been observed across the North American and European nations. Third, the decline of trust is structural in nature by permeating all political and social strata. Citizens lost confidence not only in political institutions but also in unions, big businesses, churches, televisions, and printed mass media as well as a decline in social capital (Dogan 2005; Putnam 2000). Lastly, the disenchantment is rather pragmatic and not of an ideological nature which has worsened with the economic difficulties in the nations (Dogan 2005; Miller 1974).

Section 2.3.ii: Public opinion surveys on citizens' trust in public service

A majority of public opinion surveys have focused on citizens' attitudes towards government, its representative institutions and leaders. In contrast, for many countries the time-series data on public trust in the civil service are simply unavailable (Pollitt and Bouckaert 2004). Furthermore, studies show that trust in the public bureaucracy is actually higher than in other government institutions (Pollitt and Bouckaert 2004; Suleiman 2003; Van de Walle, Van Roosbroek, and Bouckaert 2008). However, the low and declining trust in the civil service is assumed to be a global phenomenon (Van de Walle 2007). Policy-makers often blame poor bureaucratic performance as a cause of the declining public trust (Pollitt and Bouckaert 2004; Van de Walle, Van Roosbroek, and Bouckaert 2008). Thus, the citizenry dissatisfaction with specific public services and its possible consequences on public trust warrants further study.

Section 2.4: Studies of trust in public service

A number of studies find that levels of trust in bureaucrats are not as low as in politicians and government institutions. For example, Pharr's (1997) analysis of Japan shows that citizens' dissatisfaction is greater toward politicians than bureaucrats. Nevertheless, there has been an increase in the number of academic studies about the citizens' trusting attitudes toward the public service (e.g., Bouckaert, Van de Walle, and Kampen 2005; Huseby 1995; Newton and Norris 2000; Roller 1995; Van de Walle 2007). The following studies are noteworthy for their explicit efforts to model trust in the civil service. The first section below summarizes single-country studies, the second section discusses existing multi-nation studies, and the third section concludes the overview of these studies with a discussion of their limitations.

Section 2.4.i: Single-nation studies

United States, General Social Survey (1996)

Marlowe's (2004) study is one of the first pieces of research that directly examines trust in public administration. He studies the impact of individual characteristics and attitudes of citizens on trust in public administrators in the United States. The following 1996 General Social Survey (GSS) question is the main focus of his study: "Most government administrators can be trusted to do what is right for the country" (103). Marlowe concludes that trust in public administrators is a function of the citizens' perception of government performance and their confidence in government institutions such as Congress and the executive branch. He also argues that citizens perceive public administrators both as a part of the problem and the solution of declining trust. Public administrators are perceived as "cogs in the government system that citizens

view as functionally sound but nonetheless untrustworthy" (p. 96). Thus, studies of trust in public service should control for citizens' perception of performance of government and confidence in government institutions and their leaders.

United States, General Social Survey (2004)

Another important study that directly examines trust in public administration is Houston and Harding's (2013) research. They examine trusting attitudes of American citizens. Specifically, they explore both dimensions of trust - competence and trustworthiness, which are measured with responses to the 2004 General Social Survey (GSS). The scholars conclude that although citizens' perception of trustworthiness and competence in public servants are related, they are determined by different factors. External political efficacy and general assessment of government are important correlates across both dimensions of trust. However, perceptions of trustworthiness are explained by socio-demographic attributes and interpersonal trust. Meanwhile, perceptions of competence are influenced by political party affiliation. Thus, competence is linked to citizens' perception of getting what they want from government, while trustworthiness is likely influenced by citizens' perception of how they are treated by bureaucrats. Therefore, studies of public administration should account for correlates of trust that differ across two dimensions.

Israel, Nation-wide Surveys (2001-2005)

Vigoda-Gadot (2007) examines citizens' perceptions and attitudes toward public administration, public services, and public officials on the national and local levels. He studies surveys that were conducted during a five-year period from 2001 to 2005 in Israel. Respondents were asked to indicate their level of trust toward various state

agencies and public organizations. In this study, Vigoda-Gadot develops an index of "trust in governance," which was measured using an 18-item scale. He finds that positive citizens' perceptions of organizational ethics in the administrative branches of democracies and satisfaction with services enhance trust in governance. At the same time, citizens' perceptions of the existence of internal organizational politics, which is defined as "behavior strategically designed to maximize self-interest … in conflict with the collective organizational goals" decrease trust in governance (587). Gender, education, and age are the only other variables that were included in the multiple regression model. None of these demographic variables emerge as statistically significant. Therefore, for the studies of trust in public administration, it is important to include the attributes of citizens' satisfaction with government services.

Norway, Nationwide Survey (2001)

Christensen and Laegreid (2005) examine trust in government in Norway. The data come from a general mass survey of citizens conducted in 2001. Responses to the following question are used to measure trust in government: "Below are the names of various institutions. How much trust do you have in each of these institutions?" Respondents were asked to rate their level of trust in six different institutions and their leaders: the civil service, the parliament, the cabinet, local councils, political parties (in general), and politicians (in general). Citizens' responses on their level of trust in the civil service and the other five government institutions and actors were used to construct one additive index of trust in government. Christensen and Laegreid find that citizens' evaluation of government performance is the most important predictor of variation in the respondents' trust in government. People who are satisfied with how democracy works

in a country are more likely to have a higher level of trust in public sector institutions than do other citizens. Another important attribute that explains variation in people's trust in government is satisfaction with specific public services. The scholars find that citizens who are satisfied with public services are more likely to trust the government. Christensen and Laegreid also find that people have difficulties in distinguishing one institution or a set of actors from another. Therefore, citizens' trust in one institution is likely to extend to other government institutions and actors. In addition, socio-demographic variables such as age, education, and employment in the public sector influence trusting attitudes.

Section 2.4.ii: Multi-nation studies

The following five studies merit attention for their contribution in examining public trust cross-nationally.

14 West European nations, Canada, and United States, European Values Surveys (1981, 1990)

Listhaug and Wiberg (1995) examine factors that explain variations in the citizens' levels of confidence in the civil service in 14 Western European nations, Canada, and United States. They analyze the data from the two European Values Surveys conducted in 1981 and 1990. The study examines citizens' responses to the following question: "Please look at this card and tell me, for each item listed, how much confidence you have in them. Is it a great deal, quite a lot, not very much, or none at all?" The study finds that demographic attributes, interest in politics, political ideology, postmaterialist values, and life satisfaction circumstances influence confidence. Listhaug and Wiberg's study has several limitations. They treated the 4-point Likert type scale

responses as a continuous variable and estimated multivariate regression models. Another limitation of this study is that all countries were pooled in one sample with an assumption that the impact of the explanatory variables is independent of national context. Not surprisingly, their models have a very weak explanatory power with an explained variance of 8% in 1981 and 4% in 1990.

17 democracies, World Values Surveys (1980-1984 and 1990-1993)

Newton and Norris (2000) examine data from two waves of the World Values Survey (1980-1984 and 1990-1993). The data for 17 countries are pooled in one sample. The following question is used to measure institutional confidence: "Please look at this card and tell me, for each item, how much confidence you have in them. [The civil service] Is it a great deal (4), quite a lot (3), not very much (2) or none at all (1)?" They find that political ideology is the strongest predictor of trust in civil service with those people reporting themselves to be on the left having the highest trust. They conclude that trust in civil service is higher among women, the middle classes, older people, and those who are satisfied with life. Social trust and civic engagement are weak predictors of institutional confidence. However, their ordinary least squares regression model explains a limited amount of variance in confidence of the civil service.

60 nations, World Values Survey (the 1999-2001 wave)

Van de Walle's (2007) study is one of the few that directly and systematically examine citizens' attitudes toward public administration. Van de Walle examines confidence in the civil service in 60 nations. He studies responses to the survey item from the 1999-2001 wave of the World Values Survey: "Could you tell me how much confidence you have in the civil service." The ordinal logistic regressions for each 60

countries individually and the entire sample of all 60 countries have been examined. Van de Walle finds a substantial amount of cross-country variation in confidence. However, in the models he included only socio-demographic and socio-economic variables, which turn out not to be the major explanatory factors for differences in confidence in the civil service. Van de Walle also estimates a binary logistic regression model for 48 nations. He finds that confidence is higher among younger, lower educated, and the upper income level respondents and residents of smaller towns. However, his model has a very weak fit. Overall, Van de Walle's models fail to explain the observed variation across nations. In addition, by pooling into one sample 60 (and in another model 48) highly diverse countries, his models violate the basic parallel slopes assumption of ordinal logistic regression analysis.

16 nations, International Social Survey Program (2004)

Although the main focus of Anderson and Tverdova's (2003) study is not citizens' attitudes toward civil servants but rather the effect of corruption on the attitudes of ordinary people toward political institutions, it is worthwhile to discuss their paper because one of their dependent variables is trust in civil servants. Specifically, they examine the effect of corruption on trust in civil servants in 16 mature and newly established democracies. The individual-level data come from surveys collected as a part of the 1996 International Social Survey Program (ISSP). To gauge whether people had trust in civil servants, respondents were presented with the following statement: "Most civil servants can be trusted to do what is best for the country." The main conclusion of the study is that citizens in countries with higher levels of corruption have lower levels of trust in civil servants. The study also shows that those who are among the political

majority (citizens who had voted for and elected the incumbent government) are more trusting of civil servants than those in the minority. Individuals of higher social status, those who have voted in the most recent national elections, who are interested in politics, and older respondents are more trusting of civil servants. This study has made a significant contribution in examining citizens' attitudes from a cross-national perspective by employing a multilevel modeling statistical technique. Multilevel modeling techniques help to deal with a number of statistical problems such as nonconstant variance and clustering (Snijders and Bosker 2011). Several current studies have pooled together all the national samples and thus violated standard assumptions (Listhaug 1995; Newton 2001; Van de Walle 2007). Therefore, in studying citizens' attitudes from a cross-national perspective it is important to employ multilevel statistical techniques.

33 countries, International Social Survey Program (2006)

Van Ryzin (2011) studies public trust in civil servants in 33 countries. He examines responses to the survey item from the 2006 International Social Survey Program (ISSP): "Most civil servants can be trusted to do what is best for the country." Individual-level structural equation and country-level path models were examined to test whether trust in the civil servants depends both on process (such as fairness and equity) and on outcome (such as citizens' perception of government success in improving public services). The study demonstrates that the "bureaucratic process appears to matter to citizens as much as, if not more than, outcomes of government activity" (759). Van Ryzin also finds in all but one of his models that process has a larger effect on trust of civil servants than does outcome. Therefore, in studies of trust in public administration, it is important to control for process and outcome.

Section 2.4.iii: Limitation of current studies

The review of empirical studies on citizen trust in public administration reveals their several limitations. First, most public administration scholarship fails to explain whether the reported decline in trust in public administration reflects particularized trust in the civil service or merely demonstrates the spillover of attitudes towards government and its political actors. Second, the rapid global diffusion of New Public Management reforms has created the need to examine attitudes comparatively and not just conduct single-nation studies. Third, the limited amount of cross-national studies focuses on old democracies and fails to include newly emerging democratic nations. Finally, cross-national variation in the level of public trust in the civil service has garnered little attention, and thus studies have failed to explore nation-level factors that may influence attitudes.

Section 2.5: Competing explanations of trusting attitudes

The review of the various research of trust in public administration shows that there is no one set of factors that would explain variation in people's trust in the civil service. Furthermore, trust is a multilevel concept that could be studied on individual and aggregate levels such as bureaucracies or nations (Weatherford 1992). Thus, micro-level studies examine the individual-level causes and consequences of citizens' trust in government and politicians. Whereas, macro-level studies focus on attributes of governments that make them trustworthy (Levi and Stoker 2000). To enhance the understanding of the variation in citizens' trust in public administration, it is important to take a comparative approach focusing on trusting attitudes among different countries.

To construct a model that explains variation in citizens' trust in the civil service within and across nations, this research draws from the broader literature on political trust, on trust in specific government institutions, and on trust in public administration. The literature has identified three sets of correlates to explain attitudes at an individual or micro-level: socio-cultural, socio-psychological, and attitudes towards other governmental institutions. Furthermore, to account for cross-national variation in attitudes, the following nation-level indicators will be included in the model: government performance, social polarization, and culture.

Section 2.5.i: Individual-level correlates

A. Socio-cultural correlates

The socio-cultural approach views public trust as "the product of social experiences and socialization" (Newton and Norris 2000, p. 60). Cultural theories of democracy argue that trust is "intergenerationally transmitted and deeply embedded in society" (Mishler and Rose 2005, p. 1054). Erikson (1953) argues that trust is established in early infancy, mediated, in a general way, by the mother's handling of her child. Studies in psychology show that a basic disposition to trust is learnt during early childhood and formative years (Bjornskov 2007). For example, Katz and Rotter (1969) find that about 75% of the variation in teenagers' trust levels could be explained by their parents' level of trusting attitudes toward other people. Trust is an individual property and is associated with individual demographic features, social position, cultural identity, and personal life experience (Delhey and Newton 2003; Newton and Norris 2000). For instance, Putnam (2000) argues, "In virtually all societies 'have-nots' are less trusting than 'haves,' probably because haves are treated by others with more honesty and

respect" (138). While the findings generally are mixed, the following correlates tend to be examined: sex, age, education, government employment, political ideology, and civic engagement.

Age

Studies find that age is one of the socio-demographic variables that systematically correlate with political trust and support (Huseby 2000; Rose 1999). It is expected that trust is higher among older respondents. Older citizens develop a sense of social connectedness, tend to be more collectively oriented, and are inclined to be more attached to institutions (Christensen and Laegreid 2005; Lipset and Schneider 1987; Listhaug and Wiberg 1995). Furthermore, the older generation has experienced the advance of the welfare state, while the younger generation has experienced the public sector that increasingly incorporates elements from private and nonprofit sectors (Christensen and Laegreid 2005). As a result, older people are more likely to see themselves as taxpayers, whereas younger respondents perceive themselves as consumers (Van de Walle 2007). In addition, Inglehart's (1999) hypothesizes that the younger generation lack respect for authority as a result of postmodernization. However, several studies have reported a negative relationship between trust and age (Keele 2005; King 1997; Richardson, Houston, and Hadjiharalambous 2001).

Sex

Studies typically hypothesize men to be more trusting of government because men are more prominent in key positions in government and are less likely to be exposed to experiences with inequality in societal institutions (Brewer and Sigelman 2002; Keele 2005). Consequently, male dominance may lead women to believe that they will not be

treated fairly by government (Richardson, Houston, and Hadjiharalambous 2001). Furthermore, women may feel diminished by the presence of a "glass ceiling" that keeps them from advancing in their careers because of gender inequality (Lewis 1994; Naff 1994; Richardson, Houston, and Hadjiharalambous 2001). Also, the increase in government expenditure has generated a higher tax burden for men, which may result in a more negative attitude toward the public sector (Huseby 1995).

On the contrary, others hypothesize that female respondents have a somewhat more positive image of civil servants as compared to men (Christensen and Laegreid 2005; Listhaug and Wiberg 1995; Newton and Norris 2000; Seltzer, Newman, and Leighton 1997; Van de Walle 2007). The explanation is that "women have become more dependent on the public sector for their employment, both directly, in that there is relatively greater proportion of women employed in the public sector than in the private sector, and indirectly, in that public bodies have taken over part of women's traditional care responsibilities" (Christensen and Laegreid 2005, p. 495). Women benefited from government efforts to advance their rights, for example, the 1967 Affirmative Action in the United States (Marlowe 2004). Studies also demonstrate that female voters believe in strong and active government (Seltzer, Newman, and Leighton 1997).

Education

Most studies find education to be positively related to trust in government (Brewer and Sigelman 2002; Christensen and Laegreid 2005; Listhaug and Wiberg 1995; Van de Walle 2007). College-educated respondents are likely to be members of professional organizations that would require them to go through a licensing process. Therefore, college-educated people are more likely to trust the ability of public

administrators to regulate their professional activity and have more trusting attitudes toward them (Marlowe 2004). Respondents with higher education tend to have a more realistic view of the civil service and have a greater understanding of the political-administrative system (Marlowe 2004; Richardson, Houston, and Hadjiharalambous 2001; Tolbert and Mossberger 2006), and thus, they will be more tolerant of the government's malfunctioning (Van de Walle 2007).

Conversely, education is assumed to have a negative effect on trust. Respondents with higher education have more heterogeneous needs and higher expectations, and therefore, they are less tolerant of the administrative inefficiency and less satisfied with certain public services (Roth, Bozinoff, and MacIntosh 1990). Furthermore, educated people may have a more critical attitude toward civil service (Marlowe 2004). According to Doring (1992), this finding holds true for confidence in institutions, except for those whose purpose is to safeguard liberal democracy, for which more education leads to higher confidence.

Government employment

Attitudes toward government are more positive among those employed in government because individuals positively predisposed toward government are more likely to seek public employment. Public employees have personal contact with other government workers and are therefore less likely to cling to negative stereotypes about these workers. Furthermore, public employees may seek to maintain a positive image of the group of which they are a part (Brewer and Sigelman 2002; Christensen and Laegreid 2005).

Political ideology

In terms of political ideology, studies typically hypothesize that those on the far left end of the ideological spectrum are more likely to be trusting of government than those on the right because liberals traditionally support the public sector and strong government institutions (Huseby 1995; Newton 2001). In contrast, other studies report the opposite pattern, indicating that those on the far left regard political institutions as unrepresentative of mass interests, and that those on the far right develop an allegiance to political institutions that maintain the status quo (Listhaug and Wiberg 1995; Newton and Norris 2000).

Civic engagement

Lastly, social capital theory contends that involvement in voluntary associations and civic life is essential to democracy and emphasizes the importance of civil society in building cooperative social relations and a stable democracy (Newton 1997; Putnam 1993a, 2000). Putnam defines social capital as "features of social organization, such as trust, norms, and networks that can improve the efficiency of society by facilitating coordinated actions" (1993b, p. 35). He further argues that "people who join are people who trust … the causation flows mainly from joining to trusting" (Putnam 1995, p. 665). According to Putnam, "the more we connect with other people the more we trust them, and vice versa … Social trust and civic engagement are strongly correlated" (1995, p. 665). Furthermore, Putnam argues that a decline in voluntary association membership is a major cause of declining trust in government in the United States. Scholars commonly hypothesize that those who are involved in voluntary association and civic life are more likely to be trusting of government than those who are not civically active. For this

reason, civic engagement is thought to lead to greater trust in government and its leaders (Cook and Gronke 2005).

To the contrary, Brehm and Rahn (1997) expect "a negative relationship between membership in association and confidence in national institution" (p. 1004). They argue that these organizations create a civic space that is different and opposed to the political sphere (Cohen 1999). Yet other studies have found that increased civic engagement fails to translate into greater political trust (Newton and Norris 2000; Van de Walle, Roosbroek, and Bouckaert 2008). For example, Uslaner (2002) shows that trust and networks are not related to each other.

When exploring the influence of civic engagement on trust, it is important to note the diversity of voluntary organizations in which a person is involved. A person volunteering in organizations where he meets people of his own social network may not translate into high trusting attitudes towards "strangers" and government in general. Similarly, the social trust literature distinguishes between generalized trust and particularized trust. The significant difference between these two is that generalized trust may be extended to someone on whom the trustor has no direct information (Bjornskov 2007). Therefore, a person volunteering in organizations in which he meets people from diverse groups is more likely to be trusting of government than someone who does not volunteer.

In addition, Putnam observes that in Italy people in both the most and least civic regions belong to a political party. Thus, membership in organizations that is mandated by work or some other affiliation is thought to be different from voluntary organizations (Putnam 1993a). Generally speaking, horizontally organized, or voluntary, organizations

are fundamental in building social capital (Pharr 2000). If social connections and civic engagement are related to confidence in government, then people engaged in dense social networks through multiple group memberships are more likely have higher levels of trust in government (Pharr 2000).

Several studies have tested the effect of socio-demographic correlates on public trust. Socio-demographic attributes have not been found to be critical determinants of political trust, displaying only weak (Anderson and Tverdova 2003; Bennett and Bennett 1990; Christensen and Laegreid 2005; Citrin 1974; Marlowe 2004; Mishler and Rose 1999; Newton and Norris 2000; Van de Walle 2007) or mixed (Houston and Harding 2013; Levi and Stoker 2000; Rose and Pettersen 2000) effects on trust levels. Moreover, Newton (1999) argues that political trust is randomly distributed in society and it is mostly influenced by political variables. Citrin and Green (1986) contend that distrust is originated in all segments of the population.

B. Socio-psychological correlates

The second set of correlates is based on a socio-psychological explanation. It argues that political trust is a basic aspect of personality traits. People either trust or do not trust. Erikson (1950) argues that a "basic trust" personality trait is formed during the first stage of psychological development of a child. If a child is raised in the warm and secure environment and his basic needs are met, the child's view of the world will be one of trust. Basic personality traits are enduring and they influence many aspects of people's behavior (Allport 1961; Cattell 1965).

Interpersonal trust

Social trust is the attitude toward other people and may be helpful in solving collective action problems (Brehm and Rahn 1997; Nye, Zelikow, and King 1997). Across a lifetime, individuals learn to trust or distrust by experiencing how others within their society treat them and how, in turn, others react to their behavior. According to theories of interpersonal trust, attitudes toward public officials reflect a generalized trust in others (Brehm and Rahn 1997; Houston 2008; Orren 1997; Richardson, Houston, and Hadjiharalambous 2001). People who trust each other are more likely to cooperate with one another. Those who are trusting of others are less likely to worry about being treated unfairly by the political-administrative system. Interpersonal trust helps make political institutions work because it "spills over" into cooperation with people in local civic associations, and then "spills up" to create national networks that are essential if democracy is to work (Putnam 1993b, 2000).

Notwithstanding, some scholars believe that there is no direct relationship between social trust and political trust (Newton 1999) or that social trust is related only weakly to public trust at the individual level (Newton and Norris 2000). To support this claim, some scholars refer to the divergence between the trends in political confidence and social trust in the democracies of Western Europe. For example, Listhaug and Wiberg (1995) show that while political confidence in Europe is either stable or in modest decline, social trust is either stable or weakly rising (see also Van Deth and Scarbrough 1995). Newton (1997) argues that political trust is more a product of political factors than social ones. Furthermore, Mishler and Rose (2005) find that interpersonal trust has no effect on institutional trust in Russia.

C. Attitudes towards government

The third set of correlates explains trusting attitudes as a function of individual assessment of government performance. Contrary to cultural theories, institutional theories of democracy argue that citizen trust is the product of citizen evaluations of the economic and political performance of the government (Coleman 1990; Dasgupta 1988; Hetherington 1998; Jackman and Miller 1996; Mishler and Rose 2001, 2005). Positive assessments of the workings of government should enhance trust towards the civil service. Individual assessment of government performance and attitudes towards government actors are used to identify the trusting personality.

A trusting attitude is a function of satisfaction with the performance of government officials and institutions. Citizens trust government because government is working for them. Citizen trust in government can be increased by improving citizens' perceptions of government performance (Marlowe 2004; Yang and Holzer 2006). "Public administrators have to be trustworthy in order to win citizens' trust, believing in local knowledge and action, listening to citizens' voices, sharing power with citizens, displaying trust and respect in the administrative process, and educating and engaging citizens" (Yang 2005, p. 283). The research shows that citizens who perceive government as performing well report higher levels of trust in public institutions (Christensen and Laegreid 2005; Marlowe 2004; Van Ryzin 2011). For example, Christensen and Laegreid (2005) find that citizens who are satisfied with the treatment they receive from the public health, employment, and social services generally have a higher level of trust in public institutions than citizens who are not satisfied with their treatment. Furthermore, the study shows that being a consumer of specific public

services is less important for people's level of trust in government than their degree of satisfaction with them (Christensen and Laegreid 2005).

The perceived trustworthiness of administrators also may be influenced by diffuse support for government. Trust in one political institution spills over into attitudes about other political institutions (Chanley, Rudolph, and Rahn 2000, 2001; Christensen and Laegreid 2005; Hetherington 1998). For instance, Marlowe (2004) finds that trust in public administrators is closely related to respondents' perceptions of government performance as well as their confidence in particular institutions such as Congress and the executive branch. Van de Walle (2007) finds that positive attitudes towards municipal services spillover to confidence in public servants. To the contrary, Americans' increasing dissatisfaction with Congress triggered their distrust of politicians and government in general (Feldman 1983; Hetherington 1998; Hibbing and Theiss-Morse 1995; Williams 1985).

Section 2.5.ii: Country-level correlates

In addition to individual-level attributes, nation-level variables that distinguish one nation from another likely influence trusting attitudes. This section examines the nation-level determinants of public trust. It explores the question of why the citizens of some countries are more trusting than others. For example, several studies show that there is considerable variation across contemporary democracies with regard to whether people feel that they can trust civil servants to do what is best for the country (Anderson and Tverdova 2003; Catterberg and Moreno 2006; Van de Walle 2007; Van de Walle, Roosbroek, and Bouckaert 2008; Van Ryzin 2011). This section draws from comparative public opinion literature on public trust and generalized social trust that has identified the

following sets of correlates to explain trust variation across countries: government performance, social polarization, and culture.

A. Government performance

Institutional theories of democracy conclude that trust is a rational response to government economic and political performance (Jackman and Miller 1996; Mishler and Rose 2001, 2005). In other words, the decline in confidence is the result of governments' inability to deliver outcomes of the same quality as in the past, so called policy quality hypothesis (Alesina and Wacziarg 2000).

Economic performance

A first set of correlates explains trust variation across countries as the result of variation in government performance or system output. However, this type of performance is somewhat different than that which is indicated as an individual-level correlate of political trust. Whereas at the individual level performance is tied to citizen perceptions, at the nation-level, the performance variable gauges general economic conditions. However, the logic remains the same. As it is suggested, higher levels of performance lead, in turn, to higher levels of political trust in citizens. It is widely acknowledged that system outputs, or system performance, are key to understanding why public support for political systems fluctuates (Easton 1965). A number of scholars have argued that levels of economic development are associated with levels of democracy (Alesina and Wacziarg 2000; Anderson 1995; Anderson and Tverdova 2003; Catterberg and Moreno 2006; Fukuyama 1995; Newton and Norris 2000). The higher economic development is, the higher is the level of political trust (Catterberg and Moreno 2006). In other words, government is held accountable by its citizens for the state of the economy

(Alesina and Wacziarg 2000). Studies typically hypothesize that individuals in countries with a high level of economic growth, a high level of security and safety, low unemployment, and low income inequality are more trusting of civil servants (Anderson and Tverdova 2003). A number of studies find that income growth, unemployment, and inflation are the best economic predictors of the electorate's level of satisfaction, although in different ways and to a different extent in different countries (on the United States see Alesina and Rosenthal 1995; Kramer 1971; Fair 1978; on other OECD countries see Alesina, Perotti, and Tavares 1998; Lewis-Beck 1988, Powell and Whitten 1993).

On a separate note, it is interesting to mention that some scholars argue that dissatisfaction with government performance partly explains variation in political trust across levels of government (Levi and Stoker 2000). Jennings (1998) finds greater confidence in government at the local level than at the national level (see also Pharr's 1997 analysis of Japan). Jennings argues that citizens perceive local governments to be more responsive to their concerns than the national government. He suggests that the difference could be explained by the fact that the tasks of local governments are easier to perform and evaluate. His argument is in line with Mansbridge's (1997) findings that public distrust of government is, indeed, explained by declining government performance which is due to citizens' rising demands and expectations.

Another example of using nation-level performance as correlates of trust can be found when one considers the work of Mishler and Rose (2001). Using both individual-level survey data and nation-level aggregate data on economic and political performance in ten former Eastern and Central European nations, the authors determine that

institutional explanations (performance) have an impact on political trust. However, as the authors are careful to point out, the effects of political and economic performance on political trust measured at the nation-level appear to be mediated by citizens' perceptions of performance at the individual-level. High performing nations have been able to create and sustain a high level of their citizens' trust.

Political performance

The institutional set of variables also explains trust variation across countries as a function of the structure or the quality of government institutions. Studies typically hypothesize that individuals in countries with high levels of "good governance" indicators are more trusting of civil servants (Anderson and Tverdova 2003; Delhey and Newton 2005; Mishler and Rose 2001; Van de Walle and Bouckaert 2003).

Some studies contend that the source of decline in trust in government lie in politics itself (Pharr 2000). Corruption is an important indicator of the performance of a political system (Alesina and Wacziarg 2000; Della Porta 2000; Pharr 2000). A high level of corruption reduces citizen support for democratic political institutions (Gibson 1993; Hibbing and Theiss-Morse 1995, 2001; Rose and Shin 2001). Corruption is widely assumed to have negative consequences for a country's social, economic, and political life. Corruption also has been found to fundamentally undermine the principles of democratic accountability, equality, and openness (Dahl 1971). When corruption is present, democracy's tenets of procedural and distributive fairness become a myth; this, in turn, is likely to diminish the legitimacy of democratic political institutions (Anderson and Tverdova 2003). Lind and Tyler (1988; see also Tyler 2006) find that procedural fairness matters more to citizens than actual policy outcomes. Page and Shapiro (1992)

in their study of American public opinion and policy preferences over a 50-year period of time find that corruption was one of the triggering factors for dramatic and enduring shift in public opinion.

Political scientists have not systematically examined how corruption affects people's view of the political system and institutions of government (Anderson and Tverdova 2003). Some studies have demonstrated the negative effects of corruption on a nation's social and economic life (Anderson and Tverdova 2003; Catterberg and Moreno 2006; Montinola and Jackman 2002). Few scholars have systematically examined the relationship between trust and corruption from a cross-national perspective (Anderson and Tverdova 2003). Mishler and Rose's (2001) study of political trust across ten East-Central European states found that higher levels of corruption were related to lower levels of political trust. It is yet to be determined the effect of corruption on specific political actors such as government bureaucrats.

Studies hypothesize that public trust should be higher in countries with a "widespread political rights and civil liberties" (Anderson and Tverdova 2003; Norris 1999, p. 223). For example, Norris (1999) examines the impact of different institutional arrangements on confidence in five major political and civic institutions in 25 major democracies in the Americas, Western Europe, and Asia. She finds that countries with a better quality of democracy (measured by the Freedom House ratings on political rights and civil liberties) show higher levels of political support.

Studies hypothesize that the age of a democracy or its democratic history has an impact on trusting attitudes (Anderson and Tverdova 2003; Torcal and Gibert 2006). In countries that have adopted democracy more recently citizens are less trusting of the

government than are citizens in established democracies (Anderson and Tverdova 2003). Likewise, individuals in countries with higher levels of democracy are more trusting of civil servants (Anderson and Tverdova 2003). The argument is that people need to be free to trust (Dehley and Newton 2005).

B. Social polarization

A second set of national attributes explains different levels of trust across countries as the result of variation in the social polarization of their citizens. Social capital literature shows that social polarization in the form of income inequality and ethnic diversity reduces generalized trust (Bjornskov 2007). Thus, public trust is likely to decrease when the social distance between the citizens in a nation increases. In other words, the decline in confidence originates from greater polarization among citizens (the heterogeneity hypothesis).

To illustrate the social polarization hypothesis and explain the decline in confidence, it is useful in here to discuss the "median voter theorem" of Black (1956) and Downs (1957). According to the median voter theorem, a majority rule voting system will lead to the outcome most preferred by the median voter. The main assumptions of this theorem are that two candidates (or parties) are rational actors, they care only about wining, and they do not have policy preferences of their own. The full convergence of two candidates' platforms will ensue regardless of the distribution of voters' preferences. Figure 1 illustrates three different distributions that share the same median voter position (adapted from Alesina and Wacziarg 2000, figure 7.1, p. 152). In other words, for all three preference distributions the equilibrium policy is the same.

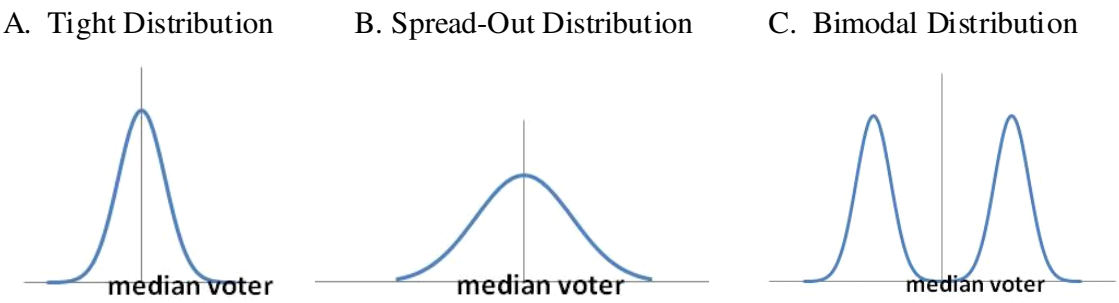


Figure 1. Distribution of voter preferences over a single policy issue

In example A, the distribution of voter preferences is relatively tightly clustered around the median. In example B, the distribution is much more spread out as compared to example A. Thus, two randomly chosen people from distribution B will be further from the median voter position, i.e. further from the selected policy. Therefore, dissatisfaction with government among citizens will be higher in example B. A similar argument could be applied to example C. The distribution in this case is bimodal. The median distance from the policy choice for a randomly chosen person is higher for example C as compared to example A. As the median distance from the policy choice increases, the level of trust in government decreases. Thus, the level of trust in government may be different in countries with different voter populations. In more homogeneous countries (example A), the level of trust is higher. In more heterogeneous countries with preferences distributed as in example B and example C, the level of trust is lower.

Delhey and Newton (2005) consider these factors in their examination of generalized trust in sixty nations of the world. Their analysis reveals that countries that maintain higher quality governmental institutions and have low levels of ethnic

heterogeneity are more trusting. Likewise, they find that wealthier nations in terms of GDP per capita and those with higher levels of income equality are also more trusting. Delhey and Newton find that Nordic nations have a tendency to exhibit higher levels of trust. These nations in particular tend to rank high on each of these measures.

Ethnic diversity could be detrimental to social cohesion (Knack and Keefer 1997). To the contrary, a homogenous society could induce a feeling of solidarity. Uslaner (2002) argues that "what matters is not *how rich a country is*, but *how equitable is the dispersion of income*" (p. 181; italics in original). There has been an increase in the number of studies on the effects of societal heterogeneity on trust (Delhey and Newton 2005; Nannestad 2008). In part, this interest is explained by growing migration flows over the past three decades (Nannestad 2008). Studies typically hypothesize that societal heterogeneity has a negative impact on trust (Anderson and Paskeviciute 2006; Delhey and Newton 2005). The explanation is that societal heterogeneity is conducive to the development of bonding trust in individuals of the same ethnicity, religion, and language at the expense of generalized (or bridging) trust (Nannestad 2008). The previous research demonstrates that diverse societies are often challenged in generating and sharing public goods (Alesina, Baqir, and Easterly 1999), trusting each other (Alesina and La Ferrara 2002; Dehley and Newton 2005), and establishing well-functioning public institutions (La Porta et al. 1999).

C. Culture

A third approach explains trust variation across countries as the result of variation in national culture. Many scholars have stressed the importance of culture in shaping

individual attitudes toward the system in general. For instance, Anderson and Tverdova (2003) assert that "culture provides a lens for how people view the world, motives for human behavior, criteria for evaluating actions, and, more generally, orientations to action, all of which are learned during cultural socialization" (p. 93). In this study, culture is understood as differences across nations in term of people's values and belief's (two dimensions of cross-cultural variation developed by Inglehart (1997a) and also in terms of a recent communist experience.

Inglehart's dimensions of cross-cultural variation

This section draws primarily from scholarly work introduced by Ronald F. Inglehart. Inglehart (1997a) has examined a number of countries that participated in the World Values Surveys in 1981 and 1990 (see also Inglehart and Baker 2000). He found that two main cultural dimensions account for over half of the cross national variance in scores of basic human values ranging from politics to economics. These two cultural dimensions are Traditional versus Secular-rational values and Survival versus Self-expression values.

The Traditional versus Secular-rational represents the contrast between countries based on the degree people emphasize the importance of religion in their lives. A wide range of other values are closely associated with this cultural dimension. Countries near the traditional pole place high importance on such values as parent-child ties, traditional family, respect for authority and reject abortion, euthanasia, and suicide. Citizens of these countries also have strong sense of national pride. Countries with secular-rational values have the opposite preferences on all the above-discussed topics. Inglehart, Norris, and Welzel (2003, p. 102) have found that the Traditional versus Secular-rational

dimension is linked with the transition from an agrarian country to industrial country: countries near the secular-rational pole tend to have a low percentage of their work force in the agricultural sector and a high percentage of industrial workers (Also see Inglehart and Baker 2000).

To the contrary, the Survival versus Self-expression dimension is associated with the transition from an industrial country to a post industrial country with a high percentage of the labor force in the service sector (Inglehart, Norris, and Welzel 2003, p. 102). Thus, countries near the Survival pole are likely to emphasize materialist values, emphasize hard work, report low tolerance toward out-group, and show low levels of interpersonal trust. On the other hand, countries near the Self-expression pole show the opposite preferences on all of these topics. Postmaterialist values in these countries have emerged mainly because citizens of these countries took survival for granted. So, the values have shifted from economic and physical security to self-expression, subjective well-being, and quality of life concerns (Inglehart 1997a, 1997b).

Inglehart, Norris, and Welzel (2003) have found significant differences between the basic beliefs of people in rich and poor countries. They argue that economic development have brought changes in people's values. Further, they argue that a gradual shift in cultural values have influenced the spread of democratic institutions in these countries. Thus, almost all countries that have high scores on the self-expression values are stable democracies. To the contrary, countries that rank low on these values have authoritarian governments (p. 107). Thus, they hypothesize that countries that have high scores on self-expression values are more likely to show high levels of political rights and civil liberties than countries that emphasize survival values.

However, the rise of postmodern values also erodes respect for authority among young generation in industrialized nations (Inglehart 1997b). Furthermore, as material well-being increases, trust in political institutions is likely to decrease because the public begins to evaluate their leaders and institutions by more demanding standards (Catterberg and Moreno 2006; Inglehart 2003). Thus, some scholars argue that a decline in trust reflects a gradual increase in more general anti-authority attitudes that are the product of broad socio-economic transformation in the advanced industrial democracies (Dalton 2000; Inglehart 1997a). People holding materialists values – those values related to personal and national security – should present higher levels of political trust than those holding post-materialists values – those values related to self-expression (Inglehart 1997a).

Communist legacy

Studies hypothesize that public trust should be higher in countries with a "widespread political rights and civil liberties" (Norris 1999, p. 223; see also Anderson and Tverdova 2003). For example, Norris (1999) examines the impact of different institutional arrangements on confidence in five major political and civic institutions in 25 major democracies in the Americas, Western Europe, and Asia. She finds a positive association between the level of democracy (measured by the Freedom House ratings on political rights and civil liberties) and the degree of citizen trust. Studies hypothesize that the age of a democracy or a country's democratic history has an impact on trusting attitudes (Anderson and Tverdova 2003; Torcal and Gibert 2006). Individuals in countries with higher levels of democracy are more trusting of civil servants (Anderson and Tverdova 2003). Likewise, individuals in former Soviet Bloc nations, which have

adopted democracy more recently, are less trusting of government than those in established democracies (Anderson and Tverdova 2003; Mishler and Rose 1997). Scholars hypothesize that distrust is predicted by the legacy of communist rule (Mishler and Rose 1997). During the communist era, state administration was the servant of the ruling political party not citizens or the public interest (Houston 2014).

Studies show that citizens of post-communist nations are less trusting than citizens of otherwise comparable nations. The extant literature suggests several explanations. First, citizens of Central and Eastern Europe do not trust their respective government because of the oppressive behavior of the communist dictatorships (Bjornskov 2007). Communist regimes had internal intelligence agencies (for example, the KGB in Soviet Union, the Stasi in East Germany, and the Securitate in Romania) that employed citizens as informers. These agencies are famous for brutal treatment of citizens who were accused of political dissident. Second, the fall of the communist regimes in the 1990s and the dismantling of important parts of government institutions have had a disruptive effect on their citizens' attitudes toward government.

Section 2.6: Summary

This chapter starts with a challenging task of defining trust. Houston and Harding (2013) define trust as "a willingness to rely on others to act on our behalf based on the belief that they possess the capacity to make effective decisions and take our interests into account" (p. 55). Political trust is the trust that people place in political institutions or their leaders. It links ordinary citizens to the political system that is intended to represent them (Mishler and Rose 2001, p. 30). Generally speaking, political trust

belongs to a large family of terms regarding "the subjective level of support citizens give their political system" (Citrin and Muste 1999, p. 465).

It is importance to note that the extant literature has employed two terms in describing citizen attitudes towards government institutions and their leaders: trust and confidence. Hardin (1998) argues that trust in government is not analogous to personal trust. Personal trust is much richer and involves a reciprocal relationship. Therefore, Hardin (1999) suggests that one should speak of confidence in government and not of trust in government (p. 31). Nevertheless, scholars use both terminologies in their studies of citizen attitudes towards government. Also, social surveys use both terms in measuring this concept.

This chapter also shows that studying citizen confidence in the civil service is a relatively understudied topic. Most studies either focuses on citizen perceptions of government in a general sense, or else concentrates on trust in other political institutions such as courts, legislatures, political parties, or members of executive-level cabinets. This study seeks to contribute on the issue of citizen confidence in the civil service. It builds upon exiting empirical research on trust in government in general and limited research on trust in public administration that has identified three sets of correlates of trust in the civil service at the individual-level: socio-cultural, socio-psychological, and general attitudes toward government. In addition, this chapter identifies four country-level correlates, which explain varying levels of trust across nations: government performance, institutional quality, social polarization, and culture.

By integrating both micro- and macro- levels explanations of system support, this study enhances the understanding of how citizens view the institutions of representative

democracy in countries with different levels of government performance, government institutions, and culture. The comparative studies of political attitudes are especially fruitful when it combines the particular political context in which people form those attitudes with critical individual-level variables. It leads to a more general model and comprehensive understanding of the forces that shape citizen political behavior.

CHAPTER III
DATA AND METHODS

In order to begin an empirical evaluation of the confidence attitudes, it is necessary to fully examine the data that are analyzed in this study. First, the main survey data (i.e. WVS) used in this analysis are discussed, examining their origin and the sampling procedure utilized in their collection. Then, countries included in this study are presented. After that, the dependent and individual-level independent variables that are included in the binary logistic and multilevel analyses are described. Furthermore, the sources of the country-level variables are examined (all data sources are also summarized in Appendix A). Finally, the estimation methods employed in the statistical analyses of data are explained.

Section 3.1: Data sources

The individual-level data used in this analysis come from the World Values Survey (WVS). The World Values Survey examines standardized cross-cultural measures of human values and goals such as politics, economics, family values, communal identities, civic engagement, and so on. The WVS started in 1981 as a part of the European Values Study. Nowadays, it is one of the most widely-used cross-national and time-series surveys. The WVS provides data from representative national samples of the public of almost 100 countries containing 90 percent of the world's population (The World Values Survey 2014).

According to the WVS official website, fieldwork for the sixth wave will be completed by May 1, 2014. The WVS will make the data available after that date.

Therefore, this study employs the most recent wave, fifth wave, available as of date of this writing (March 2014). The fifth wave contains data from surveys administered across 54 nations. Representative multi-stage or stratified random samples of the adult population were drawn. The sample represents people aged 15 or over. Data were collected with face-to-face interviews using a standardized questionnaire. The standard sample size is at least 1,000 respondents for every country. Interviews were conducted between 2005 and 2009 (see Appendix B) (The World Values Survey 2014).

Section 3.2: Countries included

Most of the comparative public administration studies to date have focused on Western countries. Jreisat (2002) observes that the limitation of the current comparative studies is "the unwillingness (or lack of professional qualifications) to cross over the cultural boundaries of North America and Europe and to carry out genuine comparative investigations. A truly cross-cultural comparison usually requires knowledge of the cultures being examined, of their language, history, norms, and values as well as their administrative institutions and processes" (p. 56). One of the main challenges of comparative studies is to have a sufficient level of agreement on the main concepts examined in the analysis.

Administrative reform has been a central activity of governments for the past several decades. These reforms have assumed different forms across countries. These differences are especially pronounced between Western democracies and the emerging democracies of post-Soviet Union countries. While there are crucial differences in the interpretations of reform ideas in these administrative systems, there are also significant similarities in the reforms themselves. For the most part, the goals of these reforms have

been similar across countries: to make government more efficient and effective in the process of making and implementing public policy. Many of the same changes are being implemented in almost all post-Soviet countries because the reforms have been financed and directed for the most part by the same international organizations such as the World Bank, the United Nations Development Programme (UNDP), the United States Agency for International Development (USAID), and the Technical Assistance to the Commonwealth of Independent States (TACIS).

Table 1. List of countries included in the study

#	Country	Geographical region
1	Bulgaria	Eastern Europe
2	Canada	Northern America
3	Finland	Northern Europe
4	France	Western Europe
5	Georgia	Western Asia
6	Germany	Western Europe
7	Great Britain	Northern Europe
8	Hungary	Eastern Europe
9	Italy	Southern Europe
10	Moldova	Eastern Europe
11	Netherlands	Western Europe
12	Norway	Northern Europe
13	Poland	Eastern Europe
14	Romania	Eastern Europe
15	Russia	Eastern Europe
16	Slovenia	Southern Europe
17	Spain	Southern Europe
18	Sweden	Northern Europe
19	Switzerland	Western Europe
20	Ukraine	Eastern Europe
21	United States	Northern America

Thus, these recent administrative reforms have created an opportunity for cross-national studies because administrative systems in post-Soviet countries have been "modeled" after Western countries. Therefore, there is to some extent a sufficient level of the agreement on the main concepts explored in this research. This study examines all 21 North American and Eurasian countries available in the fifth wave of the World Values Survey (see table 1). These countries widely vary in terms of economic conditions, forms of government, cultural zones, and political histories.

Section 3.3: Individual-level variables

As discussed in the previous section, the source of all individual-level variables is the World Values Survey. In this section, the survey questions used to create the dependent and independent variables are identified.

Dependent variable

Citizens' attitude towards the civil service is a focal point of interest of this research. A question that asks about the citizens' confidence in the civil service is used to measure confidence in the civil service. Responses to the following survey question comprise the key variable of interest: "I am going to name a number of organizations. For each one, could you tell me how much confidence you have in them: The Civil service?" Response options are: "a great deal of confidence," "quite a lot of confidence," "not very much confidence" and "none at all."

A binary dependent variable is created by assigning "a great deal of confidence" and "quite a lot of confidence" a value '1' and "not very much confidence," and "none at all" a value of '0.' Collapsing two responses to one loses information but is necessary for three reasons. First, the frequency distribution of the responses is heavily skewed: about

3.7 percent of citizens responded that they have "a great deal of confidence" in the civil service compared to about 39.6 percent who responded that they have "quite a lot of confidence" in the civil service (a detailed descriptive analysis of the dependent variable is provided in Chapter 4). Dichotomization generates categories with appropriate sample sizes.

Second, it is theoretically possible to treat the dependent variable as an ordered categorical outcome. The appropriate statistical method for this 4-point scale dependent variable could be the multilevel ordered logistic regression model or multilevel ordered probit model (Snijders and Bosker 2011). A critical assumption of the ordered logit regression model is that of parallel slopes (also called proportional odds assumption) (Long 1997). The parallel slopes assumption means that an independent variable (for example, male) will have the same coefficient across all confidence attitudes ("a great deal of confidence," "quite a lot of confidence," "not very much confidence," and "none at all"). In other words, ordered logit regression model implicitly assumes that a person's sex will affect the likelihood of a person having "a great deal of confidence" in the civil service as it will affect the different likelihood of that person having "quite a lot of confidence," "not very much confidence," or "none at all" confidence in the civil service. However, it is difficult to construct a single model that satisfies the parallel slope assumptions across all countries. Binary logistic regression does not rely on such an assumption, making it more appropriate to apply to samples across different countries (Snijders and Bosker 2011). In addition, models for an ordered categorical outcome are not only more complicated to fit but also to interpret than models for dichotomous outcomes (Snijders and Bosker 2011). Third, dichotomization offers parsimonious

representation of the concept that this study examines, i.e. the correlates that explain citizen confidence in civil service.

Independent variables

Below is an explanation of important independent variables used in this research. The detailed World Values Survey's questions and wordings are presented in Appendix C. As discussed in Chapter 4, the extant literature identifies three sets of individual-levels variables that explain confidence attitudes: socio-cultural, socio-psychological, and attitudes towards government correlates.

Socio-cultural correlates

The following socio-cultural variables are included in the analysis: age, male, high education, government employee, left political ideology, civic engagement, people can be trusted, and confidence in government institutions. The continuous age variable is created based on responses to the question: "This means you are _ _ years old." The binary male variable is created based on responses to the question: "What is your sex?" The responses "male" coded '1' and the responses "female" coded '0.' Education is measured by the following survey question: "What is the highest educational level that you have attained?" This is a 9-point scale question ranging from 1 "no formal education" to 9 "university-level education, with degree." The binary high education variable is created by assigning a value of '1' to the following responses: "some university-level education, without degree" and "university-level education, with degree," and a value of '0' to the other seven responses. The binary government employee variable is created based on responses to the question: "Are you working for the government or public institution, for private business or industry, or for a private non-

profit organization? If you do not work currently, characterize your major work in the past. Do you or did you work for?" A value '1' is assigned to those respondents who worked or has worked for the government or public institution and other responses are coded '0.' To measure a citizen's political ideology, the responses to the following questions are used: "In political matters, people talk of "the left" and "the right." How would you place your views on this scale, generally speaking?" The continuous left political ideology variable, which ranges from '1' for "right" and '10' for "left," is included to represent a respondent's political ideology.

A battery of items in the WVS asked respondents: "Now I am going to read out a list of voluntary organizations; for each one, could you tell me whether you are a member, an active member, an inactive member or not a member of that type of organization?..." Ten of these organizations have been used to represent civic engagement (as measured as being an active member of the following voluntary organizations: church, sport, art, labor union, political party, environmental organization, professional organization, charitable organization, consumer organization, and any other organizations). The civic engagement variable is created by counting the number of voluntary organizations in which a respondent is an active member (see Newton and Norris 2000; Brewer 2003). The variable does not include "an inactive member" response. There is an important difference between "active" and "inactive" membership. As Newton and Norris (2000) suggest "those citizens who are *most active* in voluntary organizations and community associations would develop the social trust and cooperative habits that lead to confidence in public institutions" (p. 63; italics added). Since the number of organizations equals 10, then, theoretically, the civic engagement variable

should range from 0 to 10. However, the variable ranges from 0 to 9 in the sample (see Chapter 4 for a detailed description).

Socio-psychological correlate

Responses to the following question are used to operationalize interpersonal trusting attitudes: "Generally speaking, would you say that most people can be trusted or that you need to be very careful in dealing with people?" A value of '1' is assigned to the responses "most people can be trusted," and a value of '0' is assigned to the responses "need to be very careful."

Attitudes towards government

To control for the spillover of attitudes about other governmental actors onto attitudes about the public service, responses to survey items about confidence in government institutions are used to gauge how well the political system is actually performing. A battery of items in the WVS asked respondents: "I am going to name a number of organizations. For each one, could you tell me how much confidence you have in them: is it a great deal of confidence, quite a lot of confidence, not very much confidence or none at all? 1) the armed forces, 2) the police, 3) parliament, and 4) the courts." All four questions have a four-point Likert-type response scale ranging from "a great deal" to "none at all." First, the variables are re-coded so that the highest value would correspond to the most positive – "a great deal" – response. Then, all four re-coded variables are used to create a factor score with values ranging from -1.93 to 2.50. Confirmatory factor analysis indicates that responses strongly load on a single dimension: eigenvalue equals 2.10. Cronbach's alpha for the four questions is 0.72, which is slightly above the common standard of 0.70 for inter-item reliability.

Section 3.4: Country-level variables

Country-level variables are entered in the models to represent national context. The sources of data for the country-level correlates are the World Bank, the Transparency International, the Fractionalization dataset compiled by Alberto Alesina and associates, the Standardized World Income Inequality Database (SWIID) complied by Solt, and the Inglehart–Welzel Cultural Map of the World. The World Bank is a United Nations international financial institution. It is not a bank in the common sense. It provides financial and technical assistance to developing countries around the world. Its main mission is to fight poverty. The World Bank offers free access to a number of development indicators that are compiled from officially-recognized international sources (The World Bank 2012).

Transparency International (TI) is an international non-governmental organization. Its main vision is "a world in which government, business, civil society and the daily lives of people are free of corruption" (Transparency International 2012). TI fulfills its mission by monitoring and publicizing corporate and political corruption around the globe. The Fractionalization dataset was compiled by Alberto Alesina and associates. The dataset measures the degree of ethnic, linguistic, and religious heterogeneity in various countries (Alesina et al. 2003).

The Standardized World Income Inequality Database (SWIID) complied by Solt (2009) provides comparable GINI indices of gross and net income inequality for 173 countries from 1960 to the present. Solt employed a custom missing-data algorithm to standardize the United Nations University's World Income Inequality Database and data from other sources to generate those comparable GINI indices. The Cultural Map of the

World was developed by Ronald Inglehart and Christian Welzel. The source of the data for this map is the World Values Survey.

Government performance

Government performance is most commonly operationalized in terms of prevailing economic conditions. Three variables are included to measure economic conditions: GDP per capita, unemployment, and inflation. Level of development is operationalized as gross domestic product (GDP) per capita. GDP is "the sum of gross value added by all resident producers in the economy plus any product taxes and minus any subsidies not included in the value of the products" (World Bank 2012). GDP per capita are in constant 2005 US dollars. Unemployment refers to the percentage of the labor force that is without work but available for and seeking employment (World Bank 2012). The inflation rate is the percentage change in price in the economy as a whole (World Bank 2012). GDP per capita, unemployment, and inflation for 2006 are used to match the WVS data.

The quality of government institutions is measured with two variables: the World Bank Government Effectiveness indicator and the corruption perception index (CPI). The World Bank Government Effectiveness indicator combines into a single grouping responses on the quality of public service provision, the quality of the bureaucracy, the competence of civil servants, the independence of the civil service from political pressures, and the credibility of the government's commitment to policies (Kaufmann, Kraay, and Mastruzzi 2010; World Bank 2012). The Government effectiveness indicator is measured in standard normal units. It is normally distributed with a mean of zero and a standard deviation of 1. Theoretically, it ranges from approximately -2.5 (weak) to 2.5

(strong) governance performance. The World Bank Government Effectiveness indicator for 2006 is used to match the WVS survey data.

The CPI ranks countries based on how corrupt their public sector is perceived to be (Transparency International 2012). It is a composite index, a combination of polls, drawing on corruption-related data collected by a variety of reputable institutions. The CPI reflects the views of observers from around the world, including experts living and working in the countries evaluated (Transparency International 2012). The corruption perception index for 2006 is used to match the WVS data. The measure runs from 0 (highly corrupt) to 10 (absolutely clean from corruption).

Social polarization

Social polarization is another contextual explanation of trust. Two contextual factors that affect the social distance between citizens are the level of economic inequality in a country and societal heterogeneity. The Gini inequality index is used to measure income inequality. The Gini index measures the extent to which the distribution of income or consumption expenditure among individuals or households within an economy deviates from a perfectly equal distribution. It can range from 0 (perfect equality) to 100 (perfect inequality). The Gini index for 2006 is used to match the WVS data. Societal heterogeneity is operationalized by the ethnic fractionalization index developed by Alesina et al. (2003). The ethnic fractionalization index reflects the probability that two randomly selected people from a given country will not belong to the same ethnolinguistic group. Thus, the higher the number, the more fractionalized is a society.

Culture

The WVS Cultural Map of the World developed by Ronald Inglehart and Christian Welzel (2005) is used to operationalize culture. "Each country is positioned according to its people's values and not its geographical location, i.e. the map measures cultural proximity, not geographical proximity" (Inglehart and Welzel 2010). They distinguish between two different dimensions of value differences across nations. The Traditional versus Secular-Rational value dimension reflects the differences between cultures with regard to religion, the role of the family, as well as deference to authority. Theoretically, it ranges from approximately -2.0 to 2.0. Countries near the Traditional pole stress the importance of religion, deference to authority, traditional family values, condemn divorce, and reject euthanasia and suicide. These countries also have high levels of national pride. Countries near the Secular-Rational pole emphasize the opposite values on all of these issues.

The Survival vs. Self-Expression dimension signals divergences between cultures pertaining to well-being, self-expression, and quality of life concerns. Theoretically, it ranges from approximately -2.0 to 2.5. As standards of living increase, and a transition from industrial society to post-industrial society occurs, a country tends to shift an emphasis from Survival values toward Self-Expression values. In other words, countries shift their priority from economic and physical security to subjective well-being, self-expression, and the quality of life.

To account for countries of the former Soviet Bloc, a binary communist legacy variable is employed by assigning a value of '1' to Bulgaria, Georgia, Hungary, Moldova, Poland, Romania, Russia, Slovenia, and Ukraine. All other countries are coded

as '0.' While the former Soviet Bloc nations share a similar type of state administration (Houston 2014), recent scholarship in public administration highlights the diversity that existed across countries in these institutions during the communist era due to differing pre-communist histories and societies (Goran 2009; Kopecký and Spirova 2011; Kotchegura 1999; Meyer-Sahling 2004, 2009). For instance, Kitschelt (2003) distinguishes between three types of communist bureaucratic regimes among the Soviet Bloc nations: patrimonial, bureaucratic-authoritarian, and national-accommodative. However, only nine countries are in the present sample, which is insufficient to distinguish among the types of communist state administration in the estimated models. Therefore, a binary communist legacy variable is employed in the final model.

Section 3.5: Estimation methods

This research is conducted in three stages. The first stage is a descriptive analysis of the dependent and independent variables. Specifically, frequency and percentage distributions are provided to report the distribution of responses to specific items. Furthermore, it examines what attitudes citizens across nations have about confidence in the civil service. At the second stage, binary logistic regression for each country is performed to examine whether attitudes about the civil service are determined by similar attributes across nations. Specifically, this stage explores whether individual nations reveal a degree of consistency of the socio-demographic and attitudinal determinants across each of these countries. The detailed analyses of the first two stages are examined in Chapter 4.

Chapter 5 discusses the third stage of the analyses. This final stage examines the extent to which confidence in the civil service varies across nations and the extent to

which these different levels of national confidence are a function of differences in country-level attributes. In addition to the demographic and attitudinal variables included in the country specific models, country-level correlates are examined. Multilevel binary logistic regression models are estimated by pooling together all the national samples.

Importance of the multilevel models

Multilevel models (also known as hierarchical models or mixed models) refer to models with a nested data structure (Hox 2010). Generally speaking, the individuals and the groups to which they belong are conceptualized as a hierarchical system of these individuals and groups, with individuals and groups each defined as a separate level of this hierarchical system. Thus, the sample data are viewed as a mutlistage sample from this hierarchical population. For example, in educational research, the population is schools and students nested within each school. Other examples include cross-national studies where the respondents are nested within their countries, or organizational research with workers nested within their firms.

Traditional regression methods only allow analyzing data on one level. Therefore, historically, multilevel data were either aggregated or disaggregated to one single level and then, analyzed using either an ordinary multiple regression routine or any other "standard" statistical method. Aggregation involves moving variables at a lower level to a higher level, for example, by assigning to the countries the country mean of the respondents' income levels. Disaggregation refers to moving variables to a lower level, for example, by assigning to all respondents in the countries an unemployment rate of the country they belong.

However, analyzing variables from different levels at one common level is inappropriate for two reasons. The first problem is statistical. First, aggregation leads to the loss of information and as a result to a loss of the statistical analysis power. On the other hand, disaggregation generates from a small number of country-level variables a lot of individual-level variables leading to an increase of the sample size of the data. However, the proper sample size for these data is a number of higher-level units, i.e. the number of countries. Ordinary statistical methods treat all these disaggregated data values as if all observations are independent from each other. As a result, statistical analyses produce "significant" results that are simply spurious (Hox 2010).

The second problem is conceptual. If researchers analyze data at one level but formulate conclusions at another level, they commit the fallacy of the wrong level. The ecological fallacy refers to interpreting aggregated data at the individual level. For example, Robinson (1950) finds that states with larger immigrant populations tend to have higher literacy. It is invalid to draw a conclusion that immigrants tend to mere more literate than those born in the United States. In contrast, using relationships between variables on the level of the individuals to make conclusions about groups leads to the atomistic fallacy. For example, a study of individuals may find that an increase in income leads to an increase in trust. If it is inferred from this data that countries with higher gross domestic products have higher trust, then the atomistic fallacy is committed.

In the past, multilevel data were analyzed using conventional multiple regression analysis with one dependent variable at the lowest level and a set of independent variables from all available levels (e.g. Boyd and Iversen 1979; Van den Eeden and Huttner 1982). However, this approach leads to all statistical and conceptual problems

discussed above. Standard statistical tests assume the independence of the observations. However, pooling hierarchically structured data into one sample violates this assumption. It is expected that two randomly selected individuals from the same group tend to be more alike than individuals selected from different groups. For instance, if a country experienced a major breach of public trust shortly prior to the administration of the survey, respondents in this country are likely to be watching the same news reports, reading the same newspaper account, reading the same editorials, and even talking with one another about the event. Thus, these respondent attitudes are not independent of one another as is assumed by OLS. Failing to account for this effect among respondents in distinct clusters (i.e., groups) results in OLS standard errors that are smaller than they should be and making it more likely that the null hypothesis of no relationship will be rejected. Hence, it increases the likelihood that a Type I error is made. In the extant literature, this effect of cluster sampling is known as a "design effect" (e.g. Kish 1987, 1995).

There are two ways to correct this lack of independence among respondents in a cluster (i.e., group unit). One is to report clustered standard errors. Cluster-adjustment assumes that observations within groups are correlated but observations across groups are independent. These standard errors allow for a general form of heteroscedasticity but do not allow for errors to be correlated across or within groups (Huber 1967; White 1982). Thus, clustered standard errors account for both a general form of heteroscedasticity as well as for any intra-cluster correlation.

However, combining variables from different levels in one statistical model requires more complicated technique than estimating and correcting for the design effect.

Multilevel models are designed to analyze variables from different levels simultaneously. It is the more sophisticated approach to addressing the issue caused by clustered cases. Multilevel models allow for simultaneous estimation of relationships at individual and country levels. They also allow for the relationships at the individual level to vary across countries. Furthermore, multilevel models permit the inclusion of cross-level interactions – i.e., examining how country-level factors influence individual-level relationships. In sum, multilevel modeling enables measuring the effect of different variables and explaining variation both within and across countries (Gelman and Hill 2007; Goldstein 2011; Raudenbush and Bryk 2010; Steenbergen and Jones 2002). In this study, the multilevel models are estimated using a restricted penalized quasi-likelihood (PQL) routine in HLM 6.06.

CHAPTER IV
EXPLANING CONFIDENCE IN THE PUBLIC SERVICE. THE INDIVIDUAL-LEVEL CORRELATES OF CONFIDENCE

This chapter presents a descriptive analysis of the dependent and independent variables for all 21 countries of North America and Eurasia covered in this study. Descriptive analysis includes an examination of the missing values, the mean, the standard deviation, the range, the minimum and maximum values, and the sample size by country. Frequency and percentage distributions are provided to report the distribution of responses to specific items by country. First, the chapter presents descriptive statistics of the dependent variable. Next, it examines a descriptive analysis of the independent variables. After that, the chapter discusses the individual-level correlates that explain variation in the confidence attitudes. Logistic regression models for each country separately are used for multivariate analysis of a dichotomous dependent variable.

Section 4.1: Descriptive analysis of the dependent variable

This section presents a descriptive analysis of the levels of citizens' confidence in the civil service in 21 democracies of North America and Western Europe and emerging democracies in Eurasia. First, it examines missing values of the dependent variable. Then, it examines the question: How do levels of confidence in the civil service vary across countries.

Section 4.1.i: Valid and invalid responses

It is important to know the distribution of valid and invalid responses. The lack of valid responses may jeopardize the validity of any statistical analysis. In other words, there should be a sufficient amount of valid responses for further statistical analysis.

Figure 2 presents the distribution of the valid and invalid responses of the dependent variable by country. The full distribution of the missing values by country is presented in Appendix D.

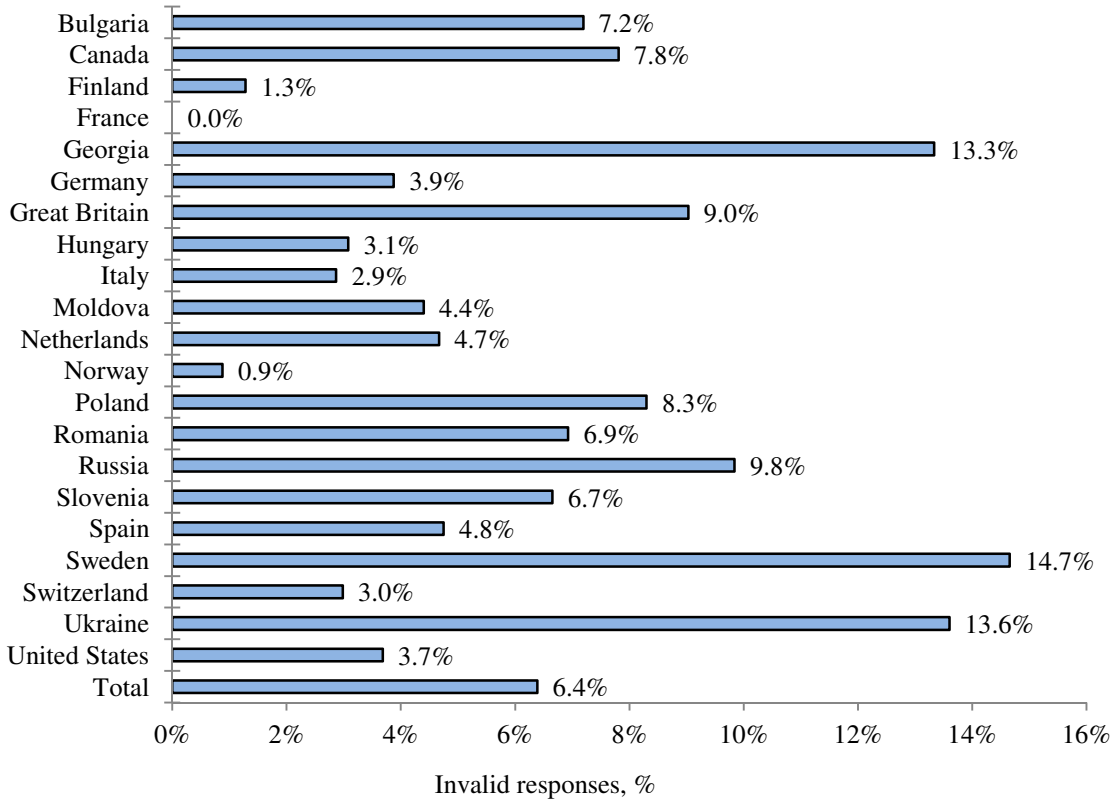


Figure 2. Invalid responses of the dependent variable by country, %

Figure 2 and Appendix D show that 1,690 or about 6.4% of the responses are ether "missing, not asked by the interviewer," "no answer," or "don't know." The invalid responses have decreased the sample size from 26,464 to 24,774. Countries with the highest number of invalid responses include Sweden, Ukraine, and Georgia. They each

have more than 10% of missing values (14.7%, 13.6%, and 13.3%, correspondingly). It is interesting to note that France has no invalid responses.

Section 4.1.ii: Confidence in the civil service across countries

The first research question of this study is: What attitudes do citizens hold about confidence in the civil service across countries? Table 2 reports the responses separately for each of the 21 North American and Eurasian countries.

Table 2. Responses about confidence in the civil service

Country	% None at all	% Not very much	% Quite a lot	% A great deal	N	% Quite a lot or A great deal
Switzerland	2.3	29.8	62.4	5.5	1,204	67.9
Sweden	4.0	30.3	62.5	3.3	856	65.8
Norway	2.4	36.3	59.2	2.2	1,016	61.3
Finland	5.5	34.4	54.6	5.5	1,001	60.1
Canada	7.6	36.1	50.5	5.9	1,995	56.3
France	14.0	32.3	48.1	5.7	1,001	53.7
Russia	13.8	33.3	47.0	5.9	1,833	52.9
Ukraine	16.8	34.4	44.9	3.9	864	48.8
Great Britain	11.6	42.2	40.4	5.7	947	46.1
Hungary	17.6	37.6	41.5	3.3	976	44.8
United States	7.2	50.0	39.3	3.4	1,203	42.7
Bulgaria	20.5	36.9	37.6	5.1	929	42.6
Spain	10.3	48.7	36.9	4.0	1,143	40.9
Italy	13.1	46.0	39.0	1.9	983	40.9
Georgia	14.5	45.0	36.2	4.3	1,300	40.5
Germany	15.0	53.5	29.4	2.1	1,984	31.5
Netherlands	15.9	53.4	29.1	1.6	1,001	30.7
Romania	24.3	45.7	27.7	2.3	1,653	30.0
Poland	19.5	62.1	16.6	1.9	917	18.4
Slovenia	23.2	60.0	15.4	1.3	968	16.7
Moldova	31.6	54.3	12.8	1.3	1,000	14.1
Total	**13.7**	**42.9**	**39.6**	**3.7**	**24,774**	**43.4**

One observation that emerges from this table is that overall respondents do not express extreme opinions about the civil service. On average, only 3.7% of respondents have a great deal of confidence in civil service, while 13.5% have no confidence at all in the civil service. One can find somewhat extreme values among the negative response "none at all." Notably, all countries that have at least 16% of the "none at all" response are former Soviet Bloc countries. Also, responses are somewhat negatively skewed with 56.6% responses "not very much" or "none at all," as opposed to 43.4% indicating that they have "quite a lot" or "a great deal" of confidence.

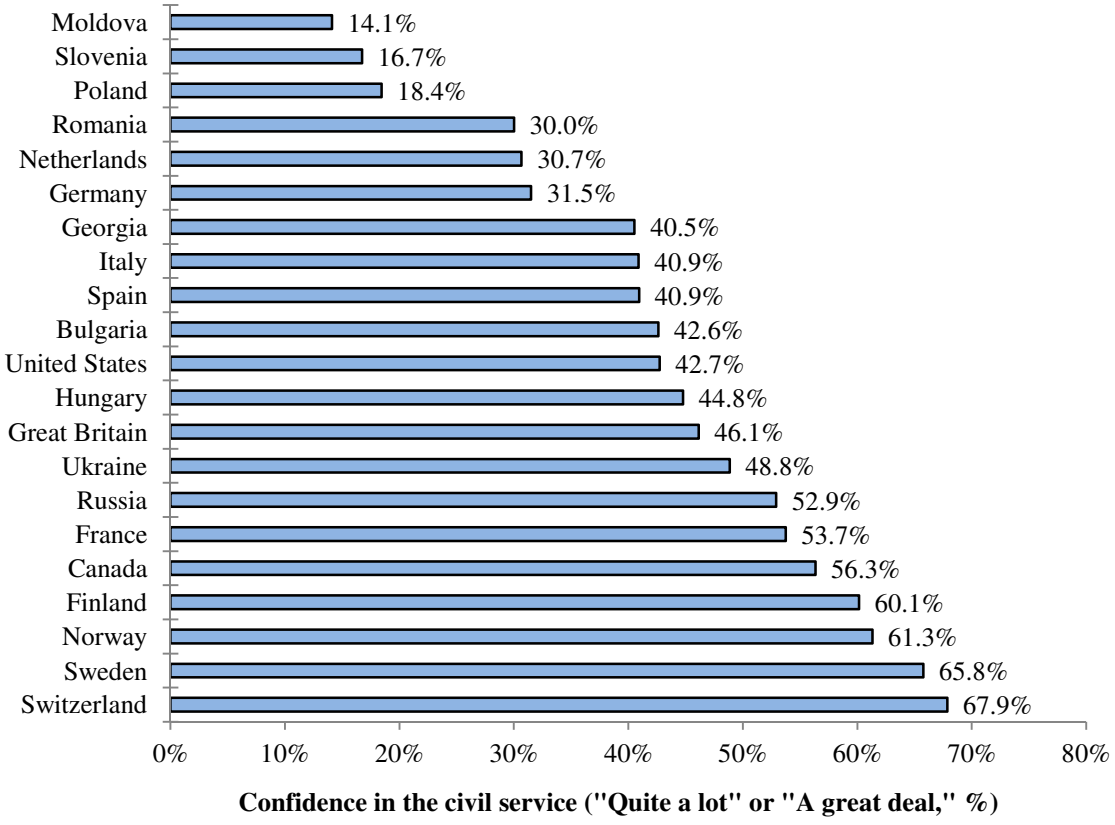


Figure 3. Responses about confidence in the civil service ("Quite a lot" or "A great deal," %)

More importantly, there is a significant amount of variation in these attitudes not only within each nation, but across nations. The last column of this table combines the percent of respondents that have higher confidence in the civil service (i.e. "quite a lot" or "a great deal") and orders the nations from high-to-low on this value (see also figure 3). Citizens of Switzerland, Sweden, Norway, and Finland are the most positive about the civil service as at least 60% of respondents in each country offered one of the two more confident responses. The previous research also reports that citizens from the Scandinavian region tend to have higher levels of trust than citizens of Central-western and the Southern Europe (Katzenstein 2000). To the contrary, citizens in Poland, Slovenia, and Moldova are the most critical, as less than 19% of respondents in these countries offered one of the 2 positive responses, with Moldova being the lowest at 14.1%. Thus, the lowest levels of confidence in the civil service are among citizens of the former Soviet Bloc countries. These results are consistent with an argument that the new democratic regimes in Central and East Europe face the challenge of low levels of public trust in political institutions (Mishler and Rose 1997, 2001, 2002).

Section 4.2: Descriptive analysis of the independent variables

This section summarizes and describes the characteristics of independent variables. Specifically, it examines the distribution of valid and invalid responses by country. Then, it presents descriptive statistics with measures of central tendency that indicate the typical value in a distribution of responses to a variable. Also, it discusses the variation for each independent variable by country.

Section 4.2.i: Age

Appendix E shows that 21 respondents or about 0.1% offered "no answer" when asked about their age. These were citizens of Canada. All other counties have no invalid responses. These missing values have decreased the number of observations in Canada from 2,164 to 2,143 or by 1%. The total number of valid responses for the age variable is 26,443 or 99%. The minimum number of respondents is 1,000 in Ukraine and Poland, and maximum is 2,143 in Canada.

Table 3. Descriptive statistics: Age

Country	Mean	Std. Dev	Min	Max	N
Bulgaria	47.36	16.5098	18	84	1,001
Canada	48.21	17.8010	16	94	2,143
Finland	47.52	17.4871	17	87	1,014
France	47.14	18.1961	18	92	1,001
Georgia	45.41	17.1923	18	91	1,500
Germany	50.44	17.4872	18	93	2,064
Great Britain	45.69	18.5432	15	94	1,041
Hungary	45.55	16.8194	18	91	1,007
Italy	45.62	15.6179	18	74	1,012
Moldova	42.78	16.8535	18	86	1,046
Netherlands	44.56	17.7989	15	89	1,050
Norway	45.78	16.0640	18	79	1,025
Poland	45.96	17.8231	18	92	1,000
Romania	48.68	17.3832	18	97	1,776
Russia	41.25	16.5355	16	80	2,033
Slovenia	46.19	17.8415	18	94	1,037
Spain	46.21	18.4847	18	98	1,200
Sweden	47.73	16.9883	18	85	1,003
Switzerland	52.45	16.1382	18	86	1,241
Ukraine	42.38	16.7666	18	90	1,000
United States	47.96	17.0255	18	91	1,249
Total	**46.56**	**17.4432**	**15**	**98**	**26,443**

Table 3 presents descriptive statistics of age. Respondents' age ranges from 15 to 98 years. It is noteworthy that only 5 countries have respondents younger than 18: Great Britain (15), Netherlands, (15), Russia (16), Canada (16), and Finland (17). The respondents' age varies not only between countries but also within countries. The average age of respondents varies from 41.2 years old in Russia to 52.5 years old in Switzerland. Although there are some differences in the average age, the standard deviations do not differ much. The minimum standard deviation is 15.62, and the maximum standard deviation is 18.54. Overall, the distribution of respondents' age is somewhat positively skewed.

Section 4.2.ii: Male

Appendix F shows that all countries except Canada have valid responses for the male variable. There are 9 missing cases in Canada. The missing responses have slightly decreased the sample size from 26,464 to 26,455 observations or by 0.03%. As for the sample size by country, the lowest number of valid observations is in Russia and Poland (1,000 in each country), and the highest number is in Canada (2,155).

Examination of figure 4 reveals that there are slightly more women than men among the respondents. The lowest proportion of men is among the respondents in Ukraine, 34.3%. There is an equal distribution of men and women among the respondents in Spain and the United States. And, there are slightly more men than women among respondents in Norway, Sweden, and Poland (50.1%, 50.1%, and 51.2%, correspondingly).

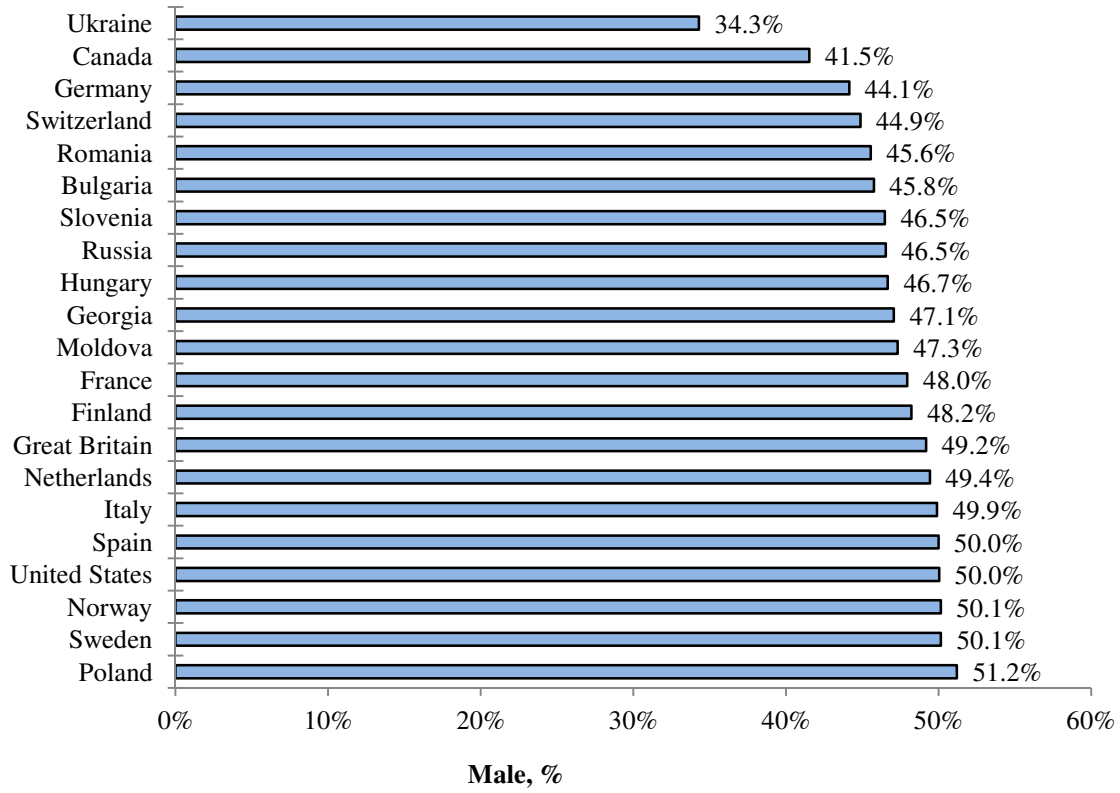


Figure 4. Percentage distribution for male by country, %

Section 4.2.iii: High education

There are 194 or 0.7% invalid responses in the high education variable (see Appendix G). These missing responses have decreased the sample size from 26,464 to 26,270. Across countries, the percentage of invalid responses is less than 2%. The only exception is Romania where 2.4% respondents offered "no answer" when asked about their "highest education level attained." There are no invalid responses in Bulgaria, Georgia, Hungary, Moldova, Poland, and the United States. As for the sample size by country, Ukraine has the lowest number of observations (991 respondents), while Canada has the highest number of observations (2,143).

It is important to remember that the high education variable is created by assigning a value of '1' to the following responses: "some university-level education, without degree" and "university-level education, with degree" and a value of '0' to the other seven responses. Also, the high education variable reflects the percentage of respondents with high education in the entire country's sample. In other words, the percentage distribution for the high education variable includes those who are younger than 25 years old. Therefore, the percentage of the population with high education may look somewhat surprisingly lower than it is expected.

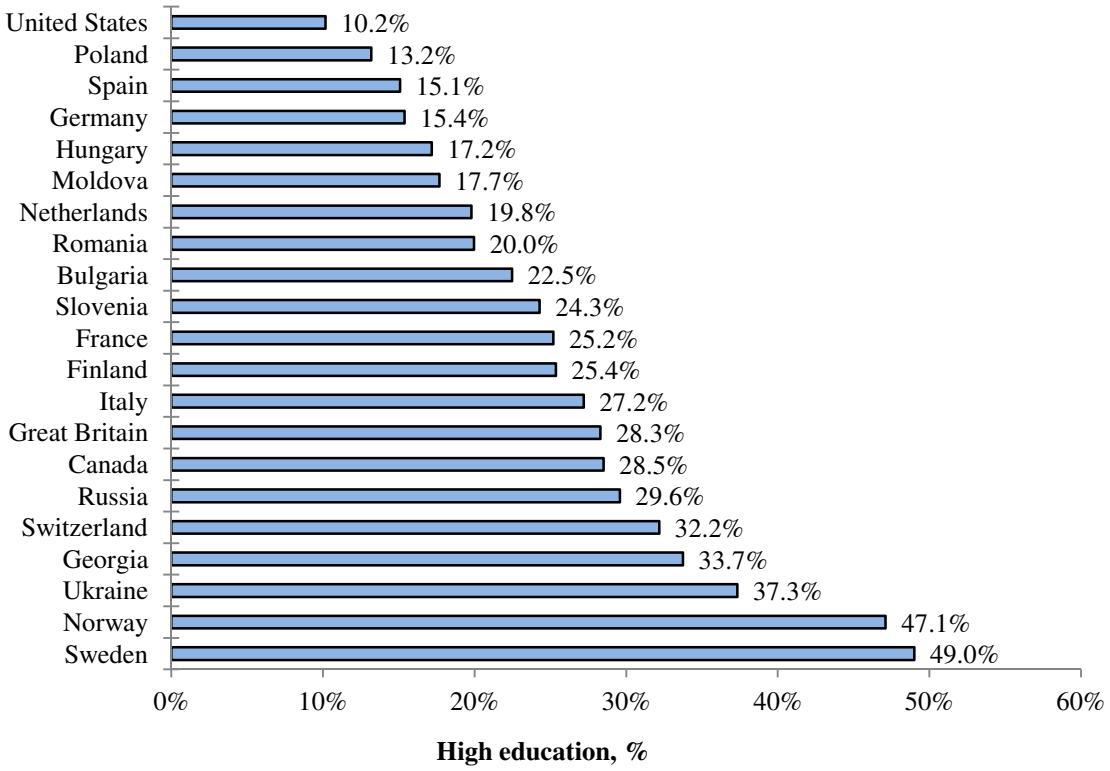


Figure 5. Percentage distribution for high education by country, %

Across countries, the percentage of respondents with high education varies considerably (see figure 5). Less than 16% of the respondents have a high education in Germany, Spain, Poland, and the United States (15.4%, 15.1%, 13.2%, and 10.2%, correspondingly). Meanwhile, the highest percentage of respondents with high education is among citizens of Norway (47.1%) and Sweden (49%).

Section 4.2.iv: Government employee

Appendix H reveals that there are 102 invalid responses that have decreased the sample size for the government employee variable from 26,464 to 26,362 or by 0.4%. Overall, invalid responses do not exceed 2% of observations in the countries with missing values. Eight of 21 countries do not have invalid responses at all.

Figure 6 shows that the percentage of respondents who worked or work for government or public institutions varies from 10.1% in the United States to 45.3% in Moldova. Less than 15% of respondents who worked or work for government are citizens of the United States, Spain, Bulgaria, Romania, and Canada. More than 40% of respondents who worked or work for government are citizens of Norway, Sweden, Russia, Georgia, and Moldova.

It is interesting to note that the lowest percentage of those who worked or work for government (10.1%) is observed in the United States. There are at least two explanations for such a phenomenon. First, general government spending as a share of GDP in the United States is much lower as compared to many European countries. For example, in 2007 government expenditures represented about 51% of GDP in Sweden, whereas in the United States this number was equal to 37% (OECD 2011).

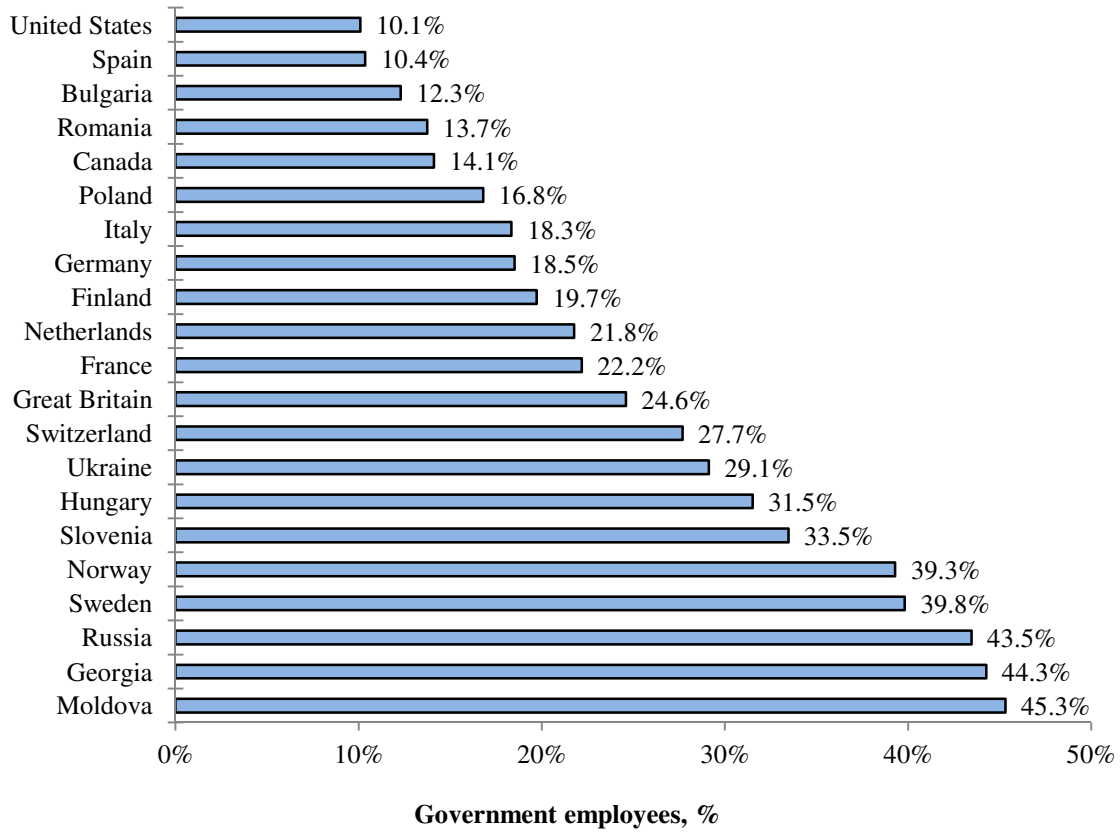


Figure 6. Percentage distribution of government employees by country, %

Second, in the United States "in 2002 … contract employees comprised 62% of the combined contracting, civil service, and military positions – the true size of the federal government" (Durant, Girth, and Johnston 2009, p. 208). And, nonmilitary civil service positions continued to be reduced because contract positions keep growing significantly (Durant, Girth, and Johnston 2009).

Section 4.2.v: Left political ideology

Figure 7 and Appendix I show that there are 7,173 invalid responses in the left political ideology variable, which have decreased the total sample size from 26,464 to 19,291, or by 27.1%. All countries have invalid responses which certainly contributed to

such a significant reduction of the sample size. Russia has no observations at all. A closer examination of the dataset and the codebook shows that the political ideology question has not been asked in Russia. At least 40% of respondents in Romania, Georgia, and Ukraine offered either "don' know" or "no answer." The other three post-Soviet countries – Slovenia, Bulgaria, and Poland – each have at least 29% invalid responses.

The United States, Sweden, and Norway each have less than 4% invalid responses. As for the sample size by country, Ukraine is the second country with the lowest sample size, which is 597. Only five countries, Spain, Switzerland, the United States, Canada, and Germany have the sample size more than 1,000. The other 14 countries have the sample size less than 1,000.

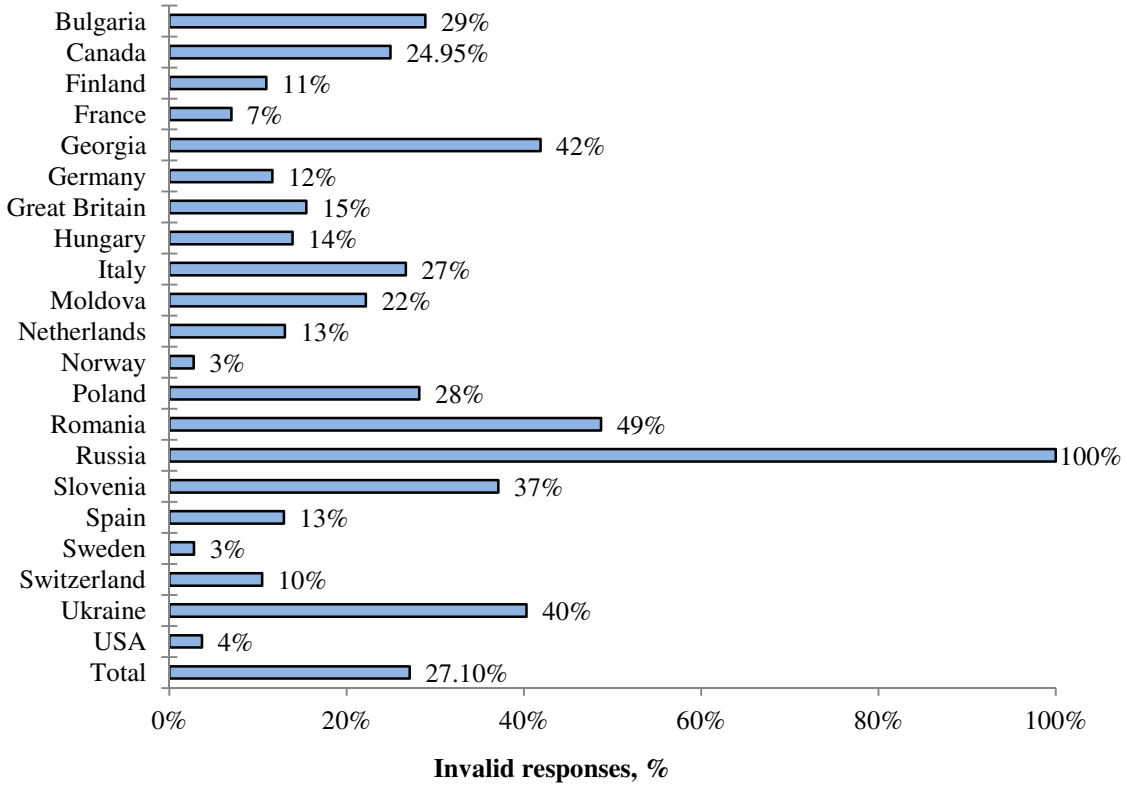


Figure 7. Invalid responses of left political ideology by country, %

The left political ideology variable varies from 1 'right' to 10 'left' along the political ideology spectrum. The mean of this variable by country varies from 5.0 (Georgia) to 6.4 (Spain) with an average standard deviation of 2.1 (see Table 4). Overall, the distribution of respondents' political ideology is slightly negatively skewed.

Table 4. Descriptive statistics: Left political ideology

Country	Mean	Std. Dev.	Min	Max	N
Bulgaria	6.3	2.1828	1	10	712
Canada	5.6	1.8765	1	10	1,624
Finland	5.4	1.9677	1	10	903
France	6.2	2.1202	1	10	931
Georgia	5.0	2.1971	1	10	872
Germany	6.2	1.8306	1	10	1,824
Great Britain	5.7	1.8543	1	10	880
Hungary	5.3	1.9221	1	10	867
Italy	5.9	2.2037	1	10	742
Moldova	5.0	2.2479	1	10	814
Netherlands	5.8	1.9738	1	10	913
Norway	5.4	1.8923	1	10	997
Poland	5.1	2.2154	1	10	718
Romania	5.0	2.3615	1	10	911
Russia	-	-	-	-	-
Slovenia	5.7	2.2400	1	10	652
Spain	6.4	1.9660	1	10	1,045
Sweden	5.4	2.2024	1	10	975
Switzerland	5.8	2.0113	1	10	1,111
Ukraine	5.4	1.9423	1	10	597
United States	5.3	1.8275	1	10	1,203
Total	**5.6**	**2.0756**	**1**	**10**	**19,291**

Section 4.2.vi: Civic engagement

Appendix J shows that there are 35 invalid responses in the civic engagement variable. These missing values have decreased the sample size from 26,464 to 26,429 or by 13.2%. As for the sample size by country, Poland and Russia each have the lowest number of valid responses, which is 1,000. Canada has the largest sample size (2,164).

Table 5. Descriptive statistics: Civic engagement

Country	Mean	Std. Dev.	Min	Max	N
Bulgaria	0.13	0.4908	0	4	1,001
Canada	1.43	1.5291	0	9	2,164
Finland	0.79	1.0358	0	8	1,014
France	0.72	1.1652	0	8	1,001
Georgia	0.06	0.2673	0	4	1,500
Germany	0.63	0.9060	0	6	2,061
Great Britain	1.24	1.3559	0	6	1,041
Hungary	0.23	0.5353	0	4	1,006
Italy	0.65	0.9899	0	8	1,007
Moldova	0.51	0.8973	0	6	1,046
Netherlands	1.00	1.1716	0	7	1,050
Norway	1.02	1.2432	0	8	1,025
Poland	0.39	0.7839	0	6	1,000
Romania	0.16	0.4891	0	4	1,773
Russia	0.21	0.5546	0	6	2,022
Slovenia	0.72	0.9899	0	5	1,037
Spain	0.40	0.8436	0	7	1,199
Sweden	1.01	1.0543	0	7	1,003
Switzerland	1.24	1.2479	0	7	1,240
Ukraine	0.25	0.6582	0	8	998
United States	1.34	1.4224	0	8	1,241
Total	**0.67**	**1.0889**	**0**	**9**	**26,429**

Civic engagement is a count variable for the number of organizations in which an individual is an active member. Since the respondents were given a choice of 10 different types of voluntary organizations, the civic engagement variable should range from 0 to 10. Examination of table 5 shows that the variable varies from 0 to 9. Georgia has the lowest mean of 0.06 with a standard deviation of 0.27. Canada has the highest mean of 1.43 with a standard deviation of 1.52. Thus, the distribution of the variable is positively skewed suggesting that most of the respondents are not actively engaged in voluntary organizations.

Section 4.2.vii: People can be trusted

It is important to remember that the interpersonal trust item is measured by the following question: "Generally speaking, would you say that most people can be trusted or that you need to be very careful in dealing with people?" The responses "most people can be trusted" are coded '1' and the responses "need to be very careful" are coded '0.'

There are 1,109 or 4.2% invalid responses for the survey item "people can be trusted" (see figure 8 and Appendix K). These missing responses have decreased the sample size from 26,464 to 25,355. Only France has no missing values. For most countries, the percentage of invalid responses does not exceed 10%. Only Ukraine and Bulgaria have slightly more than 10% invalid responses (11% and 12%, correspondingly).

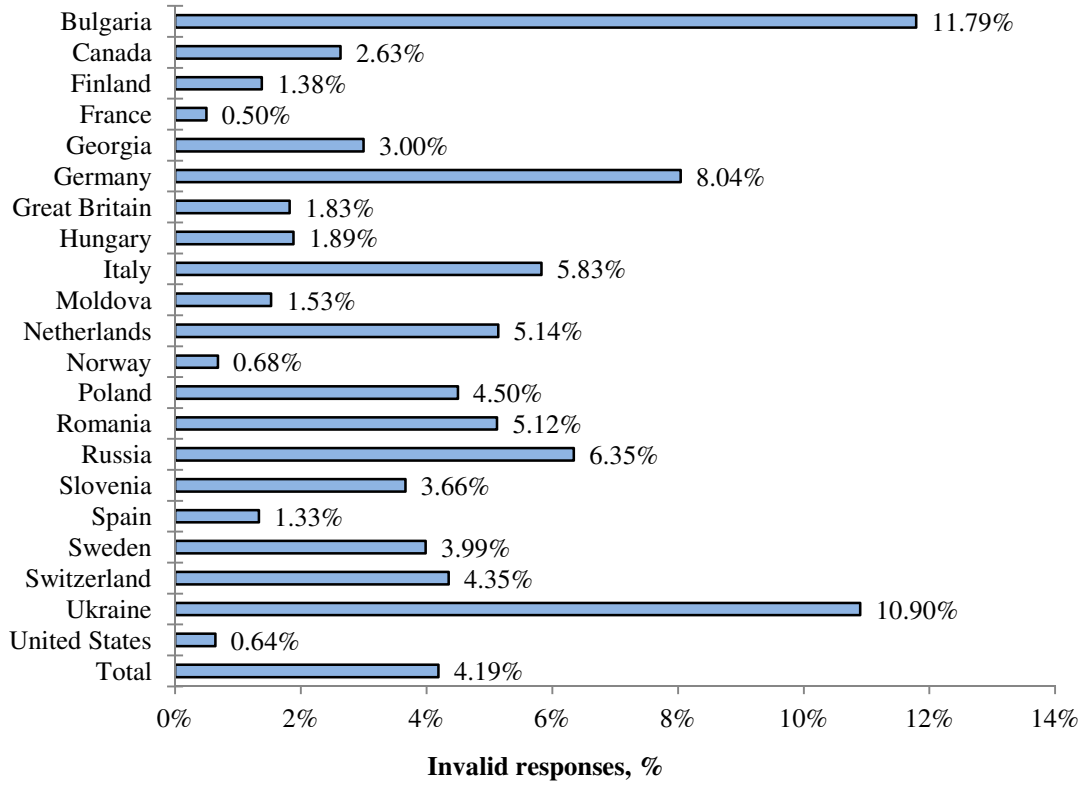


Figure 8. Invalid responses of people can be trusted by country, %

Figure 9 shows that there is a significant amount of variation across countries in the interpersonal trust item. Citizens of Switzerland, Finland, Sweden, and Norway are the most trusting respondents, as at least 51% of them in each country reported that "most people can be trusted." To the contrary, citizens in Moldova, Slovenia, Georgia, and France are the least trusting, as less than 18.7% of the respondents in these countries offered the same response.

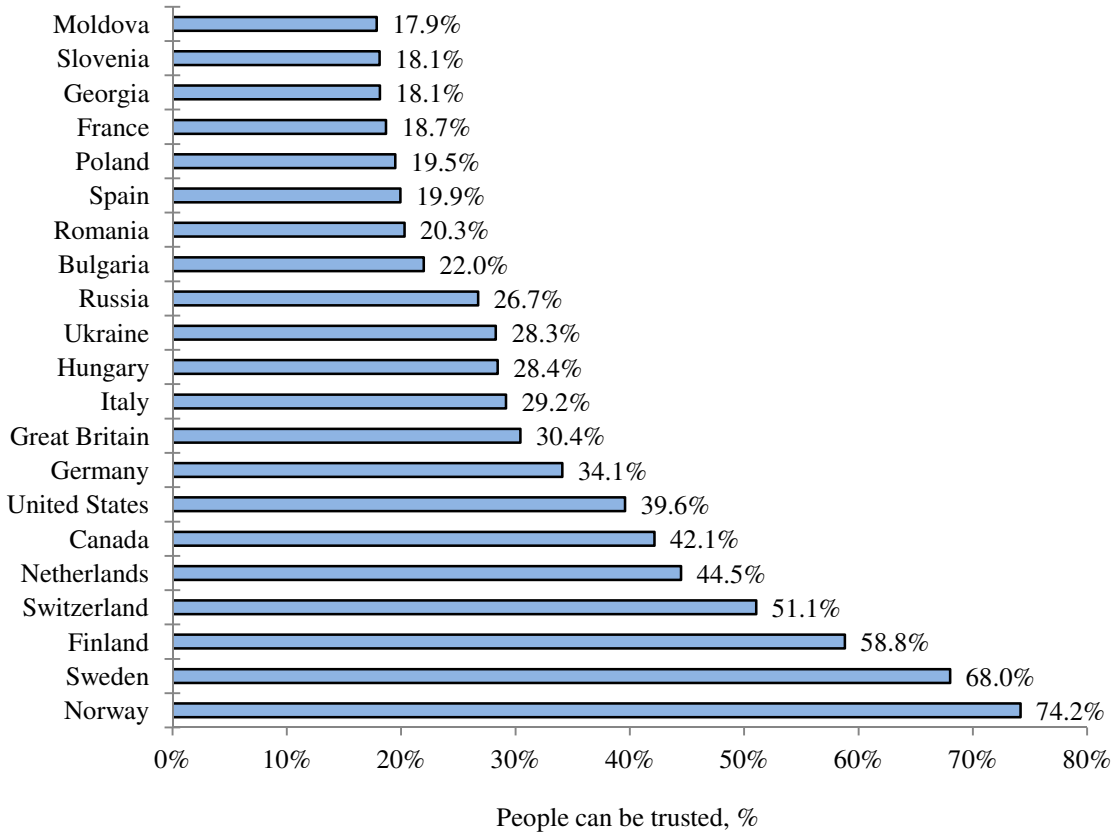


Figure 9. Percentage distribution of people can be trusted by country, %

Section 4.2.viii: Confidence in government institutions

Figure 10 and Appendix L show that there are about 10.9% invalid responses in the confidence in government institutions variable, which have reduced the sample size from 26,464 to 23,573. Ukraine and Georgia have the highest numbers of missing values (24% and 22%, correspondingly). Norway has the least number of missing observations (1.3%). As for the sample size by country, Ukraine has the least number of valid observations (760). Canada has the highest number of valid responses (1,913).

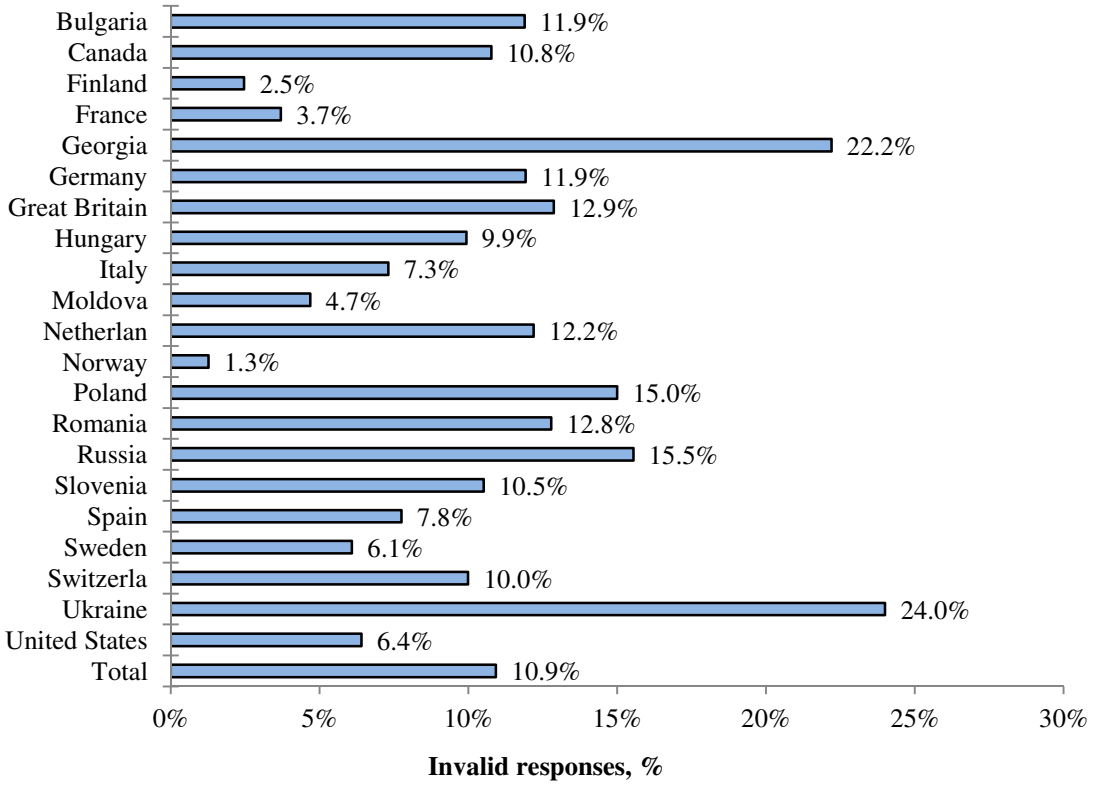


Figure 10. Invalid responses of confidence in government institutions by country, %

Confidence in government institutions is a factor score that ranges from -1.8 to 2.5 (see Table 6). The mean ranges from -0.47 with a standard deviation of 0.87 (Moldova) to 0.65 with a standard deviation of 0.72 (Finland).

Table 6. Descriptive statistics: Confidence in government institutions

Country	Mean	Std. Dev.	Min	Max	N
Bulgaria	-0.24	1.0147	-1.93	2.50	882
Canada	0.35	0.8135	-1.93	2.50	1,931
Finland	0.65	0.7163	-1.82	2.50	989
France	-0.08	0.8578	-1.93	2.50	964
Georgia	-0.26	0.8838	-1.93	2.50	1,167
Germany	-0.05	0.8130	-1.93	2.50	1,818
Great Britain	0.21	0.8331	-1.93	2.50	907
Hungary	-0.35	0.8762	-1.93	2.50	907
Italy	0.09	0.7518	-1.93	2.50	938
Moldova	-0.47	0.8677	-1.93	2.11	997
Netherlands	-0.05	0.8026	-1.93	2.50	922
Norway	0.61	0.6435	-1.93	2.40	1,012
Poland	-0.37	0.7756	-1.93	2.50	850
Romania	-0.39	0.8666	-1.93	2.50	1,549
Russia	-0.27	0.9583	-1.93	2.50	1,717
Slovenia	-0.38	0.7784	-1.93	2.50	928
Spain	0.22	0.8037	-1.93	2.50	1,107
Sweden	0.45	0.7026	-1.93	2.50	942
Switzerland	0.46	0.6792	-1.93	2.50	1,117
Ukraine	-0.40	0.9356	-1.93	2.50	760
United States	0.16	0.7257	-1.93	2.50	1,169
Total	**0.00**	**0.8908**	**-1.93**	**2.50**	**23,573**

Section 4.2.ix: Summary

Several key points arise in the descriptive statistics of the dependent and independent variables examined in this study. First, the levels of confidence in the civil service vary both between and within countries. High levels of confidence in the civil service are common among Scandinavian countries. Lower levels of confidence in the civil service are observed among post-Soviet countries.

Second, descriptive statistics show that the values of independent variables vary across 21 countries. The average respondents' age is 46.6 with a standard deviation of 17.4. There are slightly more women than men across 21 countries. There is high variation in the percentage of respondents with high education. About 10.2% of the respondents in the United States have high education, while more than 49% of the respondents in Sweden have high education. The United States also has the lowest percentage of respondents who worked or work for government institutions (10.1%). Moldova has the highest percentage of respondents who worked or work for government (45.3%). The left political ideology variable has the highest percentage of invalid responses (27.1%) as compared to other individual-level variables. Russia has no valid responses because the political ideology question has not been asked in this country.

On average, respondents in Canada are actively engaged in the highest number of voluntary organizations (1.43 with a standard deviation of 1.52). Meanwhile, respondents in Georgia are actively engaged in the least number of voluntary organizations (0.06 with the standard deviation of 0.27). With respect to the variable measuring interpersonal trust, citizens of Switzerland, Finland, Sweden, and Norway are the most trusting respondents, as at least 51% of them in each country reported that "most people can be trusted." To the contrary, citizens in Moldova, Slovenia, Georgia, and France are the least trusting, as less than 18.7% of the respondents in these countries offered the same response.

Section 4.3: Binary logistic regression models

In order to better assess the citizen confidence in the civil service, this section examines binary logistic regression models. The first part of this section discusses some statistics produced by binary logistic regression models. The second part of the section examines substantive results of the models.

The main research question of this section is: Are the citizens' attitudes about the civil service determined by similar attributes across countries? Tables 7-11 report separate binary logistic regression models for each of the 21 countries. The dependent variable is a binary variable which is created by assigning "a great deal of confidence" and "quite a lot of confidence" a value '1' and "not very much confidence" and "none at all" a value of '0.'

The size of the sample by country varies from 419 (Ukraine) to 1,517 (Russia). The sample size of most countries has decreased because of invalid responses of the left political ideology variable. For example, Ukraine has lost about 40% of its observations. The likelihood ratio chi-square (χ^2) for all 21 models is statistically significant. Thus, these models as a whole fit significantly better than an empty model (i.e. a model with no predictors).

With respect to measures of fit, there are various pseudo R-squared measures for binary variables. One of them is McKelvey and Zavoina's R^2 ($R^2_{M\&Z}$). Hagle and Mitchell (1992) and Windmeijer (1995) find that $R^2_{M\&Z}$ most closely approximates the R^2 obtained from regressions on the underlying latent variable. McKelvey and Zavoina's R^2 ($R^2_{M\&Z}$) suggests that post-Soviet countries, Slovenia (0.526) and Georgia (0.531), have the highest values. Meanwhile, the lowest pseudo-squared measures, $R^2_{M\&Z}$, are observed

in the following developed democracies: Spain (0.275), Great Britain (0.280), and France (0.288). Thus, confidence attitudes are more difficult to explain in developed democracies as compared to post-Soviet countries.

As for the substantive findings, consistent with much previous research on political trust, most socio-demographic attributes are not particularly useful for explaining variation in confidence attitudes (Houston and Harding 2013). The influence of age is not uniform across 21 countries. In five countries, age is statistically significant and has a positive sign. These countries are France, Germany, Hungary, Moldova, and Romania. This finding supports the hypothesis that trust is higher among older respondents, reflecting a sense of social connectedness that individuals develop throughout their lives (also see Christensen and Laegreid 2005; Lipset and Schneider 1987; Listhaug and Wiberg 1995; Van de Walle 2007). However, age is statistically significant and has a negative sign in 2 countries: Norway and Russia. This result is in line with studies that have reported a negative relationship between trust and age (Keele 2005; King 1997; Richardson, Houston, and Hadjiharalambous 2001).

The male variable is statistically significant at the 99% confidence level only in Slovenia. Men have odds of having confidence in the civil service that are higher than women by a factor of 2.89, which is consistent with the assumption that men are more prominent in key positions in government and are less likely than women to be exposed to experiences with inequality in societal institutions (Brewer and Sigelman, 2002).

In 5 of 21 countries examined, high education has a statistically significant influence on having confidence in the civil service. However, in 4 countries (Canada, Finland, Georgia, and Slovenia) the sign is positive, while in Germany the sign for high

education is negative. Prior research has also offered mixed findings. For example, Marlowe (2004) hypothesizes that high education and trust are positively related. He argues college-educated citizens are more likely to be members of a professional organization. Therefore, most professionals are more likely to trust public administrators to regulate their professional activities (see also Richardson, Houston, and Hadjiharalambous 2001; Tolbert and Mossberger 2006; Van de Walle 2007). Marlowe (2004) also acknowledges that educated people may have a more critical attitude towards the civil service (see also Roth, Bozinoff, and MacIntosh 1990).

The government employee variable is statistically significant in 4 countries: Georgia, Norway, Sweden, and Switzerland. The result is consistent with the argument that government employees have a positive image of the group of which they are a part (Brewer and Sigelman, 2002). The effect of political ideology is mixed. The hypothesis that liberals support the public sector and its government institutions (Huseby 2000; Newton 2001) has found empirical support in 4 countries: Norway, Sweden, Switzerland, and Great Britain. Although left political ideology is a statistically significant variable in Germany and Spain, it has a negative sign. Such inconsistent results may be caused by a significant amount of missing values in the left political ideology variable in most of the countries. Since Russia has no valid responses, this variable was omitted from the regression model for this country.

Contrary to the proclaimed importance of civic engagement for building social capital, participation in a voluntary organization generally is not related to the confidence attitude. Civic engagement is statistically significant in only three countries: Norway, Poland, and Spain. This findings support the notion that involvement in voluntary

associations and civic life lead to greater trust in government and its leaders (Cook and Gronke 2005). However, the fact that it is not statistically significant in the other models reduces its importance.

Individual attitudes are more important for explaining citizen perceptions about the civil service than are socio-demographic attributes. In 6 of the 21 models, the interpersonal trust variable is statistically significant: Those who are more trusting of others are more likely to have confidence in the civil service. It is interesting to note that the civic engagement variable is statistically significant only in developed democracies: Canada, Finland, Germany, Netherlands, Norway, and Great Britain.

The most pronounced individual-level correlate is the confidence in government institutions index. This variable is statistically significant in all 21 countries. Confidence in the civil service is influenced by diffuse support for government. Confidence in one political institution spills over into attitudes about other political institutions (Chanley, Rudolph, and Rahn 2000, 2001; Christensen and Laegreid 2005; Hetherington 1998). When taken together, these models suggest there are general similarities in the correlates of confidence attitudes across countries.

Table 7. Binary logistic regression: Have "a great deal of confidence" or "quite a lot of confidence" in the civil service (Bulgaria, Canada, Finland, France, Georgia)

	Bulgaria	Canada	Finland	France	Georgia
Socio-cultural correlates:					
Age	0.0102	0.0026	0.0084	0.0108**	-0.0084
	(1.01)	(1.00)	(1.01)	(1.01)	(0.99)
Male	-0.0658	0.1174	-0.0889	0.1349	-0.0281
	(0.94)	(1.12)	(0.91)	(1.14)	(0.97)
High education	0.3270	0.2900**	0.3651*	-0.0854	0.6583***
	(1.39)	(1.34)	(1.44)	(0.92)	(1.93)
Government employee	0.4056	0.2350	0.1230	0.1713	0.7860***
	(1.50)	(1.26)	(1.13)	(1.19)	(2.19)
Left political ideology	0.0087	0.0468	0.0458	0.0502	-0.0202
	(1.01)	(1.05)	(1.05)	(1.05)	(0.98)
Civic engagement	-0.0106	-0.0165	0.0764	-0.0566	-0.5348
	(0.99)	(0.98)	(1.08)	(0.94)	(0.59)
Socio-psychological correlate:					
People can be trusted	0.0462	0.2215*	0.7089***	0.2417	0.1695
	(1.05)	(1.25)	(2.03)	(1.27)	(1.18)
Attitude towards government:					
Confidence in government institutions	1.1534***	1.5640***	2.2627***	1.3311***	2.0164***
	(3.17)	(4.78)	(9.61)	(3.79)	(7.51)
Constant	-0.7502*	-0.8923***	-2.0593***	-0.6261*	-0.1782***
	(0.47)	(0.41)	(0.13)	(0.53)	(0.84)
N	548	1,429	873	903	659
Model χ^2	138.22***	391.23***	322.13***	209.76***	284.08***
Log likelihood	-305.4	-785.3	-417.3	-518.2	-306.0
McKelvey and Zavoina's R^2	0.308	0.348	0.472	0.288	0.531

* $p \leq 0.10$; ** $p \leq 0.05$; *** $p \leq 0.01$ (Odds ratios are reported in parentheses.)

Table 8. Binary logistic regression: Have "a great deal of confidence" or "quite a lot of confidence" in the civil service (Germany, Great Britain, Hungary, Italy)

	Germany	Great Britain	Hungary	Italy
Socio-cultural correlates:				
Age	0.0106***	-0.0048	0.0105*	0.0026
	(1.01)	(0.99)	(1.01)	(1.00)
Male	-0.0273	0.0377	-0.1361	0.2211
	(0.97)	(1.04)	(0.87)	(1.25)
High education	-0.3437*	-0.1282	0.3641	-0.2028
	(0.71)	(0.88)	(1.44)	(0.82)
Government employee	0.1749	0.0908	0.1763	0.1690
	(1.19)	(1.10)	(1.19)	(1.18)
Left political ideology	-0.0979***	0.0836*	0.0200	0.0125
	(0.91)	(1.09)	(1.02)	(1.01)
Civic engagement	0.0225	0.0561	0.1222	0.0970
	(1.02)	(1.06)	(1.13)	(1.10)
Socio-psychological correlate:				
People can be trusted	0.3925***	0.3328*	0.2468	0.1443
	(1.48)	(1.39)	(1.28)	(1.16)
Attitude towards government:				
Confidence in government institutions	1.6117***	1.3239***	1.5175***	1.6318***
	(5.01)	(3.76)	(4.56)	(5.11)
Constant	-1.1094***	-0.8056**	-0.5441	-1.0470**
	(0.33)	(0.45)	(0.58)	(0.35)
N	1,498	741	762	661
Model χ^2	395.79***	165.54***	239.50***	165.28***
Log likelihood	-721.9	-430.7	-403.8	-369.2
McKelvey and Zavoina's R^2	0.374	0.280	0.381	0.322

* $p \leq 0.10$; ** $p \leq 0.05$; *** $p \leq 0.01$ (Odds ratios are reported in parentheses.)

Table 9. Binary logistic regression: Have "a great deal of confidence" or "quite a lot of confidence" in the civil service (Moldova, Netherlands, Norway, Poland)

	Moldova	Netherlands	Norway	Poland
Socio-cultural correlates:				
Age	0.0166**	0.0061	-0.0139***	0.0016
	(1.02)	(1.01)	(0.99)	(1.00)
Male	0.2713	0.0620	0.0978	-0.0107
	(1.31)	(1.06)	(1.10)	(0.99)
High education	0.3919	0.0986	-0.0015	0.2770
	(1.48)	(1.10)	(0.99)	(1.32)
Government employee	-0.3277	0.2924	0.3367**	0.0397
	(0.72)	(1.34)	(1.40)	(1.04)
Left political ideology	-0.0618	0.0004	0.0841**	-0.0644
	(0.94)	(1.00)	(1.09)	(0.94)
Civic engagement	-0.1275	0.0211	0.1471**	0.3957***
	(0.88)	(1.02)	(1.16)	(1.49)
Socio-psychological correlate:				
People can be trusted	-0.0157	0.4963***	0.5591***	0.1289
	(0.98)	(1.64)	(1.75)	(1.14)
Attitude towards government:				
Confidence in government institutions	1.5206***	1.7325***	1.7451***	2.0259***
	(4.57)	(5.65)	(5.73)	(7.58)
Constant	-1.9930***	-1.7247***	-1.0675***	-1.3264***
	(1.14)	(0.18)	(0.34)	(0.27)
N	762	761	985	614
Model χ^2	128.91***	210.10***	255.21***	159.99***
Log likelihood	-251.9	-368.5	-528.8	-219.0
McKelvey and Zavoina's R^2	0.348	0.393	0.338	0.440

* $p \leq 0.10$; ** $p \leq 0.05$; *** $p \leq 0.01$ (Odds ratios are reported in parentheses.)

Table 10. Binary logistic regression: Have "a great deal of confidence" or "quite a lot of confidence" in the civil service (Romania, Russia, Slovenia, Spain)

	Romania	Russia	Slovenia	Spain
Socio-cultural correlates:				
Age	0.0132**	-0.0074*	0.0083	0.0030
	(1.01)	(0.99)	(1.01)	(1.00)
Male	0.7114	-0.1212	1.0629***	-0.1190
	(1.07)	(0.89)	(2.89)	(0.89)
High education	0.0956	-0.1038	0.5339*	-0.2472
	(1.10)	(0.90)	(1.71)	(0.78)
Government employee	0.3078	0.1910	0.4225	0.0987
	(1.36)	(1.21)	(1.53)	(1.10)
Left political ideology	0.0034	--	-0.0429	-0.0671*
	(1.00)		(0.96)	(0.94)
Civic engagement	0.2316	0.1298	-0.1211	0.1810**
	(1.26)	(1.14)	(0.89)	(1.20)
Socio-psychological correlate:				
People can be trusted	-0.3396	0.1283	0.0523	0.0303
	(0.71)	(1.14)	(1.05)	(1.03)
Attitude towards government:				
Confidence in government institutions	1.4368***	1.1746***	2.3653***	1.3185***
	(4.21)	(3.24)	(10.64)	(3.74)
Constant	-1.3207***	0.7151***	-2.4893***	-0.5134
	(0.27)	(2.04)	(0.08)	(0.60)
N	797	1,517	586	932
Model χ^2	194.23***	357.54***	183.55***	190.00***
Log likelihood	-386.2	-869.5	-186.8	-535.4
McKelvey & Zavoina's R^2	0.338	0.285	0.526	0.275

* $p \leq 0.10$; ** $p \leq 0.05$; *** $p \leq 0.01$ (Odds ratios are reported in parentheses.)

Table 11. Binary logistic regression: Have "a great deal of confidence" or "quite a lot of confidence" in the civil service (Sweden, Switzerland, Ukraine, United States)

	Sweden	Switzerland	Ukraine	United States
Socio-cultural correlates:				
Age	0.0088	0.0035	0.0020	0.0064
	(1.01)	(1.00)	(1.00)	(1.01)
Male	0.2965	0.0301	-0.0680	0.0249
	(1.35)	(1.03)	(0.93)	(1.03)
High education	0.1566	0.0529	-0.3145	-0.1664
	(1.17)	(1.05)	(0.73)	(0.85)
Government employee	0.3754*	0.4587**	0.1406	0.3498
	(1.46)	(1.58)	(1.15)	(1.42)
Left political ideology	0.0789*	0.0935**	0.0243	0.0483
	(1.08)	(1.10)	(1.02)	(1.05)
Civic engagement	-0.0428	-0.0728	-0.1232	-0.0247
	(0.96)	(0.93)	(0.88)	(0.98)
Socio-psychological correlate:				
People can be trusted	0.2743	0.0619	0.1908	0.2032
	(1.32)	(1.06)	(1.21)	(1.23)
Attitude towards government:				
Confidence in government institutions	1.7007***	1.8666***	1.5412***	2.0615***
	(5.48)	(6.47)	(4.67)	(7.86)
Constant	-1.3193***	-0.7748*	0.0172	-1.4141***
	(0.27)	(0.46)	(1.02)	(0.24)
N	780	969	419	1,147
Model χ^2	190.17***	228.79***	129.48***	352.18***
Log likelihood	-400.0	-495.2	-220.0	-605.2
McKelvey & Zavoina's R^2	0.327	0.327	0.401	0.408

* $p \leq 0.10$; ** $p \leq 0.05$; *** $p \leq 0.01$ (Odds ratios are reported in parentheses.)

Section 4.4: Summary

The descriptive analysis of the dependent variable indicates that there is variation both within and across countries in the level of confidence in the civil service. Confidence is higher among citizens of the Scandinavian countries, while those in Poland, Slovenia, and Moldova are the most critical.

The average age of respondents by country varies from 41 in Russia to 52.5 in Switzerland. Overall, there are slightly more respondents who are women than men across nations with the exception of five countries. There is an equal distribution of men and women in Spain and the United States. Norway, Sweden, and Poland have slightly more men than women (50.1%, 50.1%, and 51.2%, correspondingly). There is a broad percentage distribution of respondents with high education across countries. Norway and Sweden have the highest proportion of respondents with a college degree (47.1% and 49.0%, correspondingly). Meanwhile, the United States and Poland have the least percentage of respondents with high education (10.2% and 13.2%, correspondingly).

The percentage of government employees varies from 10.1% in the United States to 45.3% in Moldova. It is important to note that the left political ideology variable has the largest amount of missing values across countries. Russia has no valid responses at all because the political ideology question has not been asked in this country.

On average, respondents in Canada are actively engaged in the highest number of voluntary organizations (1.43 with a standard deviation of 1.52). Meanwhile, respondents in Georgia are actively engaged in the least number of voluntary organizations (0.06 with a standard deviation of 0.27). The highest levels of trust in others are among citizens of Switzerland, Finland, and Norway, as at least 51% of them

in each country reported that "most people can be trusted." To the contrary, citizens of Moldova, Slovenia, and Georgia, and France are the least trusting, as less than 18.7% of them suggested that people "need to be careful." Confidence in government institutions is a factor score that ranges from -1.8 to 2.5.

Binary logistic regression models reveal that there are some general similarities in the correlates of confidence attitudes across countries. The most prominent one is the attitudes towards other government institutions. Those citizens who have confidence in other government institutions are more likely to have confidence in the civil service as well. Also, confidence in the civil service is higher in those countries where trust in others is widespread. However, socio-demographic variables are less useful in explaining variation in these attitudes, which is consistent with previous research. The next chapter examines both individual- and country-level correlates of the attitudes towards the civil service using multilevel models.

CHAPTER V
EXPLANING CONFIDENCE IN THE PUBLIC SERVICE. THE COUNTRY-LEVEL CORRELATES AND MULTILEVEL MODELS

The previous chapter has examined the individual-level correlates of citizen confidence in the civil service. This chapter presents models that include both levels of analysis: individual-level and country-level correlates of confidence in the civil service. The chapter starts by presenting a descriptive analysis of the country-level variables employed in this study. Next, scatter plots of confidence in the civil service and the country-level variables are examined. These figures allow for an exploration of some of the possible explanations for variation in confidence in the civil service at the country-level. The main research question examined in this chapter is: Do country-level correlates explain variation between countries in citizen confidence in the civil service? To answer this research question, multilevel (or hierarchical linear) models are examined. One of the important contributions of this study is that it includes a larger number of countries than what has been examined in the previous research of attitudes towards the civil service. Furthermore, this study examines not only developed democracies in North America but emerging democracies of Eurasia.

Section 5.1: Descriptive analysis of country-level correlates

This section examines each country-level correlate separately by presenting basic descriptive statistics. Among others, this section seeks to answer the following questions: What is the general level of economic conditions in the countries? What is the general level of institutional quality in the countries? What is the general level of income

inequality in the countries? How widely dispersed are the values of these and other country-level variables? At the very minimum, the country-level variables should vary. The magnitude of the variation, or lack of it, may affect the multivariate analysis performed in this chapter. Also, the goal of this section is to establish an initial picture of the nature of that variation, which forms the basis of further analysis. This section separately summarizes each particular variable by presenting mean, standard deviation, and minimum and maximum values. Also, the distribution of countries over the values of these variables is examined.

This study examines 21 countries of North America and Eurasia. Among them, 12 countries are developed democracies, and 9 countries are emerging democracies that were part of the post-Soviet or communist Bloc (see Table 13 for a complete list of countries). Table 12 presents descriptive statistics of country-level correlates employed in this analysis.

Table 12. Descriptive statistics: Country-level variables

Country-level variable	Mean	Std. Dev.	Min	Max	N
GDP per capita, thousand USD	24.9	13.50	2.5	48.4	21
Unemployment, %	7.4	2.73	3.4	13.8	21
Inflation, %	5.2	4.78	0.3	15.2	21
Government effectiveness	0.9	0.98	-0.8	2.1	21
Corruption perception index	6.2	2.53	2.5	9.6	21
Gini index	31.1	5.49	23.2	42.8	21
Ethnic fractionalization index	0.3	0.20	0.1	0.7	21
Traditional vs. Secular-rational values	0.4	0.68	-0.8	1.9	21
Survival vs. Self-expression values	0.4	1.35	-1.6	2.4	21

The first three country-level variables — GDP per capita, unemployment, and inflation — capture economic conditions in the countries. Generally speaking, GDP per capita gauges a country's average economic wealth (World Bank 2012). Examination of Table 12 and figure 11 reveal that countries' GDP per capita widely varies from 2.5 thousand USD to 48.4 thousand USD. The average GDP per capita equals 24.9 thousand USD and the standard deviation equals 13.5.

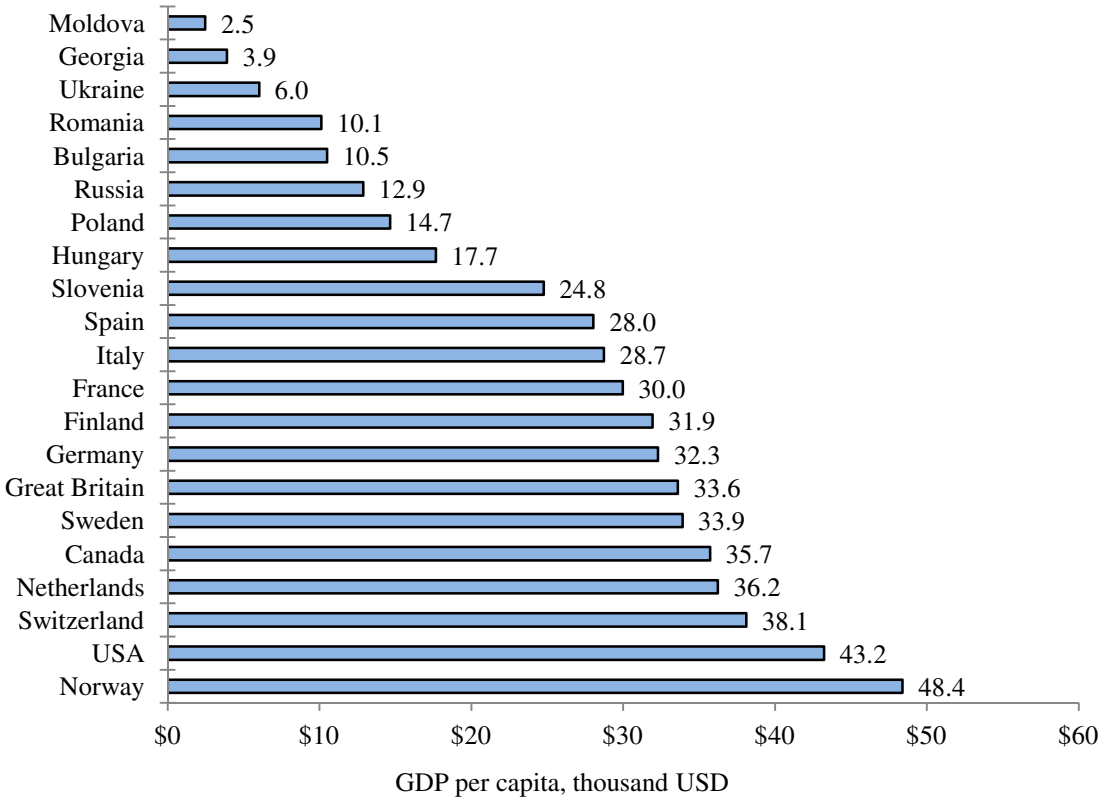


Figure 11. GDP per capita by country, thousand USD

Figure 11 presents countries' GDP per capita and orders the countries from low-to-high on this variable. The former Soviet Bloc countries have the lowest values of GDP per capita, with Moldova being the poorest country in the sample. To the contrary, the developed democracies of North America and Western Europe have the highest GDP per capita, with Norway being the richest country in the sample.

Unemployment is the second variable that measures economic condition of a country. In this study, unemployment refers to "the share of labor force that is without work but available for and seeking employment" (World Bank 2012).

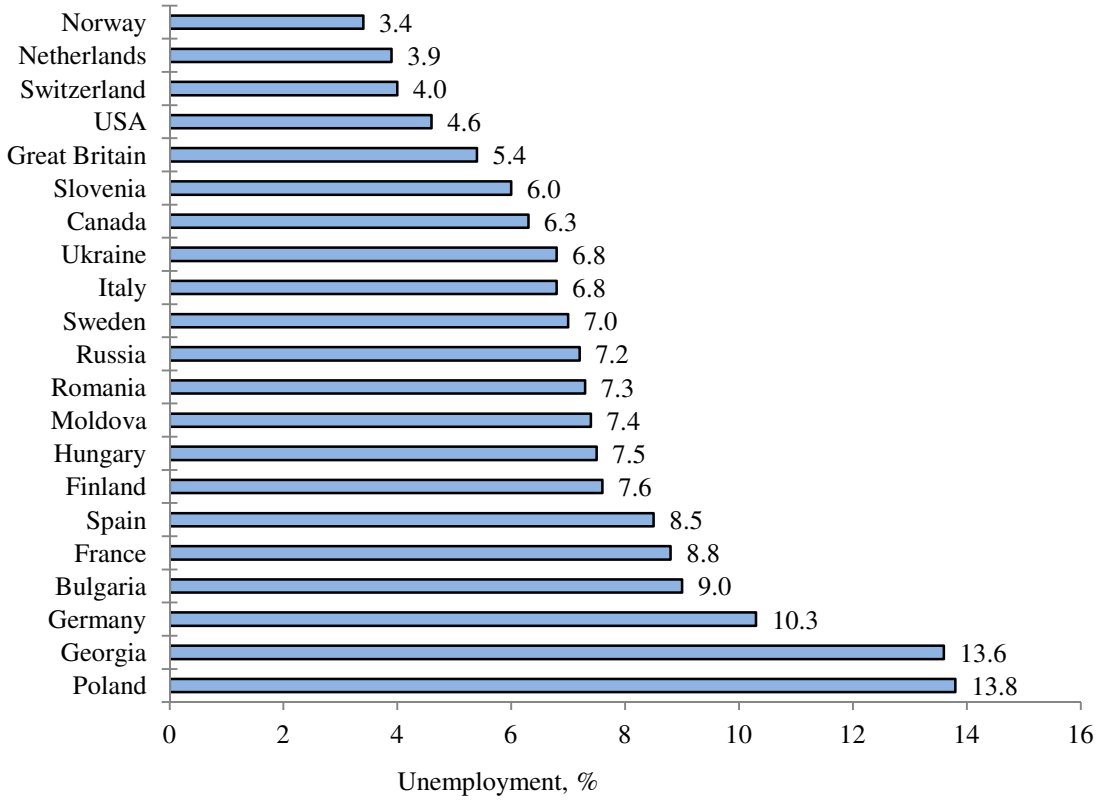


Figure 12. Unemployment by country, %

Unemployment varies from the lowest value of 3.4% to the highest value of 13.8% (see figure 12). The lowest unemployment rates are observed in two Scandinavian countries — Norway and Netherlands — and Switzerland. Their unemployment rates do not exceed 4%. Although the highest unemployment rates are observed in the former Soviet Bloc countries (Georgia and Poland), there is no clear division of countries into two groups based on unemployment as it has been observed with GDP per capita. For example, Germany has the third highest unemployment rate (10.3%).

Because Russia and Poland have somewhat high unemployment rates (13.6% and 13.8%, correspondingly) as compared to other countries, the unemployment variable is slightly positively skewed. Another important observation is that the unemployment rate for most countries varies between 5% and 9%. The average unemployment rate equals 7.4% and the standard deviation equals 2.73.

The last economic indicator employed in this study is inflation. Inflation reflects "the rate of price change in the economy as a whole" (World Bank 2012).

Overall, countries widely vary in terms of their inflation rate (see figure 13). The lowest inflation rate is 0.3% and the highest one is 15.2%. The lowest inflation rate is observed in developed democracies. Thus, an inflation rate in Finland and Germany is less than 0.9%. To the contrary, inflation exceeds 13% in Moldova, Ukraine, and Russia. The average rate of inflation is 5.2%, and the standard deviation is 4.8. The distribution is positively skewed, which means there are several countries with high inflation rates. It is interesting to note that although Germany has the lowest inflation rate, it has the third highest unemployment rate in this sample.

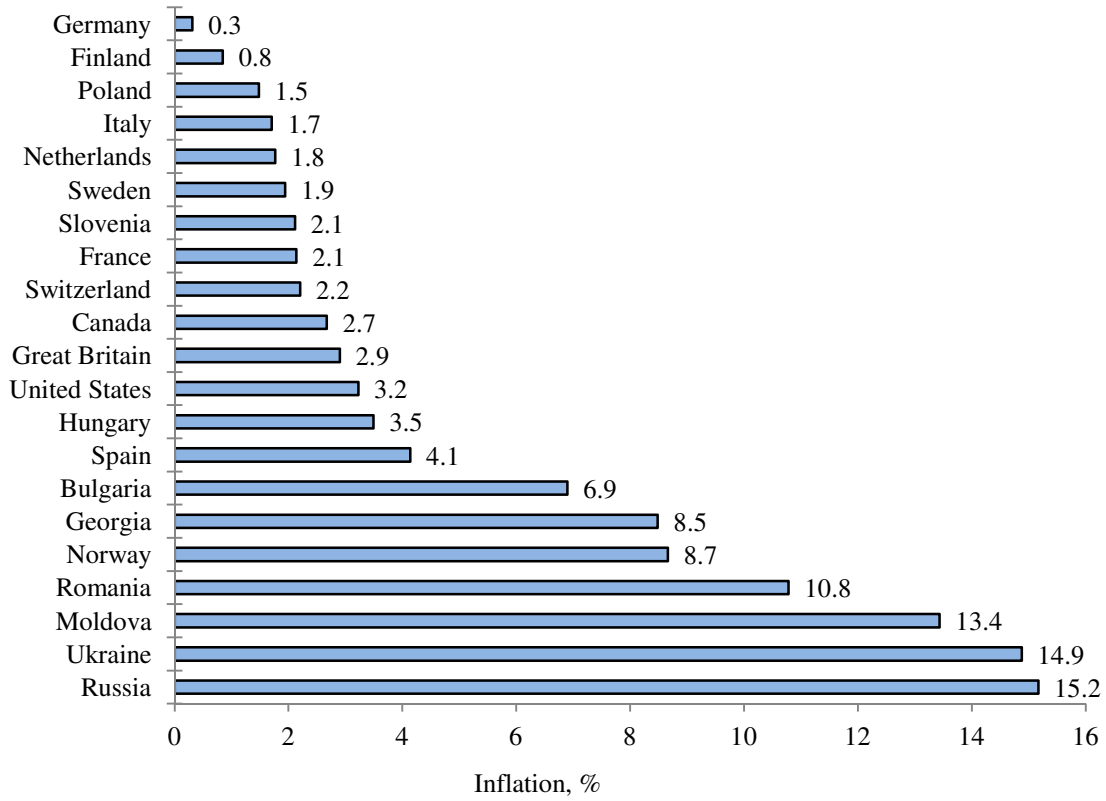


Figure 13. Inflation by country, %

The second set of country-level variables examined in this study is the institutional quality correlates. Two indicators are used to gauge institutional quality of a country: government effectiveness and corruption. The Government effectiveness indicator is measured in standard normal units. Theoretically, it ranges from approximately -2.5 (weak) to 2.5 (strong) governance performance (Kaufmann, Kraay, and Mastruzzi 2010). A higher score corresponds to a higher quality of government institution (World Bank 2012). In this sample, government effectiveness ranges from -0.8 to 2.1 (see figure 14). Negative scores of the government effectiveness indicators are observed in the former Soviet Bloc countries: Moldova, Ukraine, Russia, Romania,

Georgia, and Bulgaria. The highest positive scores of the government effectiveness are associated with Scandinavian countries — Norway, Sweden, and Finland — and Switzerland. The average score is 0.9, and the standard deviation equals 0.98.

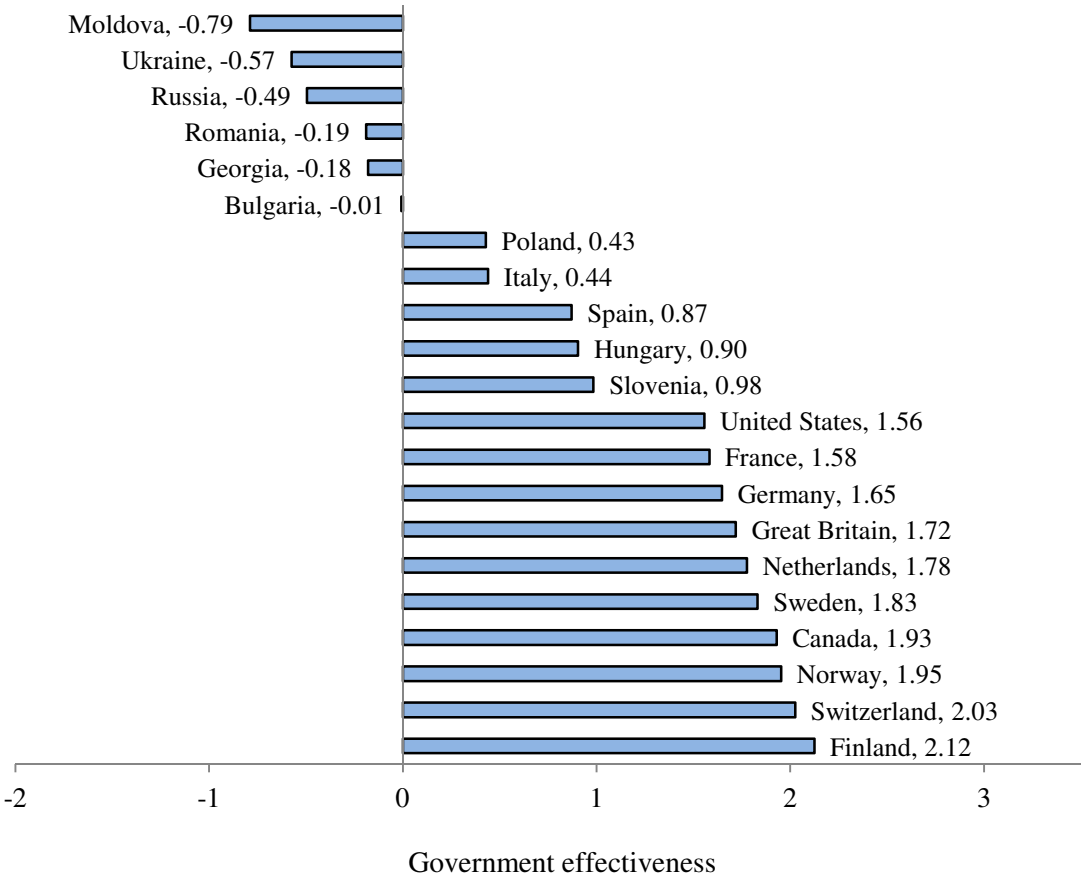


Figure 14. Government effectiveness by country

The second indicator of the quality of government institutions is the level of corruption. Theoretically, the corruption perception index (CPI) ranges between 10 (highly clean) and 0 (highly corrupt) (Transparency International 2012). In this sample, the CPI ranges from 2.5 to 9.6 (see figure 15). Once again, there seems to be a pattern in

the distribution of countries across this variable. The most corrupt countries are the former Soviet Bloc countries: Russia, Ukraine, and Georgia. The least corrupt countries are Switzerland and the Scandinavian countries (Norway, Sweden, and Finland). The mean equals 6.2, and the standard deviation equals 2.5.

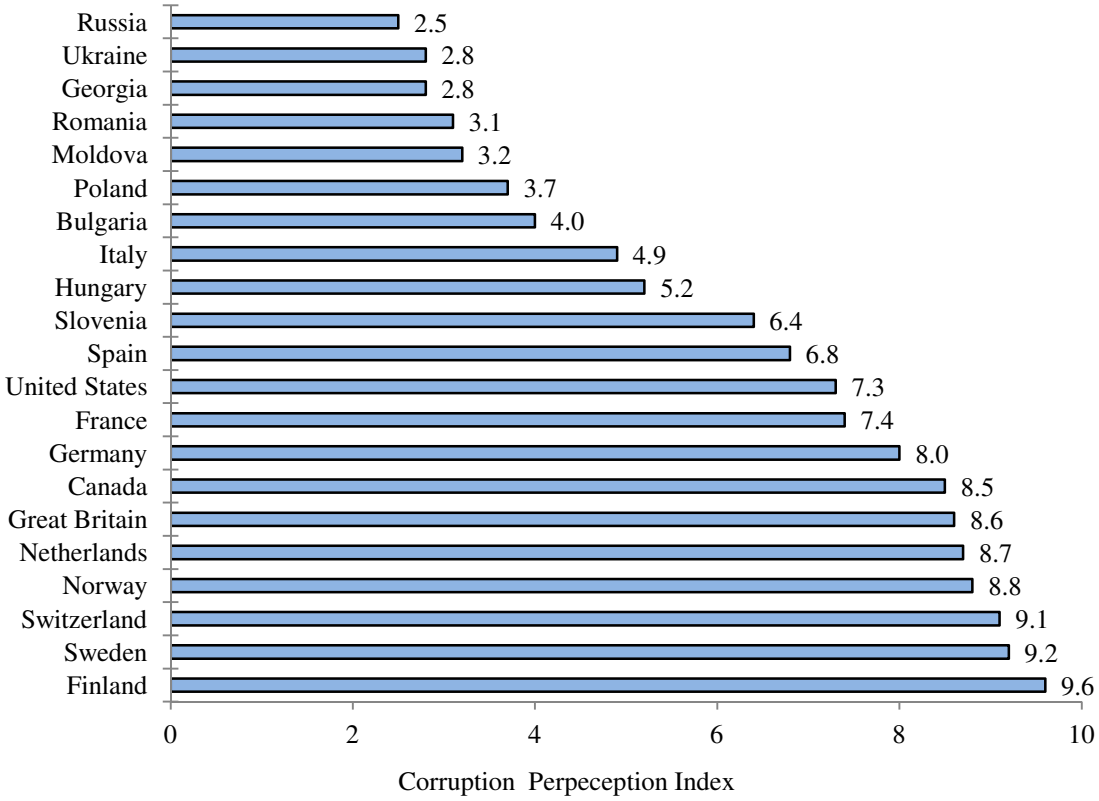


Figure 15. Corruption Perception Index by country

The next set of correlates captures social polarization in countries. Two indices are examined: the Gini index and the ethnic fractionalization index. The Gini index gauges the income inequality for the sample in a country. It varies theoretically from 0 (perfect equal distribution of income) to 100 (perfectly unequal distribution of income)

(Solt 2009). The Gini index of this sample varies from 23.2 to 42.8 (see figure 16). There is somewhat of a general pattern in the distribution of countries along the Gini index. Scandinavian countries (Sweden, Norway, and Finland) have the lowest Gini index. Their Gini indices do not exceed 25.4. However, Slovenia – one of the former Soviet Bloc countries – is also among the values of the Scandinavian countries. The most unequal distribution of income is observed in the post-Soviet Bloc countries: Georgia, Moldova, and Russia. Their Gini indices exceed 39.5. However, among these countries, one can find the United States as well. The Gini mean equals 31.1 and the standard deviation equals 5.5.

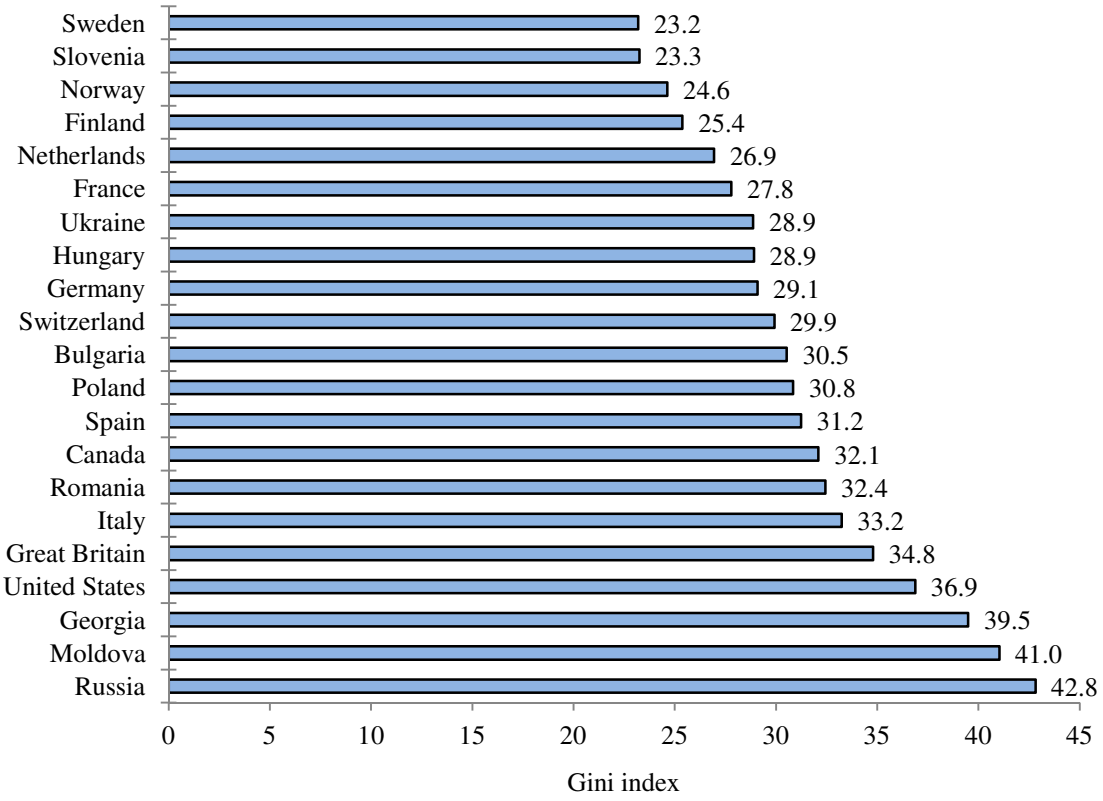


Figure 16. Gini index by country

The ethnic fractionalization index is the second indicator that captures social polarization in a country. The index varies theoretically from 0 and 1. The higher the number, the more fractionalized is a society. Figure 17 and Table 12 show that the ethnic fractionalization index in this sample varies between 0.06 and 0.71. The most homogenous countries are Norway and Sweden. Their indices do not exceed 0.06. Canada is the most fractionalized society. Its index equals 0.71. The mean is equal to 0.3, and the standard deviation equals 0.2.

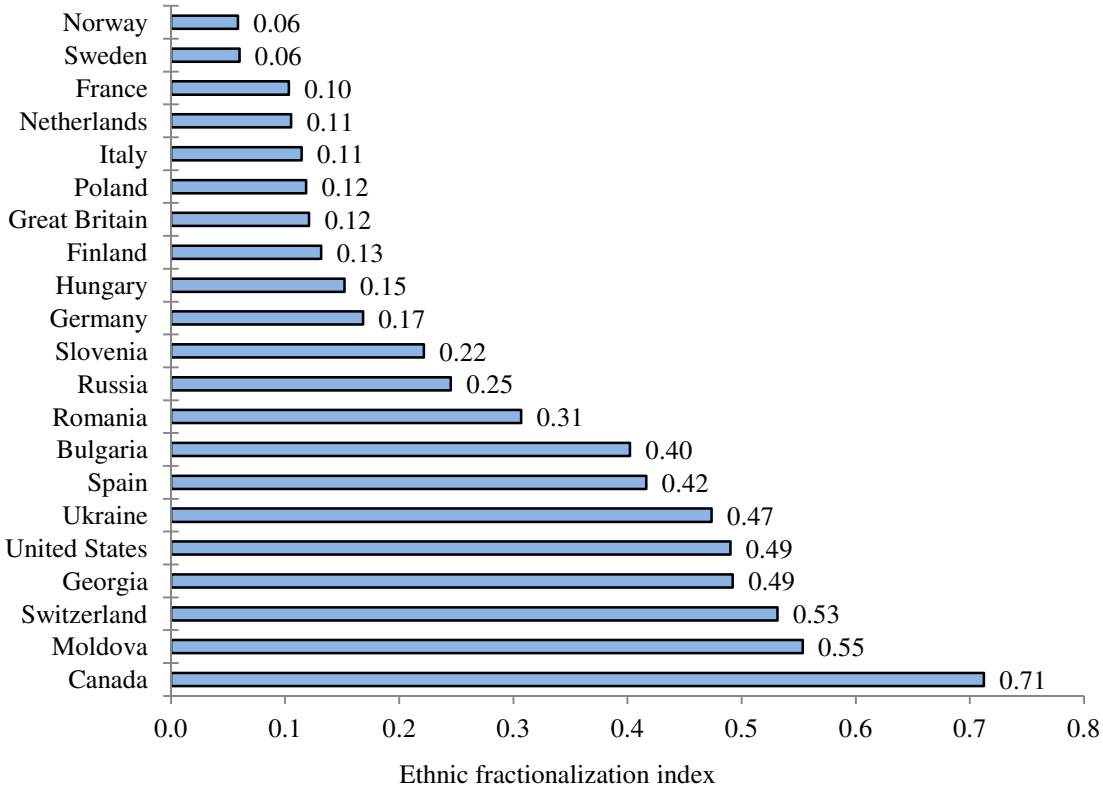


Figure 17. Ethnic fractionalization index by country

The last set of country-level correlates gauges two major dimensions of cross-cultural variation in these countries: Traditional values versus Secular-Rational values and Survival values versus Self-Expression values (Inglehart and Welzel 2005). Figure 18 locates countries along these two dimensions. Moving upward on this figure corresponds to the shift from Traditional values to Secular-Rational values. At the same, moving rightward on this figure corresponds to the shift from Survival values to Self-Expression values.

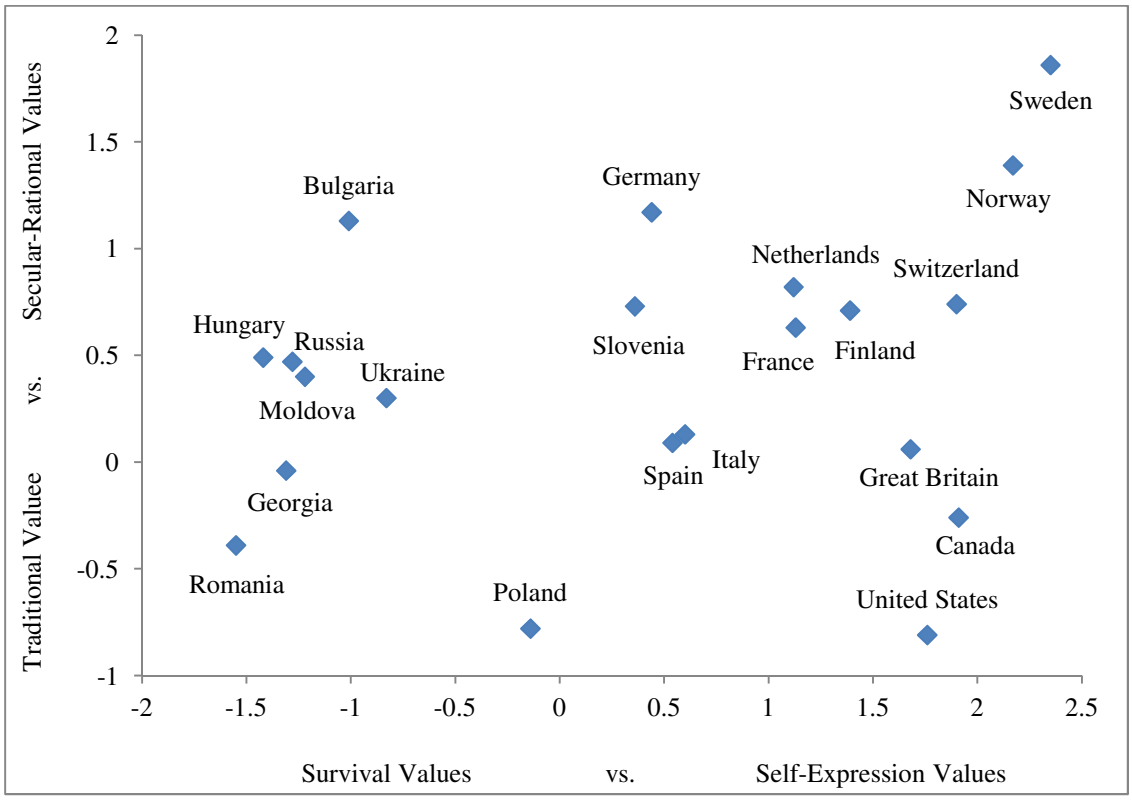


Figure 18. Location of 21 countries on two dimensions of the Inglehart-Welzel cross-cultural variation

Following Inglehart and Welzel's (2005) methodology, 4 country typologies emerges from the 21 countries examined in this study (see Table 13).

Table 13. Traditional values versus Secular-Rational values by country

Communist legacy	Classification	Country	Traditional vs. Secular-Rational values	Survival vs. Self-Expression values
Western democracies	Protestant Europe	Sweden	1.86	2.35
		Norway	1.39	2.17
		Germany	1.17	0.44
		Finland	0.82	1.12
		Switzerland	0.74	1.90
		Netherlands	0.71	1.39
		France	0.63	1.13
	English Speaking	Great Britain	0.06	1.68
		Canada	-0.26	1.91
		United States	-0.81	1.76
	Catholic Europe	Italy	0.13	0.60
		Spain	0.09	0.54
Ex-communist countries		Slovenia	0.73	0.36
		Hungary	0.40	-1.22
		Poland	-0.78	-0.14
	Orthodox Europe	Bulgaria	1.13	-1.01
		Russia	0.49	-1.42
		Moldova	0.47	-1.28
		Ukraine	0.30	-0.83
		Georgia	-0.04	-1.31
		Romania	-0.39	-1.55

The first group is countries that have high scores in Secular-Rational and high scores in Self-Expression values. These are the so-called countries of Protestant Europe — Sweden, Norway, Germany, Netherlands, Finland, Switzerland, France — and one country of Catholic Europe, Slovenia. These countries are located at the top right corner of figure 18.

The second group of countries has high scores in Self-expression values and high scores in Traditional values. These are the so-called English speaking countries — Great Britain, Canada, the United States — and two countries of Catholic Europe: Italy and Spain. These countries are located at the bottom right corner of figure 18.

The third group of countries has high scores in Secular-Rational values and high scores in Survival values. These are the so-called countries of Orthodox Europe — Bulgaria, Russia, Moldova, Russia, Ukraine — and one country of Catholic Europe, Hungary. These countries are located at the top left corner of figure 18.

The fourth group of countries has high score in Survival values and high scores in Traditional values: Georgia, Romania (Orthodox Eurasia) and Poland (Catholic Europe). These countries are located at the bottom left corner of figure 18.

Examination of figure 18 suggests the following pattern. As standards of living increase and a transition from industrial society to post-industrial society occurs, a country tends to move from the bottom-left corner (high scores in both Survival and Traditional values) in the direction of the upper-right corner (high score in both Self-Expression and Secular-Rational values).

Section 5.2: Cross-country differences in the level of confidence in the civil service: Scatter plots

What explains country-level differences in confidence attitudes? To explore the answer to this quesiton, this section presents scatter plots of the percent of respondents that have higher confidence in the civil service (i.e., "quite a lot" or "a great deal") and the country-level correlates. This bivariate analysis sets the stage for the next section that provides multilevel analysis of both individual- and country-level correlates of the confidence attitudes.

As discussed in Chapter 2, the extant literature has identified four sets of country-level correlates that explain trust variation across countries: government performance, institutional quality, social polarization, and culture. The scatter plots are examined for these four sets of correlates. To discern a possible relationship between the dependent variable and these country-level correlates, this section discusses the direction and strength of their relationship and whether the observed relationship is in line with proposed hypotheses. A regression line is superimposed on the scatter plots to aid interpretation of the nature of the relationships in the plots.

Section 5.2.i: Government performance

Confidence in the civil service is expected to be related to economic conditions in the country. In this study, three variables are used to operationalize the economic conditions of the country: gross domestic product (GDP) per capita (in thousand USD), unemployment rate (%), and inflation rate (%). Figures 19-21 show how these economic indicators and the level of confidence in the civil service relate to each other.

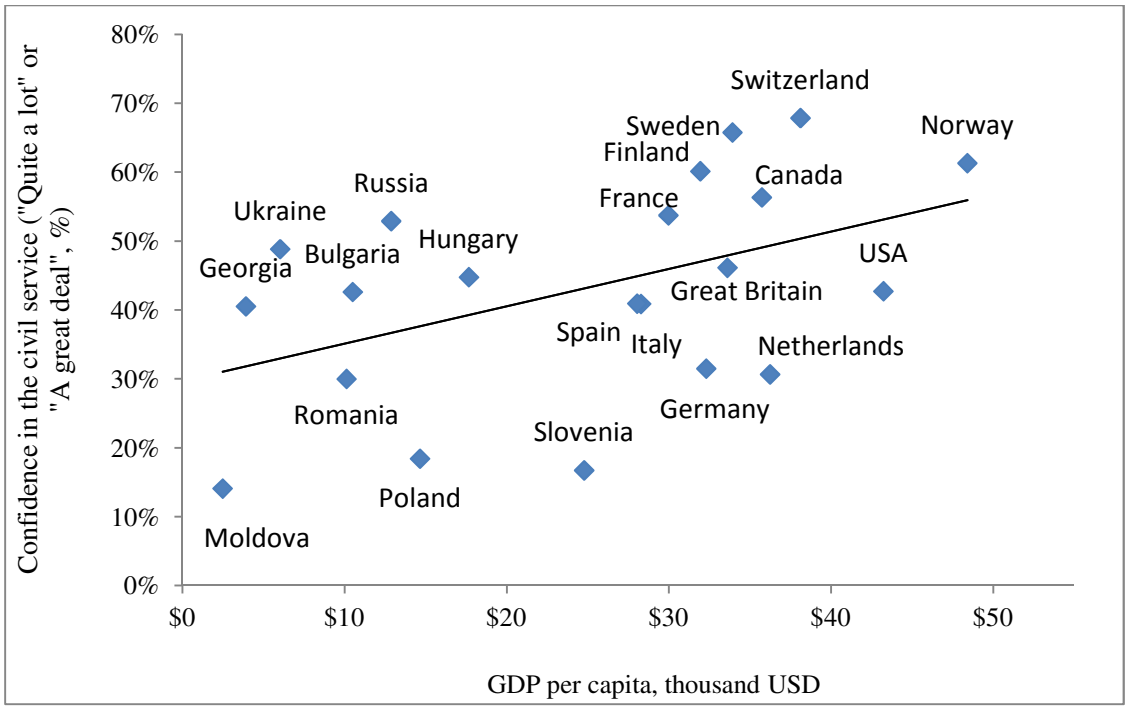


Figure 19. Confidence in the civil service and GDP per capita (thousand USD)

Figure 19 is a scatter plot showing how GDP per capita and the level of confidence in the civil service co-vary for the sample of 21 countries. The product-moment correlation coefficient (Pearson's r) equals 0.47 (see Appendix M). There seems to be a strong positive relationship between GDP per capita and confidence in the civil service.

The post-Soviet countries are located at the left bottom corner of figure 19. To the contrary, developed democracies are found at the right upper corner of the figure. This empirical observation provides some support for the proposed hypothesis that the higher the level of economic growth a country experiences, the more likely citizens in a country are to have confidence in the civil service.

The second indicator of economic condition used in this study is unemployment. Figure 20 plots unemployment and the level of confidence in the civil service.

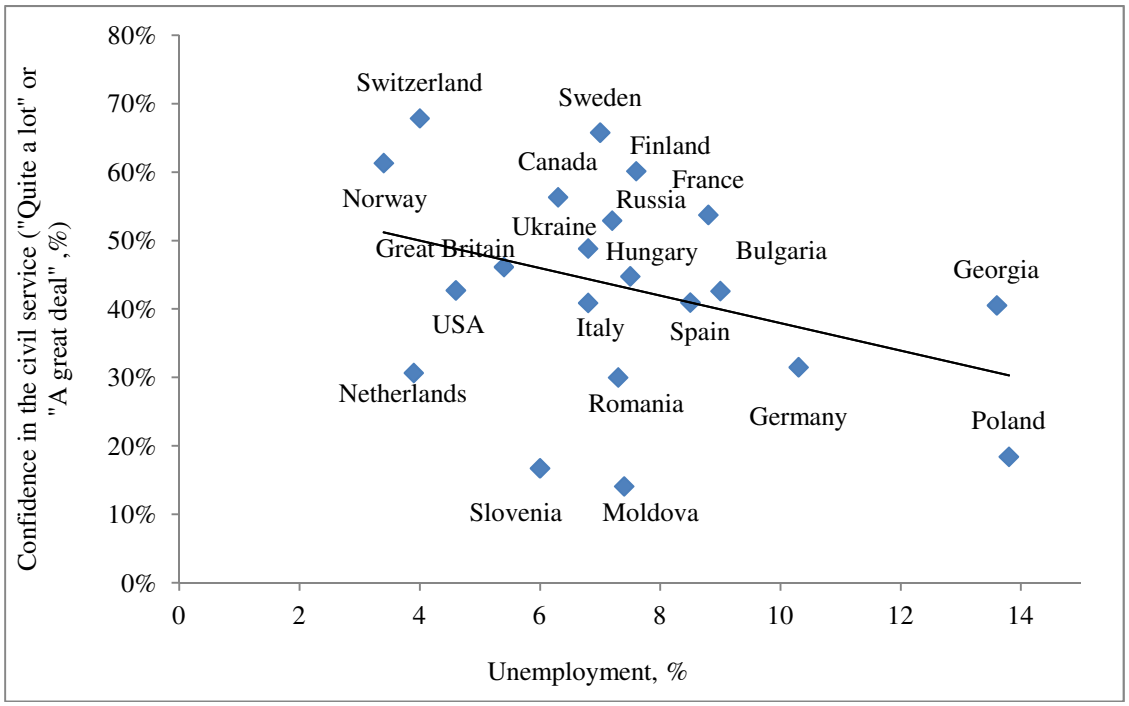


Figure 20. Confidence in the civil service and unemployment (%)

Appendix M shows that Pearson's r equals -0.35. Both the figure and Pearson's r suggest a negative moderate relationship between inflation and the confidence variable: The higher the inflation rate, the lower is the confidence. Once again, this finding supports the economic hypothesis: the higher the unemployment rate a country experiences, the lower is the level of confidence citizens have in the civil service.

Also, the figure clearly shows that Georgia and Poland have higher unemployment rates than the other 19 countries. When these two sizeable countries are removed from the sample, Pearson's r drops from -0.35 to -0.20 changing the relationship

from moderate to weak. It is probable that Georgia and Poland influence the relationship between the confidence and unemployment.

Inflation is the third indicator of countries' economic condition. Figure 21 is a scatter plot of inflation and the level of confidence in the civil service.

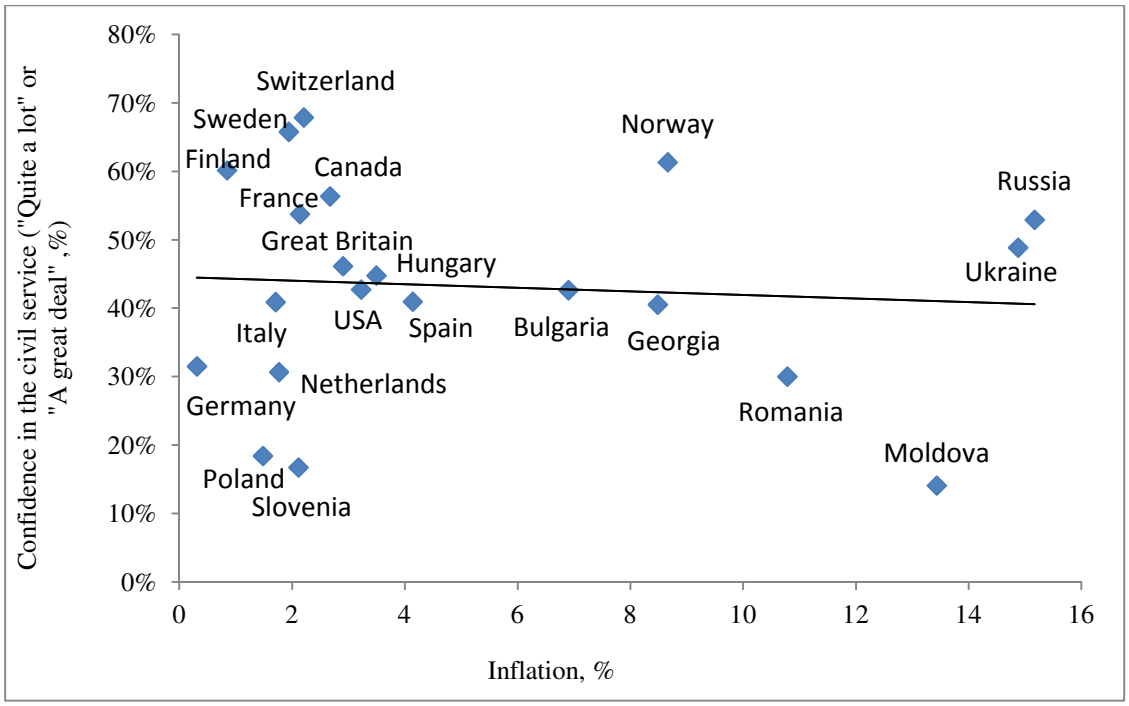


Figure 21. Confidence in the civil service and inflation (%)

Pearson's r between these two variables equals -0.08. So, it is likely due to the fact that post-Soviet Bloc countries do not universally have high rates of inflation. The figure and Pearson's r suggest a very weak negative relationship between inflation and confidence in the civil service. As hypothesized, the lower the inflation rate a country experiences, the higher is the level of confidence citizens have in the civil service.

The strength of the relationship between inflation and confidence is not nearly as strong as between GDP per capita and the confidence. There is also no clear division between developed democracies and post-Soviet Bloc countries based on the inflation variable, as it has been observed with the GDP per capita variable. Although post-Soviet Bloc countries – Russia, Ukraine, and Moldova – have the highest inflation rates in this sample, the level of inflation in Poland, Slovenia, and Hungary is as low as in the Netherlands and Italy.

Section 5.2.ii: Institutional quality

The second set of factors that is employed to explain citizens' confidence in the civil service is the quality of government institutions. This study examines two indicators: the World Bank government effectiveness indicator and the corruption perception index (CPI). Figures 22 and 23 examine the relationship between the level of confidence in the civil service and these two variables.

In this sample, the government effectiveness indicator varies from -0.79 to 2.12: the higher the number, the higher is governance performance. As figure 22 suggests, post-Soviet countries tend to have lower scores on the government performance indicator as compared to developed democracies. Overall, the data points fall closer to a regression line suggesting a strong relationship. Pearson's r for this relationship equals 0.48. The figure and Pearson's r show that there is a strong positive relationship between the government effectiveness indicator and the level of confidence in the civil service. This finding supports the proposed hypothesis: the higher the level of good governance indicator a country experiences, the higher is the level of confidence citizens have in the civil service.

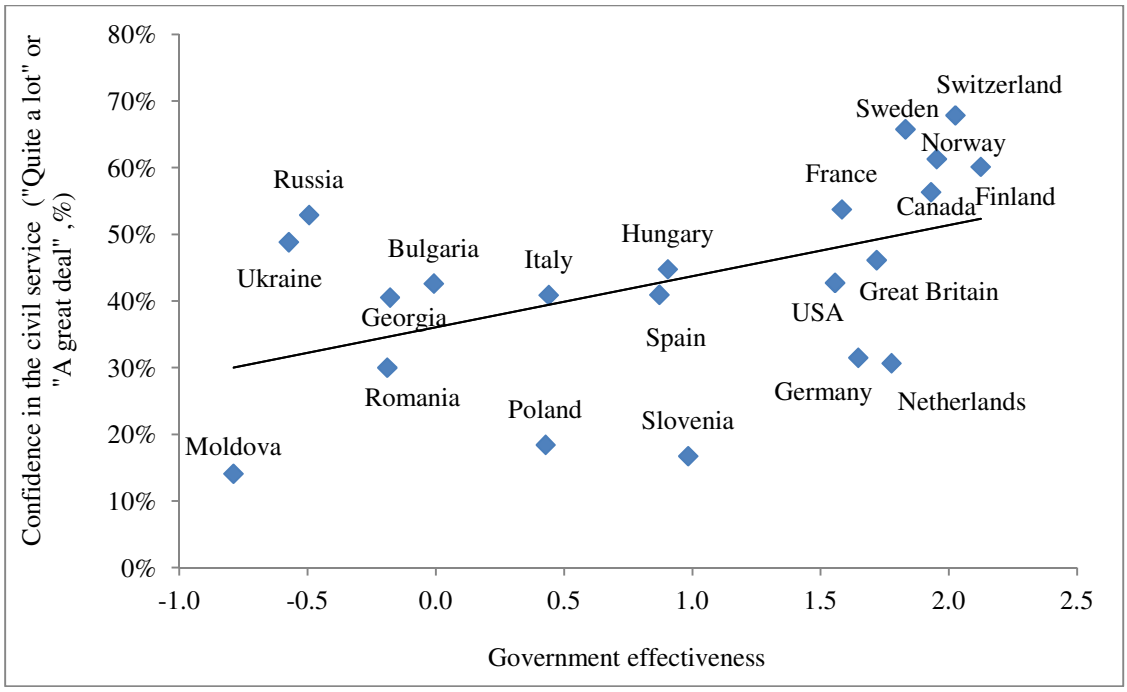


Figure 22. Confidence in the civil service and government effectiveness

The other indicator of the institutional quality of a country is the level of corruption. Figure 23 displays countries according to their values on the corruption perception index and the level of confidence in the civil service. The corruption perception index (CPI) scores countries based on a level of perceived corruption.

Theoretically, the corruption perception index varies between 0 indicating high levels of perceived corruption and 10 indicating low levels of perceived corruption (Transparency International 2012). In this sample, figure 23 shows that post-Soviet countries tend to have a higher level of perceived corruption as compared to developed democracies.

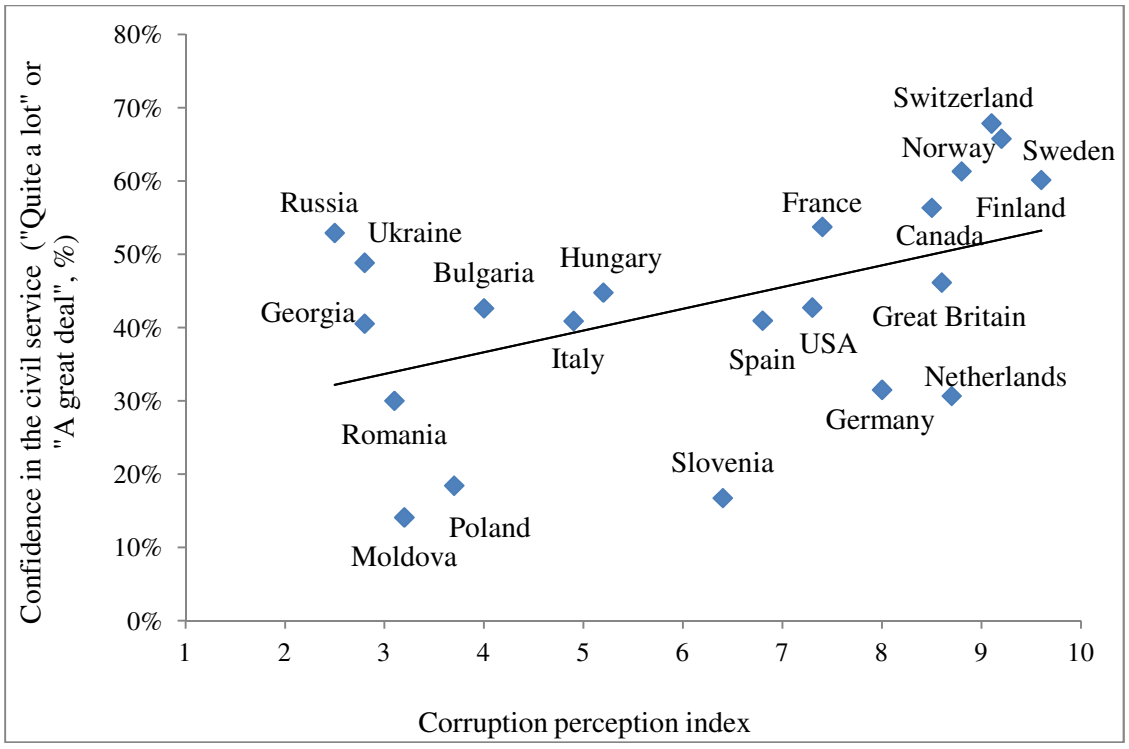


Figure 23. Confidence in the civil service and corruption

The scatter plot also suggests that there is a strong positive relationship between corruption and the confidence. Pearson's r for this relationship is 0.49. Consistent with the explanation that corruption affects people's views of the government, this finding supports the hypothesis that the lower levels of perceived corruption a country experiences, the higher is the level of confidence citizens have in the civil service.

Section 5.2.iii: Social polarization

The third set of country-level correlates gauges social polarization in a country. Two indicators are examined in this study: income inequality and ethic fractionalization. It is expected that citizens in socially polarized countries are less likely to have confidence in the civil service than citizens of more homogenous countries. Figures 24

and 25 examine the relationship between these two variables and citizens' confidence in the civil service.

Figure 24 illustrates a relationship between the Gini coefficient and the level of confidence in the civil service. The Gini coefficient is used to represent a measure of income inequality in a country.

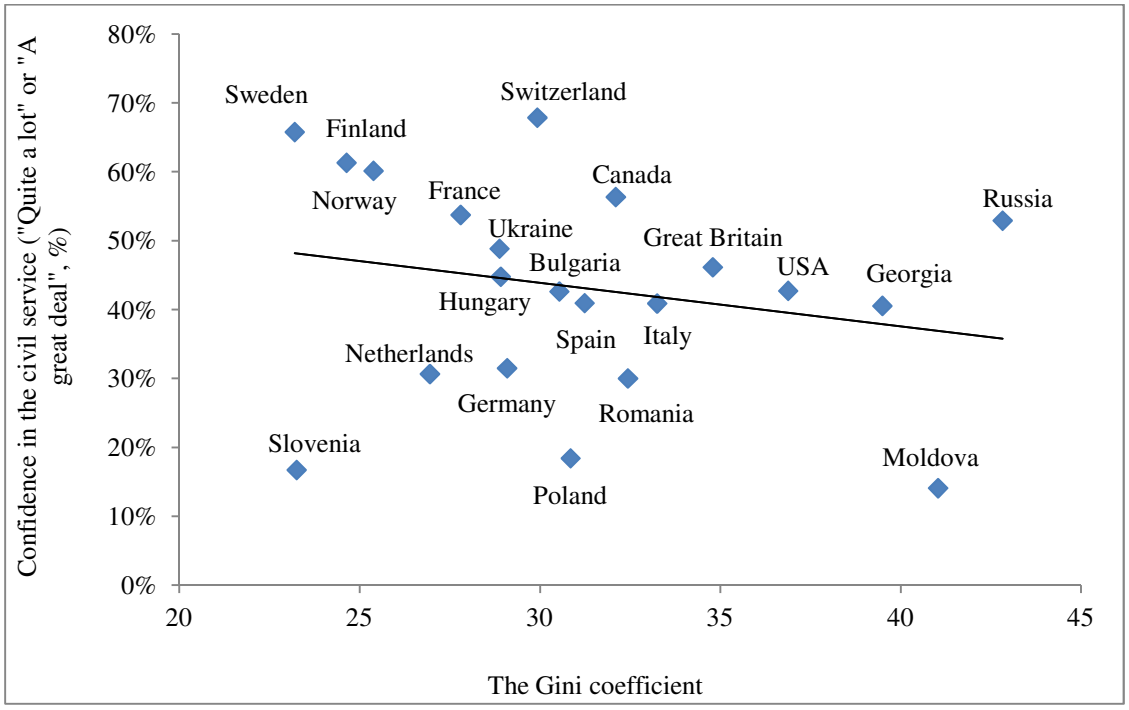


Figure 24. Confidence in the civil service and the Gini coefficient

Theoretically, it varies from 0 indicating perfect equality to 1 indicating maximum income inequality in a country. Pearson's r for these two variables is -0.22. Figure 24 also suggests that there is a weak negative relationship between the Gini index and confidence. As hypothesized, the high levels of economic inequality in a country depress confidence in the civil service.

The second social polarization variable utilized in this study is the ethnic fractionalization index. The index reflects the probability that two randomly selected individuals from a country belonged to different ethnic groups (Alesina et al. 2003). Pearson's r for this relationship is -0.02. A visual inspection of figure 25 reveals no discernible pattern. The relationship between ethnic diversity and confidence in the civil service appears negligible.

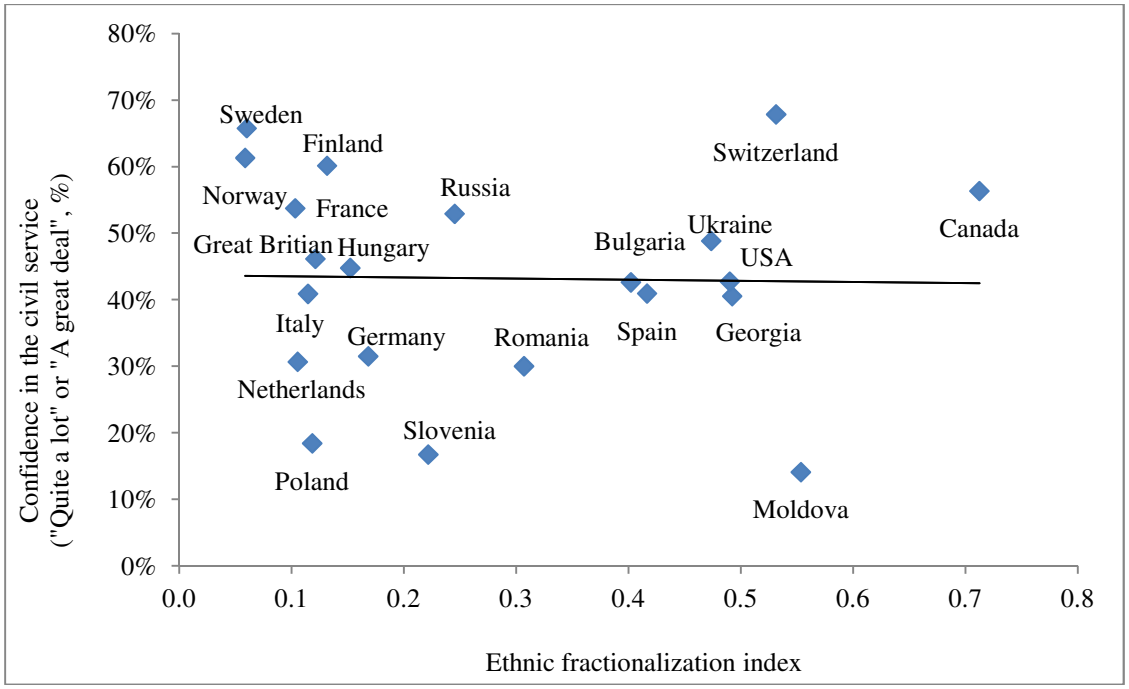


Figure 25. Confidence in the civil service and the ethnic fractionalization index

Section 5.2.iv: Culture

The last set of country-level correlates that are examined in this study is the cultural factors, i.e. "deeply-instilled attitudes among the public of a society" (Inglehart and Welzel 2010, p. 551). Two dimensions of cross-cultural variation in the world developed by Inglehart and Welzel are examined in figures 26 and 27.

Figure 26 shows that there is a relationship between the level of confidence in the civil service and Traditional values versus Secular-Rational values. The shift from Traditional values to Secular-Rational values in a country is associated with a higher level of confidence in the civil service.

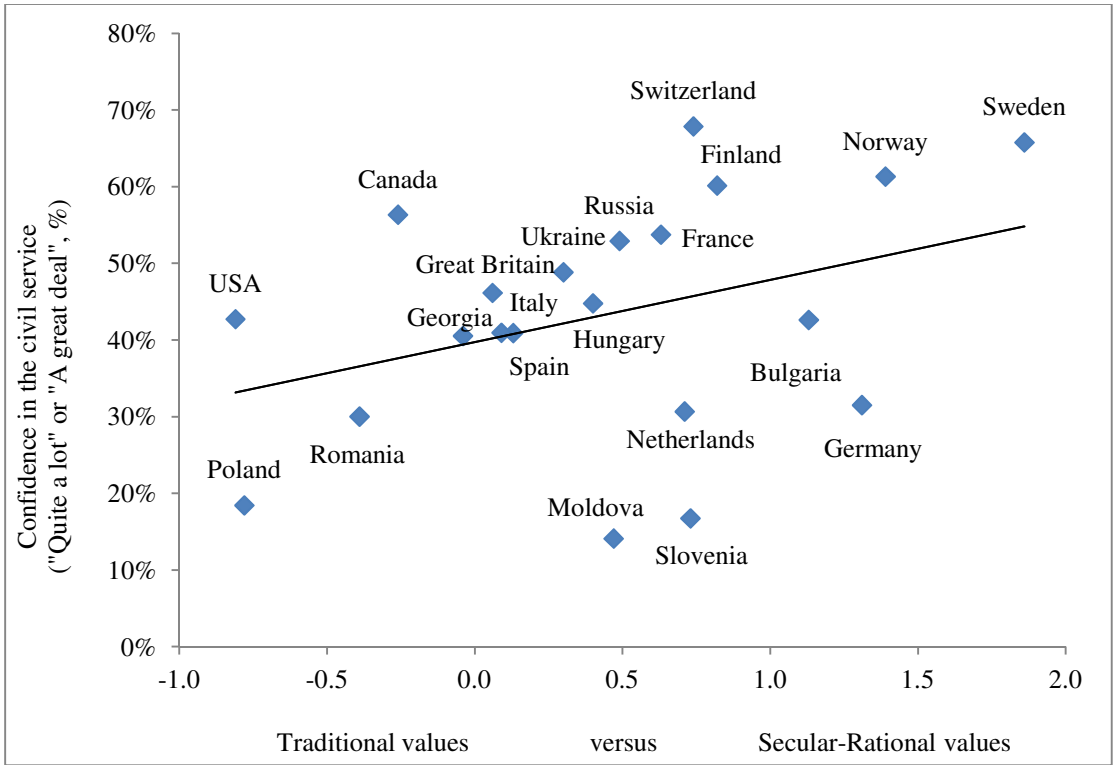


Figure 26. Confidence in the civil service and Traditional vs. Secular-Rational values

Pearson's r for this relationship is 0.37 suggesting a moderate positive relationship between these two variables. As hypothesized, figure 26 suggests that the less the country places emphasis on religion, traditional family values and authority, the more likely citizens in a country are to have confidence in the civil service.

Figure 27 shows the relationship between the Survival values versus Self-Expression values and the level of confidence in the civil service. As suggested by Inglehart and Welzel (2005), the Survival values versus Self-Expression values reflect the transition from industrial countries to post-industrial countries. Individuals in post-Soviet countries tend to emphasize the importance of Survival values.

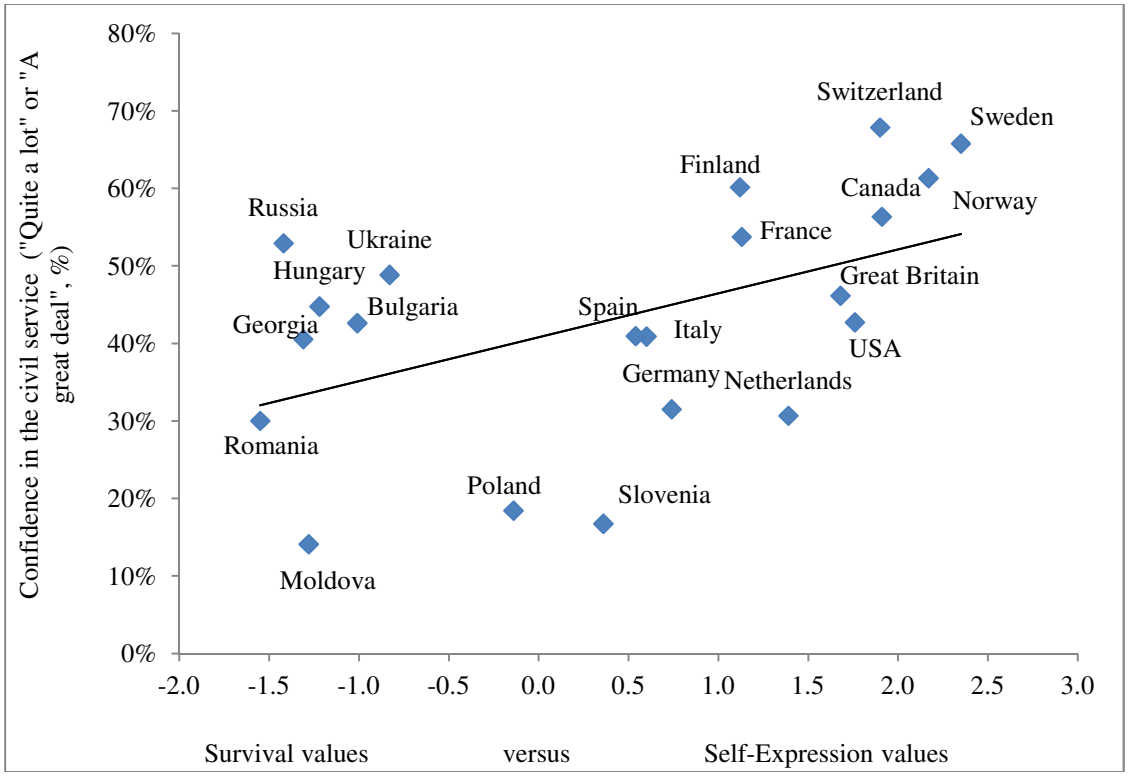


Figure 27. Confidence in the civil service and Survival vs Self-Expression values

To the contrary, individuals in developed democracies place the priority on Self-Expression values. Pearson's r between Survival versus Self-Expression values and trust equals 0.50. The scatter plot also suggests a strong positive relationship between this cultural dimension and confidence. As hypothesized, figure 27 suggests the more a country places emphasis on economic and physical security, the less likely citizens in that country are to have confidence in the civil service.

Section 5.2.v: Summary

This section has started to explore the question of country-level differences in confidence attitudes. The descriptive statistics reveals that the values of country-level variables vary across 21 countries. One of the obvious patterns is that post-Soviet countries tend to have low levels of economic indicators, low levels of government performance indicators, and high scores on Survival values.

The scatter plots of the dependent variable and country-level variables suggest that government performance, institutional quality, and culture are strongly related to the level of confidence in the civil service. Thus, citizens of the countries with high GDP per capita, low levels of unemployment, high quality of public service, low levels of corruption, high scores in Secular-Rational values, and high scores in Self-Expression values are more likely to have confidence in the civil service. There are very weak or negligible relationships between the level of confidence and income inequality, inflation, and ethnic diversity. The next section examines both individual- and country-level correlates of confidence in the civil service using multilevel models.

Section 5.3: The two-level models of confidence

The main research question of this chapter is: What individual-level and country-level attributes correlate with the level of confidence in the civil service across countries? The data used in this analysis are hierarchical in nature. Specifically, a two-level model is employed to examine the citizens' attitudes towards the civil service. As the name implies, a two-level model consists of two sub-models at level-1 and level-2. This study examines data on individuals nested within countries, the level-1 model represents the relationship among the individual-level variables and the level-2 model captures the influence of country-level factors. Formally, there are

$i = 1, \dots, n_j$ level-1 units (i.e. individuals) nested within

$j = 1, \dots, J$ level-2 units (i.e. J= 21 countries).

The dependent variable, $Y_{ij} = CONFIDENCE_{ij}$, is a binary variable: a value of '1' is assigned to "a great deal of confidence" and "quite a lot of confidence" responses, and a value of '0' is assigned to "not very much confidence" and "none at all" responses. When the dependent variable is a binary outcome, the OLS assumptions of linearity and normality are not met. Hierarchical generalized linear models (HGLMs) (also known as generalized linear models or generalized linear models with random effect) offer a modeling framework for multilevel data with non-normally distributed errors (Breslow and Layton 1993; Schall 1991).

The level-1 model

The level-1 model in HGLM consists of three parts: a sampling model, a link function, and a structural model (Raudenbush and Bryk 2010).

Level-1 sampling model

Since the dependent variable in this study is a binary variable that takes on a value of '1' or '0,' then the sampling model is the Bernoulli distribution (which is a special case of the binomial distribution). The model is written as follows:

$$Prob(CONFIDENCE_{ij} = 1|\beta_j) = \varphi_{ij}$$

This equation states that the predicted value of the binary variable ($CONFIDENCE_{ij}$) is equal to the probability of a success, φ_{ij}.

Level-1 link function

Linear regression methods cannot be used for binary variables for two reasons. The first reason is that the range of a binary dependent variable is restricted between 0 and 1. The usual regression model might take its value outside this allowed range. For example, a fitted value of -0.25 or 1.08 has no meaning. In other words, a meaningful model for a binary outcome should not allow fitted values that are negative or greater than 1. Second, for binary dependent variables there is a relationship between the mean and the variance. Specifically, for a binary variable Y_{ij} that has a probability φ_{ij} for outcome '1' and probability $(1 - \varphi_{ij})$ for outcome '0,' the expected value is $E\left(Y_{ij}|\varphi_{ij}\right) = \varphi_{ij}$ and the variance is $Var\left(Y_{ij}|\varphi_{ij}\right) = \varphi_{ij}(1 - \varphi_{ij})$.

Thus, the variance is not a free parameter but is determined by the mean. Since the variance is not constant, there is heteroscedasticity. Therefore, the "standard" multiple regression model is not adequate to model a binary dependent variable. One of the methods used is logistic regression. Thus, HGLM uses the logit link function in modeling binary outcomes, which is written as:

$$\text{Log}\left[\frac{\varphi_{ij}}{1-\varphi_{ij}}\right] = \eta_{ij}$$

where η_{ij} is the log odds of success. Thus, while φ_{ij} is constrained to be in the interval (0,1), η_{ij} can take on any real value.

Level-1 structural model

In the level-1 model, the outcome for case i within unit j is written as:

$$\eta_{ij} = \beta_{0j} + \beta_{1j}(\boldsymbol{Age})_{ij} + \beta_{2j}(Male)_{ij} + \beta_{3j}(High\ education)_{ij} +$$
$$+ \beta_{4j}(Government\ employee)_{ij} + \beta_{5j}(\boldsymbol{Left\ politcal\ ideology})_{ij} +$$
$$+ \beta_{6j}(\boldsymbol{Civic\ engagement})_{ij} + \beta_{7j}(People\ can\ be\ trusted)_{ij} +$$
$$+ \beta_{8j}(\boldsymbol{Confidence\ in\ government\ institutions})_{ij}$$

where

β_{qj} $(q = 0, 1, \ldots, Q)$ are level-1 coefficients.

Thus, in the multilevel models, the same three sets of individual-level variables are used as in Chapter 4: socio-cultural explanations, socio-psychological correlate, and confidence in other government institutions.

The level-2 model

Beyond differences of opinion within countries, there is likely to be variation in the level of confidence between countries. Thus, confidence in the civil service is expected to be conditioned by national context. Taken together, the political and social trust literatures suggest three explanations for cross-national variation in trust in

government that can be applied to attitudes about the public service: government performance (economic performance and institutional quality), social polarization, and culture. Each of the level-1 coefficients, β_{qj}, defined in the level-1 structural model becomes an outcome variable in the level-2 model:

$$\beta_{qj} = \gamma_{q0} + \gamma_{q1}(W)_{1j} + \gamma_{q2}(W)_{2j} + \cdots + \gamma_{qS_q}(W)_{S_qj} + u_{qj}$$

where

γ_{qs} $(q = 0,1, \ldots, S_q)$ are level-2 coefficinets;

$(W)_{sj}$ is a level-2 predictor; and

$(u)_{qj}$ is a level-2 random effect.

Fixed and random coefficients in multilevel regression

The fixed versus random distinction for variables and effects is important in multilevel regression. In multilevel regression models, both level-1 and level-2 predictors are assumed to be fixed (Snijders and Bosker 2012). However, the intercept and slopes in the level-1 equations could be fixed or random. The random slope and random coefficients are assumed to vary randomly across groups and are therefore referred to as "random coefficients."

The variance of of the intercepts is represented by $\tau_{00} = var(u_{oj})$.

And, the variance of the (first) predictor is represented by $\tau_{01} = var(u_{1j})$.

Thus, a fixed level-1 coefficient is written as: $\beta_{qj} = \gamma_{q0}$

And, a randomly varying level-1 coefficient is written as: $\beta_{1j} = \gamma_{10} + u_{1j}$.

What are some strategies to decide whether a level-1 coefficient should be specified as fixed or randomly varying? Based on Snijders and Bosker (2012, pp. 44-49 and 106-107), the following model development strategy was utilized. First, a model with random intercept and slopes using only all eight level-1 variables was estimated. In other words, the intercept and all eight slopes were specified as random. Then, the slope variance of all 8 level-1 variables was evaluated (see Table 14).

Table 14. Variance components table for the random coefficient regression model: all slopes random

Random Effect		Standard Deviation	Variance Component	df	Chi-square	P-value
Intercept	U0	0.58513	0.34237	19	222.12028	0.000
Age slope	U1	0.00518	0.00003	19	36.07067	0.010
Male slope	U2	0.11222	0.01259	19	21.34850	0.317
High education slope	U3	0.18118	0.03283	19	32.22909	0.029
Government employee slope	U4	0.13677	0.01871	19	16.21697	>.500
Left political ideology slope	U5	0.04614	0.00213	19	33.99266	0.018
Civic engagement slope	U6	0.06008	0.00361	19	30.44947	0.046
People can be trusted slope	U7	0.12258	0.01503	19	24.76297	0.168
Confidence in government institutions slope	U8	0.27902	0.07785	19	82.44611	0.000

Table 14 shows that variances for the male, government, and trust in people are not statistically significant. In other words, there is no between-country variablity in the slopes for these three individual-level variables ($p > 0.50$ for τ_{02}, τ_{04}, and τ_{07}). Thus, slopes for male, government employee, and people can be trusted in the level-1 equation

should be fixed. The slopes for the intercept and the other five level-1 variables should be random.

The above-described model was estimated once more to examine the residual variance components of the second random coefficent regression models. Evaluation of Table 15 shows that there is between-country variablity in the slopes for the following individual-level variables: age, high education, left political ideology, civic engagement, and confidence in other government institutions ($p \leq 0.50$ for τ_{01}, τ_{03}, for τ_{05}, τ_{06}, and τ_{08}). Thus, model diagnostics indicate that random effects should be included for the following individual-level variables: age, high education, left political ideology, civic engagement, and confidence in other government institutions.

Table 15. Variance components table for the random coefficient regression model: age, high education, left political ideology, civic engagement, and people can be trusted – random

Random Effect		Standard Deviation	Variance Component	df	Chi-square	P-value
Intercept	U0	0.53586	0.28715	19	405.92136	0.000
Age slope	U1	0.00452	0.00002	19	31.19378	0.038
High education slope	U3	0.19160	0.03671	19	37.54862	0.007
Left political ideology slope	U5	0.04573	0.00209	19	36.03900	0.011
Civic engagement slope	U6	0.05861	0.00343	19	30.82938	0.042
People can be trusted slope	U7	0.27229	0.07414	19	87.28522	0.000

As is common in multilevel analysis, continuous predictors are grand-mean centered, specifically, age, left political ideology, civic engagement, and confidence in other government institutions, as well as all country-level-variables. These variables are

shown in bold in the following equations. The models are estimated using a restricted penalized quasi-likelihood (PQL) routine in HLM 6.06.

To summarize, two-level models estimated in this study are written as:

Level-1 model

$$Prob(Confidence_{ij} = 1|\beta_j) = \varphi_{ij}$$

$$\text{Log}\left[\frac{\varphi_{ij}}{1-\varphi_{ij}}\right] = \eta_{ij}$$

$$\eta_{ij} = \beta_{0j} + \beta_{1j}(\boldsymbol{Age})_{ij} + \beta_{2j}(Male)_{ij} + \beta_{3j}(High\ education)_{ij} +$$
$$+ \beta_{4j}(Government\ employee)_{ij} + \beta_{5j}(\boldsymbol{Left\ politcal\ ideology})_{ij} +$$
$$+ \beta_{6j}(\boldsymbol{Civic\ engagement})_{ij} + \beta_{7j}(People\ can\ be\ trusted)_{ij} +$$
$$+ \beta_{8j}(\boldsymbol{Confidence\ in\ government\ institutions})_{ij}$$

Level-2 model

For government performance model:

$$\beta_{0j} = \gamma_{00} + \gamma_{01}(\boldsymbol{GDP\ per\ capita})_{1j} + \gamma_{02}(\boldsymbol{Unemployment})_{2j} +$$
$$+ \gamma_{03}(\boldsymbol{Inflation})_{3j} + u_{0j}$$

For institutional quality model:

$$\beta_{0j} = \gamma_{00} + \gamma_{01}(\boldsymbol{Government\ effectivness})_{1j} + \gamma_{02}(\boldsymbol{CPI})_{2j} + u_{0j}$$

For social polarizattion model:

$$\beta_{0j} = \gamma_{00} + \gamma_{01}(\boldsymbol{GINI})_{1j} + \gamma_{02}(\boldsymbol{Ethnic\ fractionalization})_{2j} + u_{0j}$$

For culture model:

$$\beta_{0j} = \gamma_{00} + \gamma_{01}(\boldsymbol{Traditional\ vs\ Secular - Rational\ values})_{1j} +$$
$$+ \gamma_{02}(\boldsymbol{Survival\ vs\ Self - Expression\ values})_{2j} + u_{0j}$$

For communist legacy model:

$$\beta_{0j} = \gamma_{00} + \gamma_{01}(\boldsymbol{Communist\ legacy})_{1j} + u_{0j}$$

For all models:

$$\beta_{1j} = \gamma_{10} + u_{1j}$$

$$\beta_{2j} = \gamma_{20}$$

$$\beta_{3j} = \gamma_{30} + u_{3j}$$

$$\beta_{4j} = \gamma_{40}$$

$$\beta_{5j} = \gamma_{50} + u_{5j}$$

$$\beta_{6j} = \gamma_{60} + u_{6j}$$

$$\beta_{7j} = \gamma_{70}$$

$$\beta_{8j} = \gamma_{80} + u_{8j}$$

Null model

When conducting multilevel analysis it is necessary to initially assess the need to consider whether there is sufficient variation between countries, as opposed to within countries, to justify the inclusion of country-level effects when estimating models (Raudenbush and Bryk 2010). To make this determination, a null model (also known as an unconditional model) is estimated that excludes any individual-level or country-level variables. Thus, the level-1 model is written as:

$$\eta_{ij} = \beta_{0j},$$

where the level-2 model is:

$$\beta_{0j} = \gamma_{00} + u_{0j}, \qquad u_{0j} \sim N(0, \tau_{00})$$

γ_{00} is the average log-odds of confidence in the civil service across 21 countries,

τ_{00} is the variance between countries in country-average log-odds of trust.

The intraclass correlation (ICC), or the proportion of variance explained, allows determining whether there is significant variation in confidence attitudes at the individual and country levels (Snijders and Bosker 2011, pp. 224-227).

$$ICC = \frac{\tau_{00}}{\tau_{00} + \sigma^2} = \frac{0.49517}{0.49517 + \frac{\pi^2}{3}} = 0.1308$$

The intraclass correlation has a value of 0.1308 which means that about 13% of the residual variation in the confidence attitude variable is attributable to unobserved country characteristics, indicating the need to employ multilevel analysis for model estimation.

Section 5.4: Empirical findings

Tables 16-20 report the results of multilevel binary logistic regression models that are estimated using 21 national samples. Multilevel models permit simultaneously testing hypotheses about the effect of individual-level characteristics and national context on confidence attitudes. The individual-level variables perform similarly across each of the models indicating the robustness of these findings. Due to the high collinearity among the nation-level variables (see Appendix M), the relatively large number of country-level correlates, and given the small number of country samples, separate models are estimated to test hypotheses about each category of the country-level correlates.

The descriptive analysis of individual-level variables presented in Chapter 4 shows that the political ideology question had not been asked in Russia. In fact, all countries have invalid responses which resulted in decreasing the dataset by 27.1% of the

total number of cases. Therefore, for each multilevel model, an alternative model is estimated in which the left political ideology variable has been excluded.

The multilevel regression models reported in Tables 16-20 report a series of models that consider the correlates of citizen confidence in the civil service. The individual-level variables perform similarly across each of the models indicating the robustness of these findings. Looking at the coefficients reported in the models from 1 to 10, it is clear that socio-cultural factors condition the level of confidence in the civil service. The analysis reveals that the age variable is significant either at the 95% or 99% confidence levels in models with the left political ideology variable and at the 90% confidence level in models without the left political ideology variable. Age is positively related to confidence in the civil service, reflecting a sense of social connectedness that individuals develop throughout their lives (Huseby 2000; Lipset and Schneider 1987). However, the odds ratio of the age variable equals about 1.0045. Therefore, age has a small effect on confidence attitudes.

The government employee variable is significant at the 99% confidence level in all 10 models. Government employees have odds of having "quite a lot" or "a great deal" of confidence in the civil service that are higher by a factor of 1.3 as compared to nongovernment employees. The result is consistent with the argument that government workers have a positive image of the group of which they are a part (Brewer and Sigelman 2002).

The results also show that the socio-cultural variables male, high education, left political ideology, and civic engagement do not impact confidence attitudes. These findings are consistent with other studies of trust in government, which suggest that

socio-cultural variables do not significantly influence confidence attitudes (Anderson and Tverdova 2003; Bennett and Bennett 1990; Christensen and Laegreid 2005; Citrin 1974; Houston and Harding 2013; Marlowe 2004; Mishler and Rose 1999; Newton and Norris 2000; Van de Walle 2007).

The influence of socio-cultural correlates on confidence attitudes is not uniform in the binary logistic models estimated separately for 21 countries (see Chapter 4). Age has a positive impact on confidence attitudes in 5 countries and a negative impact in 2 countries. The government employee variable is statistically significant in 4 countries. The male, high education, and left political ideology variables also have mixed influence on confidence attitudes.

To the contrary, the age and government employee variables have consistent impact on confidence attitudes in all 10 multilevel models. Why? The first explanation is that the increase in the sample size influences the results. The sample size in multilevel models is a few tens (from 11 to 40 times) more than the sample size of a binary logistic model. The ability of a statistical test to detect correctly the strength of a relationship between two variables depends on both the size of the effect that has been measured and the sample size (O'Sullivan, Rassel, and Berner 2008). Thus, the power of a statistical test has increased in the multilevel models with the increase of the sample size. Another explanation is that the inclusion of country-level variables in the model has improved model specification. Indeed, the interclass correlation shows that about 13% of the residual variation in the confidence attitudes is attributable to unobserved country characteristics.

Beyond socio-cultural correlates, the models indicate that confidence attitudes towards the civil service are influenced by socio-psychological attributes. As hypothesized, individuals who are more trusting of others similarly have more confidence in the civil service. This finding is consistent with social capital theory (Brehm and Rahn 1997; Richardson, Houston, and Hadjiharalambous 2001) as those who are trusting of others are less likely to worry about being treated unfairly by the political-administrative system.

The influence of a socio-psychological correlate on confidence attitudes is statistically significant in only 6 binary logistic regression models estimated in Chapter 4. The civic engagement variable is significant only in developed democracies. Once again, the increase in the sample size and improvement in model specification are likely reasons in the enhanced findings in multilevel models.

The last individual-level variable gauges citizens' confidence in other government institutions and is statistically significant at the 99% confidence level in all 10 models. The more confident citizens are in other government institutions, the more likely they are to have "a great deal" or "quite a lot of confidence" in the civil service. The large odds ratio of 5.21 indicates that this variable has a very strong effect on attitudes towards the civil service.

The influence of the confidence in government institutions index on the level of confidence in the civil service is also the most pronounced correlate in the binary logistic regression models estimated in Chapter 4. This variable is statistically significant at the 99% confidence level in all 21 countries. This finding provides strong support for the hypothesis that confidence in the civil service is influenced by diffused support for

government. This result is consistent with the previous research that indicates trust in one political institution spills over into attitudes about other political institutions (Christensen and Laegreid 2005; Marlowe 2004).

In addition to the individual-level analysis, the utility of multilevel analysis is that it provides an opportunity to account for cross-country variation in attitudes. Models 1 and 2 reported in table 16 consider the effect of macroeconomic conditions. None of the three economic condition indicators are statistically significant. This finding indicates that neither national wealth nor the level of unemployment nor inflation is an important correlate of citizens' attitudes towards the civil service. It should also be pointed out that GDP per capita is highly collinear with unemployment (*r*=-0.59*)* and inflation (*r*=-0.64). A Pearson's *r* for unemployment and inflation equals -0.18. Therefore, additional three models with each of these variables entered individually are estimated. However, these correlates are consistently insignificant in all these models.

The second set of models in table 17 examines the effect of institutional quality on confidence attitudes. It is hypothesized that confidence in the civil service reflects the quality of public sector institutions charged with formulating and implementing public policy. Both of the country-level variables have coefficients with the hypothesized sign and are statistically significant at the 99% confidence level. It should be also pointed out that the government effectiveness measure and the corruption perception index are highly collinear with a Pearson's *r* of 0.90. Yet, they are both statistically significant in these two models.

The World Bank's government effectiveness index measures the quality of the civil service, the quality of public policy formation and implementation, and the

credibility of the government's commitment to its stated policies. Thus, the higher the quality of governance institutions is, the more likely citizens are to have confidence in the civil service. This result is consistent with previous research on the positive effect of good governance on citizens' attitudes (Anderson and Tverdova 2003; Delhey and Newton 2005; Mishler and Rose 2001; Van de Walle and Bouckaert 2003).

The CPI ranks countries based on how corrupt their public sector is perceived to be (Transparency International 2006). The measure runs from 0 (highly corrupt) to 10 (absolutely clean from corruption). The result indicates that the corruption perception index is negative and statistically significant at the 99% level of confidence. It means that the higher the perception of corruption is, the lower confidence attitudes towards the civil service will be, a finding consistent with the previous research (Anderson and Tverdova 2003; Mishler and Rose 2001). Thus, whether measured with the World Bank's government effectiveness index or the Transparency International's corruption perception index, institutional quality accounts for variation in the level of confidence in the civil service across countries.

The influence of social polarization on confidence attitudes is examined in models 5 and 6 and reported in table 18. It was hypothesized that the level of economic inequality is negatively correlated with citizen perceptions. Also, ethnic diversity depresses confidence in the civil service. Neither the Gini index nor the ethnic fractionalization index is statistically significant. Two other measures of societal heterogeneity developed by Alesina et al. (2003) (religious fractionalization and linguistic fractionalization) were tested but not included in the reported models because neither approached statistical significance at any standard level. These findings suggest

that both income inequality and ethnic diversity are not significant correlates of confidence attitudes.

The influence of culture, as measured by the Inglehart and Welzel (2005) dimensions of political culture, is examined in models 7 and 8 of table 19. The Inglehart and Welzel's Cultural Map of the World has two dimensions: first, Traditional versus Secular-Rational values, and second, Survival versus Self-Expression values (Inglehart and Welzel 2005, 2010). Neither of the cultural variables is statistically significant. The cultural variables are not important correlates of confidence attitudes.

Models 9 and 10 examine the influence of a communist legacy on confidence attitudes. It is hypothesized that citizens of post-Soviet countries are less trusting than those in established democracies (Mishler and Rose 1997). The communist legacy variable is statistically insignificant. The finding suggests that recent experience under a communist regime does not influence citizens' confidence attitudes.

A comparison of each country-level model with and without the left political ideology variable shows that removal of the left political ideology variable has no substantial effect on the results. The left political ideology variable is not statistically significant in the multilevel models.

In sum, confidence in the civil service is explained in part by socio-cultural and socio-psychological attributes. Even more pronounced is the observation that attitudes about other government institutions as a whole spillover onto attitudes about the civil service. This finding echoes Marlowe's (2004) observation that government administrators are "cogs in the system." It is also apparent that the level of confidence in the civil service varies across national context. The quality of government institutions

and the level of corruption are important country attributes that condition citizen attitudes towards the civil service. An important finding is the application of multilevel analysis to comparative studies of citizens' attitudes: In addition to who people are, a country in which they live influences their attitudes towards the civil service.

Table 16. Multilevel binary logistic regression models: Have "a great deal of confidence" or "quite a lot of confidence" in the civil service. Economic performance models

	Model (1)	Model (2)
Individual-level variables		
Constant	-0.6784***	-0.7385***
	(0.51)	(0.48)
Age	0.0031*	0.0045**
	(1.00)	(1.00)
Male	0.0375	0.0523
	(1.04)	(1.05)
High education	0.0681	0.0965
	(1.07)	(1.10)
Government employee	0.2257***	0.2399***
	(1.25)	(1.27)
Left political ideology	--	0.0145
		(1.01)
Civic engagement	0.0335	0.0204
	(1.03)	(1.02)
People can be trusted	0.2537***	0.2435***
	(1.29)	(1.28)
Confidence in government institutions	1.6287***	1.6538***
	(5.10)	(5.23)
Country-level variables		
GDP per capita, thousand USD	0.0166	0.0059
	(1.02)	(1.01)
Unemployment	0.0482	0.0924
	(1.05)	(1.10)
Inflation	0.0229	0.0012
	(1.02)	(1.00)
Level-2 variance	0.41569***	0.38640***
Likelihood function	-32,041.1	-24,450.3
Level-1 N	21,951	16,826
Level-2 N	21	20

* $p \leq 0.10$; ** $p \leq 0.05$; *** $p \leq 0.01$ (numbers in parentheses are odds ratios).

Table 17. Multilevel binary logistic regression models: Have "a great deal of confidence" or "quite a lot of confidence" in the civil service. Institutional quality models

	Model (3)	Model (4)
Individual-level variables		
Constant	-0.6767***	-0.7364***
	(0.51)	(0.48)
Age	0.0031*	0.0045**
	(1.00)	(1.00)
Male	0.0375	0.0513
	(1.04)	(1.05)
High education	0.0716	0.0996
	(1.07)	(1.10)
Government employee	0.2264***	0.2415***
	(1.25)	(1.27)
Left political ideology	--	0.0150
		(1.02)
Civic engagement	0.0344	0.0143
	(1.04)	(1.01)
People can be trusted	0.2544***	0.2432***
	(1.29)	(1.28)
Confidence in government institutions	1.6296***	1.6539***
	(5.10)	(5.23)
Country-level variables		
Government effectiveness	1.0899**	0.8431**
	(2.97)	(2.32)
Corruption perception index	-0.3959**	-0.3262**
	(0.67)	(0.72)
Level-2 variance	0.4068***	0.3071***
Likelihood function	-32,028.2	-24,453.4
Level-1 N	21,951	16,826
Level-2 N	21	20

* $p \leq 0.10$; ** $p \leq 0.05$; *** $p \leq 0.01$ (numbers in parentheses are odds ratios).

Table 18. Multilevel binary logistic regression models: Have "a great deal of confidence" or "quite a lot of confidence" in the civil service. Social polarization

	Model (5)	Model (6)
Individual-level variables		
Constant	-0.6757*** (0.51)	-0.7480*** (0.48)
Age	0.0032* (1.00)	0.0046*** (1.00)
Male	0.0370 (1.04)	0.0519 (1.05)
High education	0.0666 (1.07)	0.0921 (1.10)
Government employee	0.2250*** (1.25)	0.2413*** (1.27)
Left political ideology	--	0.0142 (1.01)
Civic engagement	0.0357 (1.04)	0.0142 (1.01)
People can be trusted	0.2541*** (1.29)	0.2415*** (1.27)
Confidence in government institutions	1.6312*** (5.11)	1.6528*** (5.22)
Country-level variables		
GINI index	-0.0140 (0.99)	-0.0202 (0.98)
Ethnic fractionalization	-0.0430 (0.96)	0.1379 (1.15)
Level-2 variance	0.4122***	0.30926***
Likelihood function	-32,063.6	-24,461.4
Level-1 N	21,951	16,826
Level-2 N	21	20

* $p \leq 0.10$; ** $p \leq 0.05$; *** $p \leq 0.01$ (numbers in parentheses are odds ratios).

Table 19. Multilevel binary logistic regression models: Have "a great deal of confidence" or "quite a lot of confidence" in the civil service. Culture

	Model (7)	Model (8)
Individual-level variables		
Constant	-0.6770***	-0.7245***
	(0.51)	(0.48)
Age	0.0031*	0.0046***
	(1.00)	(1.00)
Male	0.0372	0.0521
	(1.04)	(1.05)
High education	0.0673	0.0951
	(1.07)	(1.10)
Government employee	0.2251***	0.2390***
	(1.25)	(1.27)
Left political ideology	--	0.0135
		(1.01)
Civic engagement	0.0345	0.0208
	(1.04)	(1.02)
People can be trusted	0.2542***	0.2426***
	(1.29)	(1.27)
Confidence in government institutions	1.6302***	1.6550***
	(5.10)	(5.23)
Country-level variables		
Traditional vs. Secular-Rational values	0.0116	0.0236
	(1.01)	(1.02)
Survival vs. Self-Expression values	0.0371	-0.0835
	(1.04)	(0.92)
Level-2 variance	0.40224***	0.30926***
Likelihood function	-32,060.9	-24,461.4
Level-1 N	21,951	16,826
Level-2 N	21	20

* $p \leq 0.10$; ** $p \leq 0.05$; *** $p \leq 0.01$ (numbers in parentheses are odds ratios).

Table 20. Multilevel binary logistic regression models: Have "a great deal of confidence" or "quite a lot of confidence" in the civil service. Communist legacy

	Model (9)	Model (10)
Individual-level variables		
Constant	-0.6447*** (0.53)	-0.7344*** (0.48)
Age	0.0032* (1.00)	0.0046*** (1.00)
Male	0.0374 (1.04)	0.0522 (1.05)
High education	0.0668 (1.07)	0.0940 (1.10)
Government employee	0.2251*** (1.25)	0.2403*** (1.27)
Left political ideology	--	0.0141 (1.01)
Civic engagement	0.0349 (1.04)	0.0161 (1.02)
People can be trusted	0.2544*** (1.29)	0.2428*** (1.27)
Confidence in government institutions	1.6300*** (5.10)	1.6536*** (5.23)
Country-level variables		
Communist legacy	-0.0753 (0.93)	0.0469 (1.05)
Level-2 variance	0.38575***	0.31602**
Likelihood function	-32,060.7	-24,465.4
Level-1 N	21,951	16,826
Level-2 N	21	20

* $p \leq 0.10$; ** $p \leq 0.05$; *** $p \leq 0.01$ (numbers in parentheses are odds ratios).

CHAPTER VI
CONCLUDING REMARKS:
CROSS-NATIONAL EXAMINATION OF CITIZEN CONFIDENCE IN THE PUBLIC SERVICE

Section 6.1: Overview

Political trust is an evaluative orientation of citizens toward their political system, or some part of it, based upon their normative expectation (Miller 1974). A minimum level of political trust is necessary for the stability of government institutions and effective implementation of public policies. Trust in political institutions and their actors enhance citizens' willingness to comply voluntarily with government laws, regulations, and policies. Citizens experience government through interactions with "street level" bureaucrats. Therefore, government employees play an important role in shaping citizens' trust in government (Lipsky 2010). Citizens and elected officials who maintain high levels of trust in public administrators are likely to provide them with more discretionary authority and less direct oversight (Marlowe 2004). Successful governance requires public support for the implementation of policy programs (Miller 1974; Ruscio 1996). Trust has to stay above some minimal level if public policy programs are to continue to function (Kim 2005).

This research contributes to the extant literature by examining confidence in the civil service across 21 countries of North America and Eurasia. The research questions addressed by this study are: First, how do levels of confidence in the civil service differ across countries? Second, what individual-level attributes and attitudes correlate with citizen confidence in the civil service? Third, does national context account for variation

between countries in citizen confidence towards the civil service? Data from national samples across 21 North American and Eurasian countries are taken from the fifth wave of the World Values Survey. Multilevel regression models are utilized to investigate the correlation of citizen attitudes with individual-level and country-level attributes. This chapter summarizes the results, presents implications, and discusses the limitations of this research.

Section 6.2: Summary

This study suggests that the levels of confidence in the civil service vary not only within countries, but also across countries. The examination of confidence attitudes across countries shows that citizens in Scandinavian countries have a relatively high level of confidence in the civil service. In contrast, citizens in post-Soviet countries express low levels of confidence in the civil service. Since trust is a building block of a healthy and functioning democracy (Almond and Verba 1963; Mishler and Rose 2005; Putnam 1993), the latter finding is an alarming one for these emerging democracies.

Binary logistic regression models for each country have been performed to examine whether attitudes about the civil service are determined by similar individual-level attributes across countries. These models show that there are some general similarities in the correlates of confidence across countries. However, the influence of these correlates is not uniform across countries. The most prominent one is the confidence in other government institutions. Also, confidence in the civil service is higher in those countries where trust in others is widespread. However, socio-demographic variables are less useful in explaining variation in these attitudes.

In addition, multilevel models have been performed to test hypotheses about the effect of individual-level characteristics and national context on confidence attitudes. The individual-level variables perform similarly across each of the models, indicating the robustness of these findings. The study finds that confidence in the civil service is higher among older respondents, reflecting a sense of social connectedness that individuals develop throughout their lives (Huseby, 2000; Lipset and Schneider, 1987). Also, government employees are more likely to have confidence in the civil service. This result is consistent with the argument that government workers have a positive image of the group of which they are a part (Brewer and Sigelman, 2002).

This study also supports the previous finding that interpersonal trust is an important component in enhancing citizens' confidence attitudes. Putnam (1993) clearly points out that the relationship between personal and political trust is a separate matter. Consistent with social capital theory (Brehm and Rahn, 1997; Richardson, Houston, and Hadjiharalambous, 2001), those who are trusting of others are less likely to worry about being treated unfairly by the political-administrative system.

Another prominent individual attitude is confidence in other government institutions. This study indicates that citizens' confidence attitudes towards the civil service are closely related to confidence in other government institutions. This result supports earlier findings that "public administrators are simply viewed as cogs within the system" (Marlowe 2004, p. 107). Thus, positive attitudes towards government institutions and their actors may spillover to confidence in the civil service. Conversely, citizens either trust government institutions, both their leaders and public service, or they trust neither (Marlowe 2004).

The study shows that the other individual-level variables, male, high education, left political ideology, and civic engagement do not impact confidence attitudes. These findings are consistent with other studies of trust in government, which suggest that socio-cultural variables do not significantly influence confidence attitudes (Anderson and Tverdova 2003; Bennett and Bennett 1990; Christensen and Laegreid 2005; Citrin 1974; Houston and Harding 2013; Marlowe 2004; Mishler and Rose 1999; Newton and Norris 2000; Van de Walle 2007).

Cross-national differences in confidence attitudes indicate that citizens' opinions are influenced by country-level factors. Indeed, the intraclass correlation (ICC) shows that there is significant variation in confidence attitudes at the country level. About 13% of the residual variation in the confidence variable is attributable to unobserved country characteristics, indicating the need to employ multilevel analysis for model estimation. In addition, binary regression models estimated for each country separately show that confidence attitudes are more difficult to explain for developed countries as their pseudo-R-squared measures are lower than those for post-Soviet countries.

Therefore, to advance our understanding of trust, it is important to examine attitudes about public administration cross-nationally. Indeed, this study indicates that there appears to be a common set of cross-country correlates that explain confidence attitudes. As expected, the study shows that levels of confidence across countries are conditioned by the quality of public sector institutions. Both the World Bank's government effectiveness index and the Transparency International's corruption perception index explain variation in the level of confidence across countries. Thus, the higher the quality of governance institutions is, the more likely citizens are to have

confidence in the civil service. This result is consistent with previous research on the positive effect of good governance on citizens' attitudes (Anderson and Tverdova 2003; Delhey and Newton 2005; Mishler and Rose 2001; Van de Walle and Bouckaert 2003). As for the second variable, the higher the perception of corruption is, the lower confidence attitudes towards the civil service will be, a finding consistent with the previous research (Anderson and Tverdova 2003; Mishler and Rose 2001). The other country-level variables – GDP per capita, unemployment, inflation, the Gini index, CPI, cultural variables, and communist legacy – are not important correlates of confidence attitudes.

Section 6.3: Implications

This research presents a multilevel model of citizen confidence in the civil service. Several implications can be drawn from the findings of this study. First, the study finds a set of common individual- and country-level correlates of these confidence attitudes. Thus, the study demonstrates the utility of cross-national research in exploring confidence in the civil service. Second, the study demonstrates that general interpersonal trust is an important correlate of confidence in the civil service. It is troubling that general trust or "social capital" has been declining during the last several decades (Fukuyama 1995; Putnam 1993, 1995). Thus, restoring "social capital" is also important for enhancing confidence in the civil service. Third, over the last few decades the elected leaders in North America and Eurasia have spent an immense amount of energy reforming public administration. For the most part, the main premise of these reforms is the belief that if government is to be able to overcome the discontent and distrust of its citizens, it must become more efficient and effective in implementing public policies.

This research demonstrates that confidence in the civil service is correlated with confidence in other government institutions. Thus, bureaucratic reform is only a part of the answer to the overall declining trust in government, its institutions, and their leaders.

Fourth, Dahl (1947) argues that comparison is what helps public administration achieve scientific status. Cross-national survey research is central to advancing social-science knowledge. Countries have become increasingly interdependent and many processes are essentially global rather than merely national. Those limited comparative studies in public administration have mainly focused their attention on advanced democratic nations. Indeed, the current study demonstrates not only the relevance of a cross-country examination of confidence attitudes, but also the efficacy, or even necessity, of incorporating the newly emerged democracies of the former Soviet Bloc in this endeavor. The analysis shows that confidence in the civil service is influenced by the institutional quality of government, specifically, government effectiveness and the level of corruption. Building quality social and political institutions and reducing corruption should eventually result in higher stores of political trust in countries.

Interestingly enough, communist legacy is not a significant covariate. This is an optimistic implication because it suggests that confidence attitudes are not so much a function of communist legacy, but rather the quality of government institutions. In other words, the transition of post-communist societies is "not doomed by the legacy of authoritarian past" (Mishler and Rose 2005, p. 1069). These nations must not wait for generational change to build sufficient institutional trust in their citizens. Thus, governments in emerging democracies should continue to direct their efforts to combating corruption and striving to achieve higher quality of public service provision,

higher quality of the bureaucracy, greater competence of civil servants, greater independence of the civil service from political pressures, and greater credibility of the government's commitment to policies.

Section 6.4: Limitations and future research

When drawing lessons from this study, it is important to acknowledge and keep in mind the main limitations of the study and possible ways to resolve them. First, the questions forming the basis of this study come from the fifth wave of the World Values Survey. All 21 North American and Eurasian countries available in this survey have been included in the study. Therefore, the pattern of trusting attitudes that are reported may be characteristic only of countries that are included.

Second, determining the statistical importance of country-level characteristics is restricted by using only 21 national samples. A broader range of countries would increase the variation among the country-level indicators, thereby increasing the statistical power of the analysis. Despite this limitation, this study advances the understanding of the correlates of these attitudes by including a larger number of countries than what has been studied in the previous research.

Third, the dependent variable is dichotomized which could potentially lead to a loss of information. Additional research is needed to examine a larger number of countries employing multilevel ordinal or multinomial logistic regression models. The sixth wave of the World Values Survey includes a larger number of countries. Therefore future research should utilize the latest wave of the survey to address these limitations.

Fourth, comparative public opinion research requires translation of survey instruments. The translation of the terms from one language to another may change the

meaning of the terms. According to the World Values Survey, every effort is made to ensure the accuracy of translation. Specifically, the questionnaire is translated into different languages and in many cases independently translated back to English. In most countries, the translated questionnaire is pre-tested to detect terms for which the translation is problematic (World Values Survey 2014). Despite all these efforts cultural and language differences in countries make the translation of the survey instruments challenging. For example, in Russian the same word "доверие" is used for trust and confidence making it impossible to distinguish between these two concepts in the questionnaire. Another challenge arises in translation of the term "civil service." In the Russian language questionnaire, the term "государственные учреждения" refers rather to government institutions or government agencies than to the "civil service." However, the meaning of the translated terms should be consistent and comparable across nations. Thus, any comparative research should recognize that there is a challenge with the equivalence of the various translated concepts across countries.

The fifth limitation is also connected with the challenges of comparative studies. Given the way the confidence question is asked in the questionnaire, it is assumed that the respondents know what the term "civil service" means. Thus, in addition to the civil service, the World Values Survey asks the respondents about their level of confidence in 16 other public and private institutions such as the government, the parliament, the courts, the political parties, the police, the armed forces, the labor unions, and others. However, it is necessary to acknowledge that it is unknown how the respondents exactly interpret the meaning of the term "civil service" and if they are aware of the difference between elected and unelected government officials. One way to resolve this issue is to

ask the respondents what this term means to them in the future survey. However, this option is not possible in this given study.

Sixth, Inglehart's measures of culture have been criticized for being sensitive to prevailing economic conditions and whether or not the respondent supports the current governing party (Schwartz 2003). In addition, Inglehart's scale measures individual values only indirectly. Therefore, scholars should explore other ways to measure culture. For example, future public administration comparative studies could utilize the Schwartz theory of basic human values (Schwartz 1992, 2012).

Seventh, in this study the World Bank government effectiveness index and the Transparency International corruption perception index are employed to capture the quality of government institutions. However, one may argue that these indices are aggregate measures of confidence in the civil service. In other words, this current study may employ aggregate measures of confidence in the civil service to explain the same construct at the individual level. Therefore, future research should develop more systematic measures of the quality of the bureaucratic institutions across countries. Also, future studies should examine measures of government institutions, the nature of government democracy, and specific characteristics of bureaucratic institutions.

Eighth, most of the surveys of the fifth wave of the World Values Survey were administered in 2005 and 2006, i.e. prior the 2007-2008 global financial crisis. The question to explore is whether or not the findings of this current study will be consistent under different economic conditions. Specifically, it is important to examine whether citizens' confidence attitudes will be still uncorrelated with economic conditions in years

after 2008. Future research should replicate this study using the sixth wave of the World Value Survey which covers the period 2010-2014.

And finally, public administration comparative studies tend to focus on either political and administrative elites or political-administrative institutions and have largely neglected citizens (Bouckaert, Van de Walle, and Kampen 2005). As a result, most research on citizens' attitudes is characterized as a collection of hypotheses drawn from a variety of explanatory frameworks of public opinion and are not theoretically integrated together. In other words, there is no one general theory of citizens' attitudes towards the civil service. There is a need to develop an overarching theory that would bring these individual hypotheses into one coherent conceptual framework.

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APPENDICES

Appendix A. Variable sources and descriptions

Variable name	Description	Source
Individual-level variables	See Appendix C	World Values Survey http://www.worldvaluessurvey.org/
GDP per capita, thousand USD	Gross Domestic Product per capita, adjusted for purchasing power parity. The methodology is described in detail in Summers and Heston (1991)	World Bank http://data.worldbank.org/
Unemployment, %	Share of the labor force that is without work but available for and seeking employment	World Bank http://data.worldbank.org/
Inflation, %	Annual growth rate of the GDP implicit deflator shows the rate of price change in the economy as a whole. The GDP implicit deflator is the ratio of GDP in current local currency to GDP in constant local currency	World Bank http://data.worldbank.org/
Government effectiveness indicator	Worldwide governance indicators	Danie Kaufmann, Aart Kraay, and Massimo Mastruzzi (2010)
Corruption Perception Index (CPI)	The CPI ranks countries based on how corrupt their public sector is perceived to be	Transparency International www.transparency.org
The Gini index	The Gini index is used to measure income inequality	Solt (2009) http://myweb.uiowa.edu/fsolt/swiid/swiid.html
Ethnic fractionalization	The probability that two random citizens of a given country belonged to different groups	Alesina et al. (2003)
Traditional vs. secular-rational values and Survival vs. self-expression values	Cultural Map of the World developed by Ronald Inglehart and Christian Welzel (2010)	World Values Survey http://www.worldvaluessurvey.org/

Appendix B. Countries included and year of survey

#	Country	Geographical region	N	Year of survey
1	Bulgaria	Eastern Europe	1,001	2005
2	Canada	Northern America	2,164	2006
3	Finland	Northern Europe	1,014	2005
4	France	Western Europe	1,001	2006
5	Georgia	Northern Asia	1,500	2009
6	Germany	Western Europe	2,064	2006
7	Great Britain	Northern Europe	1,041	2005
8	Hungary	Eastern Europe	1,007	2009
9	Italy	Southern Europe	1,012	2005
10	Moldova	Eastern Europe	1,046	2006
11	Netherlands	Western Europe	1,050	2006
12	Norway	Northern Europe	1,025	2007
13	Poland	Eastern Europe	1,000	2005
14	Romania	Eastern Europe	1,776	2005
15	Russia	Eastern Europe	2,033	2006
16	Slovenia	Southern Europe	1,037	2005
17	Spain	Southern Europe	1,200	2007
18	Sweden	Northern Europe	1,003	2006
19	Switzerland	Western Europe	1,241	2007
20	Ukraine	Eastern Europe	1,000	2006
21	United States	Northern America	1,249	2006
	Total		26,464	

Appendix C. World Values Survey question and wording

Variable name	Question wording
Dependent variable	
Confidence in the civil service	Confidence: The Civil Services I am going to name a number of organizations. For each one, could you tell me how much confidence you have in them: is it a great deal of confidence, quite a lot of confidence, not very much confidence or none at all? The Civil service 1. A great deal 2. Quite a lot 3. Not very much 4. None at all
Independent Variables	
Age	Age This means you are __ __ years old. [ALSO A TWO DIGIT VARIABLE]
Male	Sex 1. Male 2. Female
High education	Highest educational level attained What is the highest educational level that you have attained? (NOTE: if respondent indicates to be a student, code highest level s/he expects to complete): 1. No formal education 2. Incomplete primary school 3. Completed primary school 4. Incomplete secondary school: technical/vocational type 5. Complete secondary school: technical/vocational type 6. Incomplete secondary: university-preparatory type 7. Complete secondary: university-preparatory type 8. Some university-level education, without degree 9. University-level education, with degree
Government employee	Institution of occupation Are you working for the government or public institution, for private business or industry, or for a private non-profit organization? If you do not work currently, characterize your major work in the past! Do you or did you work for 1. Government or public institution 2. Private business or industry 3. Private non-profit organization

Variable name	Question wording
Left political ideology	Self-positioning in political scale In political matters, people talk of "the left" and "the right." How would you place your views on this scale, generally speaking? 1 Left 2 2 3 3 4 4 5 5 6 6 7 7 8 8 9 9 10 Right
Civic engagement	Active/Inactive membership of charitable/humanitarian organization Now I am going to read out a list of voluntary organizations; for each one, could you tell me whether you are a member, an active member, an inactive member or not a member of that type of organization? (0) Not a member, (1) Inactive member, (2) Active member 1. church 2. sport 3. art 4. labor union 5. political party 6. environmental organization 7. professional organization 8. charitable organization 9. consumer organization 10. any other organizations.
People can be trusted	Most people can be trusted Generally speaking, would you say that most people can be trusted or that you need to be very careful in dealing with people? 1. Most people can be trusted 2. Need to be very careful

Variable name	Question wording
Confidence in government institutions	Confidence I am going to name a number of organizations. For each one, could you tell me how much confidence you have in them: is it a great deal of confidence, quite a lot of confidence, not very much confidence or none at all? (1) A great deal; (2) Quite a lot; (3) Not very much; (4) None at all 1. the armed forces 2. the police 3. parliament 4. the courts

Appendix D. Valid and invalid responses by country: Dependent variable "Confidence in the civil service"

Country	Invalid responses, %				Total invalid re-sponses (5)	Total valid re-sponses (6)	Total re-sponses (7=5+6)
	Miss-ing (1)	No ans-wer (2)	Don't know (3)	Total invalid re-sponses (4=1+2+3)			
Bulgaria	0.0	0.0	7.2	7.2	72	929	1,001
Canada	0.0	0.4	7.4	7.8	169	1,995	2,164
Finland	0.0	0.2	1.1	1.3	13	1,001	1,014
France	0.0	0.0	0.0	0.0	0	1,001	1,001
Georgia	0.0	1.1	12.3	13.3	200	1,300	1,500
Germany	0.0	0.6	3.3	3.9	80	1,984	2,064
Great Britain	0.3	1.0	7.8	9.0	94	947	1,041
Hungary	0.0	0.1	3.0	3.1	31	976	1,007
Italy	0.0	1.0	1.9	2.9	29	983	1,012
Moldova	0.0	0.1	4.3	4.4	46	1,000	1,046
Netherlands	0.1	1.0	3.5	4.7	49	1,001	1,050
Norway	0.0	0.6	0.3	0.9	9	1,016	1,025
Poland	0.0	0.1	8.2	8.3	83	917	1,000
Romania	0.0	0.8	6.1	6.9	123	1,653	1,776
Russia	0.0	0.5	9.3	9.8	200	1,833	2,033
Slovenia	0.0	1.4	5.3	6.7	69	968	1,037
Spain	0.4	0.4	3.9	4.8	57	1,143	1,200
Sweden	0.0	14.7	0.0	14.7	147	856	1,003
Switzerland	0.0	0.9	2.1	3.0	37	1,204	1,241
Ukraine	0.0	2.0	11.6	13.6	136	864	1,000
USA	2.0	1.7	0.0	3.7	46	1,203	1,249
Total	0.1	1.2	5.0	6.4	1,690	24,774	26,464

Appendix E. Valid and invalid responses by country: Age

Country	Invalid responses ("No answer"),% (1)	Invalid responses ("No answer"), (2)	Valid responses (3)	Total responses (4=2+3)
Bulgaria	0.0	0	1,001	1,001
Canada	1.0	21	2,143	2,164
Finland	0.0	0	1,014	1,014
France	0.0	0	1,001	1,001
Georgia	0.0	0	1,500	1,500
Germany	0.0	0	2,064	2,064
Georgia	0.0	0	1,041	1,041
Great Britain	0.0	0	1,041	1,041
Hungary	0.0	0	1,007	1,007
Italy	0.0	0	1,012	1,012
Moldova	0.0	0	1,046	1,046
Netherlands	0.0	0	1,050	1,050
Norway	0.0	0	1,025	1,025
Poland	0.0	0	1,000	1,000
Romania	0.0	0	1,776	1,776
Russia	0.0	0	2,033	2,033
Slovenia	0.0	0	1,037	1,037
Spain	0.0	0	1,200	1,200
Sweden	0.0	0	1,003	1,003
Switzerland	0.0	0	1,241	1,241
Ukraine	0.0	0	1,000	1,000
USA	0.0	0	1,249	1,249
Total	0.1	21	26,443	26,464

Appendix F. Valid and invalid responses by country: Male

Country	No answer, % (1)	Total invalid responses (2)	Total valid responses (3)	Total responses (4=2+3)
Bulgaria	0.00%	0	1,001	1,001
Canada	0.42%	9	2,155	2,164
Finland	0.00%	0	1,014	1,014
France	0.00%	0	1,001	1,001
Georgia	0.00%	0	1,500	1,500
Germany	0.00%	0	2,064	2,064
Great Britain	0.00%	0	1,041	1,041
Hungary	0.00%	0	1,007	1,007
Italy	0.00%	0	1,012	1,012
Moldova	0.00%	0	1,046	1,046
Netherlands	0.00%	0	1,050	1,050
Norway	0.00%	0	1,025	1,025
Poland	0.00%	0	1,000	1,000
Romania	0.00%	0	1,776	1,776
Russia	0.00%	0	2,033	2,033
Slovenia	0.00%	0	1,037	1,037
Spain	0.00%	0	1,200	1,200
Sweden	0.00%	0	1,003	1,003
Switzerland	0.00%	0	1,241	1,241
Ukraine	0.00%	0	1,000	1,000
United States	0.00%	0	1,249	1,249
Total	0.03%	9	26,455	26,464

Appendix G. Valid and invalid responses: High education

Country	Invalid responses, %				Total invalid responses (5)	Total valid responses (6)	Total responses (7=5+6)
	Miss-ing (1)	No answer (2)	Don't know (3)	Total invalid responses (4=1+2+3)			
Bulgaria	0.0%	0.0%	0.0%	0.0%	0	1,001	1,001
Canada	0.0%	1.0%	0.0%	1.0%	21	2,143	2,164
Finland	0.0%	0.0%	0.1%	0.1%	1	1,013	1,014
France	0.0%	0.0%	0.1%	0.1%	1	1,000	1,001
Georgia	0.0%	0.0%	0.0%	0.0%	0	1,500	1,500
Germany	0.0%	1.2%	0.0%	1.2%	24	2,040	2,064
Great Britain	0.8%	0.4%	0.4%	1.5%	16	1,025	1,041
Hungary	0.0%	0.0%	0.0%	0.0%	0	1,007	1,007
Italy	0.0%	0.9%	0.3%	1.2%	12	1,000	1,012
Moldova	0.0%	0.0%	0.0%	0.0%	0	1,046	1,046
Netherlands	0.1%	0.3%	0.0%	0.4%	4	1,046	1,050
Norway	0.0%	0.3%	0.1%	0.4%	4	1,021	1,025
Poland	0.0%	0.0%	0.0%	0.0%	0	1,000	1,000
Romania	0.0%	2.4%	0.0%	2.4%	42	1,734	1,776
Russia	0.0%	0.3%	0.7%	1.1%	22	2,011	2,033
Slovenia	0.0%	0.4%	0.0%	0.4%	4	1,033	1,037
Spain	1.7%	0.0%	0.0%	1.7%	20	1,180	1,200
Sweden	0.0%	0.7%	0.0%	0.7%	7	996	1,003
Switzerland	0.0%	0.6%	0.0%	0.6%	7	1,234	1,241
Ukraine	0.0%	0.9%	0.0%	0.9%	9	991	1,000
USA	0.0%	0.0%	0.0%	0.0%	0	1,249	1,249
Total	0.1%	0.5%	0.1%	0.7%	194	26,270	26,464

Appendix H. Valid and invalid responses: Government employee

Country	Invalid responses, % (1)	Invalid responses (2)	Valid responses (3)	Total responses (4=2+3)
Bulgaria	0.0	0	1,001	1,001
Canada	0.5	11	2,153	2,164
Finland	0.0	0	1,014	1,014
France	0.0	0	1,001	1,001
Georgia	0.0	0	1,500	1,500
Germany	1.1	22	2,042	2,064
Great Britain	0.0	0	1,041	1,041
Hungary	0.1	1	1,006	1,007
Italy	0.9	9	1,003	1,012
Moldova	0.0	0	1,046	1,046
Netherlands	2.0	21	1,029	1,050
Norway	0.2	2	1,023	1,025
Poland	0.0	0	1,000	1,000
Romania	0.5	8	1,768	1,776
Russia	0.4	8	2,025	2,033
Slovenia	0.3	3	1,034	1,037
Spain	0.3	3	1,197	1,200
Sweden	0.1	1	1,002	1,003
Switzerland	0.2	2	1,239	1,241
Ukraine	1.1	11	989	1,000
United States	0.0	0	1,249	1,249
Total	0.4	102	26,362	26,464

Appendix I. Valid and invalid responses: Left political ideology

Country	Invalid responses, %					Total invalid re-sponses (6)	Total valid re-sponses (7)	Total re-sponses (8=6+7)
	Miss-ing (1)	Not asked (2)	No answer (3)	Don't know (4)	Total (5=1+2+3+4)			
Bulgaria	0.0%	0.0%	0.0%	28.9%	28.9%	289	712	1,001
Canada	0.0%	0.0%	0.2%	24.7%	25.0%	540	1,624	2,164
Finland	0.5%	0.0%	4.8%	5.6%	10.9%	111	903	1,014
France	1.3%	0.0%	3.0%	2.7%	7.0%	70	931	1,001
Georgia	0.0%	0.0%	7.5%	34.3%	41.9%	628	872	1,500
Germany	0.0%	0.0%	4.9%	6.7%	11.6%	240	1,824	2,064
Great Britain	1.1%	0.0%	2.7%	11.7%	15.5%	161	880	1,041
Hungary	0.0%	0.0%	2.0%	11.9%	13.9%	140	867	1,007
Italy	0.0%	0.0%	14.7%	12.0%	26.7%	270	742	1,012
Moldova	0.0%	0.0%	3.3%	18.8%	22.2%	232	814	1,046
Netherlands	0.0%	0.0%	3.4%	9.6%	13.0%	137	913	1,050
Norway	0.0%	0.0%	0.5%	2.2%	2.7%	28	997	1,025
Poland	0.0%	0.0%	0.3%	27.9%	28.2%	282	718	1,000
Romania	0.0%	0.0%	8.2%	40.5%	48.7%	865	911	1,776
Russia	0.0%	100.0%	0.0%	0.0%	100.0%	2,033	0	2,033
Slovenia	0.0%	0.0%	13.6%	23.5%	37.1%	385	652	1,037
Spain	0.4%	0.0%	5.4%	7.1%	12.9%	155	1,045	1,200
Sweden	0.0%	0.0%	2.8%	0.0%	2.8%	28	975	1,003
Switzerland	0.0%	0.0%	5.2%	5.3%	10.5%	130	1,111	1,241
Ukraine	0.0%	0.0%	7.0%	33.3%	40.3%	403	597	1,000
USA	1.9%	0.0%	1.8%	0.0%	3.7%	46	1,203	1,249
Total	0.2%	7.7%	4.2%	15.0%	27.1%	7,173	19,291	26,464

Appendix J. Valid and invalid responses: Civic engagement

Country	Invalid responses, % (1)	Total invalid responses (2)	Total valid responses (3)	Total responses (4=2+3)
Bulgaria	0.0	0	1,001	1,001
Canada	0.0	0	2,164	2,164
Finland	0.0	0	1,014	1,014
France	0.0	0	1,001	1,001
Georgia	0.0	0	1,500	1,500
Germany	0.1	3	2,061	2,064
Great Britain	0.0	0	1,041	1,041
Hungary	0.1	1	1,006	1,007
Italy	0.5	5	1,007	1,012
Moldova	0.0	0	1,046	1,046
Netherlands	0.0	0	1,050	1,050
Norway	0.0	0	1,025	1,025
Poland	0.0	0	1,000	1,000
Romania	0.2	3	1,773	1,776
Russia	0.5	11	2,022	2,033
Slovenia	0.0	0	1,037	1,037
Spain	0.1	1	1,199	1,200
Sweden	0.0	0	1,003	1,003
Switzerland	0.1	1	1,240	1,241
Ukraine	0.2	2	998	1,000
USA	0.6	8	1,241	1,249
Total	0.1	35	26,429	26,464

Appendix K. Valid and invalid responses: People can be trusted

Country	Invalid responses, %				Total invalid re-sponses (5)	Total valid re-sponses (6)	Total re-sponses (7=5+6)
	Miss-ing (1)	No answer (2)	Don't know (3)	Total invalid re-sponses (4=1+2+3)			
Bulgaria	0.0%	0.3%	11.5%	11.8%	118	883	1,001
Canada	0.0%	0.2%	2.4%	2.6%	57	2,107	2,164
Finland	0.0%	0.0%	1.4%	1.4%	14	1,000	1,014
France	0.0%	0.4%	0.1%	0.5%	5	996	1,001
Georgia	0.0%	0.3%	2.7%	3.0%	45	1,455	1,500
Germany	0.0%	1.6%	6.5%	8.0%	166	1,898	2,064
Great Britain	0.0%	0.3%	1.5%	1.8%	19	1,022	1,041
Hungary	0.0%	0.8%	1.1%	1.9%	19	988	1,007
Italy	0.0%	2.8%	3.1%	5.8%	59	953	1,012
Moldova	0.0%	0.0%	1.5%	1.5%	16	1,030	1,046
Netherlands	0.1%	1.8%	3.2%	5.1%	54	996	1,050
Norway	0.0%	0.1%	0.6%	0.7%	7	1,018	1,025
Poland	0.0%	0.2%	4.3%	4.5%	45	955	1,000
Romania	0.0%	2.1%	3.0%	5.1%	91	1,685	1,776
Russia	0.2%	0.6%	5.5%	6.3%	129	1,904	2,033
Slovenia	0.0%	0.8%	2.9%	3.7%	38	999	1,037
Spain	0.3%	0.1%	1.0%	1.3%	16	1,184	1,200
Sweden	0.0%	4.0%	0.0%	4.0%	40	963	1,003
Switzerland	0.0%	1.2%	3.1%	4.4%	54	1,187	1,241
Ukraine	0.0%	7.9%	3.0%	10.9%	109	891	1,000
USA	0.5%	0.2%	0.0%	0.6%	8	1,241	1,249
Total	0.1%	1.1%	3.0%	4.2%	1,109	25,355	26,464

Appendix L. Valid and invalid responses: Confidence in government institutions

Country	Invalid responses, % (1)	Invalid responses (2)	Valid responses (3)	Total responses (4=2+3)
Bulgaria	11.9	119	882	1,001
Canada	10.8	233	1,931	2,164
Finland	2.5	25	989	1,014
France	3.7	37	964	1,001
Georgia	22.2	333	1,167	1,500
Germany	11.9	246	1,818	2,064
Great Britain	12.9	134	907	1,041
Hungary	9.9	100	907	1,007
Italy	7.3	74	938	1,012
Moldova	4.7	49	997	1,046
Netherlands	12.2	128	922	1,050
Norway	1.3	13	1,012	1,025
Poland	15.0	150	850	1,000
Romania	12.8	227	1,549	1,776
Russia	15.5	316	1,717	2,033
Slovenia	10.5	109	928	1,037
Spain	7.8	93	1,107	1,200
Sweden	6.1	61	942	1,003
Switzerland	10.0	124	1,117	1,241
Ukraine	24.0	240	760	1,000
United States	6.4	80	1,169	1,249
Total	10.9	2,891	23,573	26,464

Appendix M. Correlation matrix of the country-level correlates

	GDP per capita	Unemployment	Inflation	Government effectiveness	Corruption	Gini	Ethnic fractionalization	Survival vs. Self-Expression values	Traditional vs. Secular-Rational values
GDP per capita	1								
Unemployment	-0.59	1							
Inflation	-0.64	-0.18	1						
Government effectiveness	0.92	-0.42	-0.78	1					
Corruption	0.90	-0.50	-0.71	0.97	1				
Gini	-0.47	0.23	0.53	-0.59	-0.58	1			
Ethnic fractionalization	-0.28	0.01	0.35	-0.30	-0.26	0.48	1		
Survival vs. Self-Expression values	0.23	-0.23	-0.08	0.29	0.39	-0.53	-0.39	1	
Traditional vs. Secular-Rational values	0.93	-0.51	-0.65	0.90	0.92	-0.49	-0.21	0.26	1

VITA

Nurgul Ryskulovna Aitalieva (in Russian: Нургуль Рыскуловна Айталиева) is a native of Kyrgyzstan (Bishkek city). In addition to English, she speaks Kyrgyz and Russian languages. Nurgul is a graduate of the Kyrgyz State University (Bishkek, Kyrgyzstan) where she majored in Chemistry. She graduated from the university with "*Krasniy Diplom*" (transliterated from Russian; equivalent to summa cum laude). She received an Edmund S. Muskie/Freedom Support Graduate Fellowship from the U.S. Department of State to study at The New School (New York, NY). At The New School, Nurgul got an Award for Excellence and was named the 2003-2004 Outstanding Graduate in the Graduate Program in Nonprofit Management. She graduated from The New School with the Master's degree in Science. In addition, she received an Opportunity Grant from the U.S. Department of State to complete her Master's degree in Public Administration (MPA) at Appalachian State University (Boone, NC). The desire to become a scholar and a better teacher is what led her to pursue a Ph.D. in political science at the University of Tennessee (Knoxville, TN). At her doctorate program, she was awarded the Lee S. Greene Award for Outstanding Achievement in Public Administration. While pursuing her graduate degrees, she interned at the United Nations (New York, NY), the Budget and Management Department of Forsyth County (NC), Mayor Allen Joines' office (Winston-Salem, NC), and the Institute of Public Service (Knoxville, TN).

Professionally, for about 10 years she worked as a consultant in the European Union (TACIS), the Asian Development Bank (ADB), and the United States Agency for International Development (USAID) projects. Through these international projects Nurgul was actively involved in public administration reforms in her native country, Kyrgyzstan. She participated in drafting the civil service law, the tax code, and other government laws, regulations, and legal documents. She was also a member of the European team that was involved in establishing an MPA program at the Academy of Management under the President of the Kyrgyz Republic.

To date, she has one refereed co-authored publication in *Business and Politics,* one "revise and resubmit" co-authored manuscript in *Public Administration Review*, and several other papers in the works. She presented papers at several political science and public administration conferences, including the meetings of the American Political Science Association. She taught at the International and Comparative Politics department at the American University in Central Asia (Bishkek, Kyrgyzstan) for three years. As a graduate teaching assistant/ associate, she taught at the Political Science department at the University of Tennessee (Knoxville, TN) for five years. Starting from fall 2014, she will join as a tenure-track assistant professor the Pubic Policy department at the Indiana University-Purdue University (IPFW, Fort Wayne, IN).