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**STUDIES ON THE POLITICAL ECONOMY OF SOCIAL VALUES**

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**SOSYAL DEĞERLERİN POLİTİK EKONOMİSİ ÜZERİNE ÇALIŞMALAR**

DOKTORA TEZİ

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## BEYAN

“**Studies on the Political Economy of Social Values**” adlı doktora tezinin hazırlık ve yazımı sırasında bilimsel araştırma ve etik kurallarına uyduğumu, başkalarının eserlerinden yararlandığım bölümlerde bilimsel kurallara uygun olarak atıfta bulunduğumu, kullandığım verilerde herhangi bir tahrifat yapmadığımı, tezin herhangi bir kısmının Bilecik Şeyh Edebali Üniversitesi veya başka bir üniversitede başka bir tez çalışması olarak sunulmadığını, aksinin tespit edileceği muhtemel durumlarda doğabilecek her türlü hukuki sorumluluğu kabul ettiğimi ve vermiş olduğum bilgilerin doğru olduğunu beyan ederim.

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## FOREWORD

The world is in a constant state of change and transformation, much like a living and evolving organism. Since the first seed was planted in the soil by humans, there has been an uninterrupted change. Modernization, to which we do not attribute any moral value of goodness or badness, in this study, the industrial revolution, which can be dated back to the 18<sup>th</sup> century and even earlier, and globalization, which is the carrier of these changes, have affected the world more than any historical social phenomena. However, the gap in human development between high-income and low-income countries indicates a problem in achieving results of modernization. The wars of the first half of the 20<sup>th</sup> century and the social unrest in the aftermath of the Second World War, particularly in the Middle East, Africa, South America, and other regions, are indicative of this.

Migration, which was once done to improve quality of life or to survive, has now become a necessity in many places due to concerns about physical security. Furthermore, environmental degradation highlights the urgent need for a conscious global policy of environmental protection. If production structures are not transformed, it prepares the end of the world through global warming. Besides, modernization is transforming religious beliefs, one of humanity's oldest social values.

This research focuses on values that are seemingly independent of each other. Rather than a pure modern economics viewpoint, this study is prepared from a political economy perspective in order to identify changes in these seemingly independent values and the factors determining the change. Similar to the pre-20<sup>th</sup> century era when social sciences had a more unified methodology and scope, including sociology, history, economics, and philosophy under the umbrella of political economy, our goal is to provide such a holistic perspective.

I would like to express my sincere gratitude to all the people who kindly and patiently supported me during my studies and contributed to my dissertation.

I owe my deepest gratitude to Prof. Dr. Cüneyt Koyuncu. I am indebted to him for his invaluable guidance and supervision. I am grateful to Assoc. Prof. Muhammed Benli and Assoc. Prof. Yasin Acar for taking the time to review my dissertation and for their valuable and detailed comments in our semiannual meetings and regular talks. I would like to show my gratitude to the other members of the examining committee, Prof. Dr. Rasim Yılmaz and Prof. Dr. Ali Kabasakal, for their insightful comments on the study and their contribution to the finalization

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As I owe all my achievements and intellectual interest throughout my life to my parents, this study would not have been possible without them. Finally, I am grateful to my family for making more sacrifices than any family can. I must thank my son Sencer Murat, the joy of our home, for being a constant source of motivation for me, even if unconsciously.

My greatest gratitude in life is to my wife Gülşah Ünal. I am immensely grateful to her, for being a constant source of support, even during our most challenging times. I appreciate her for engaging in the most fruitful academic discussions with me, providing endless encouragement, and pushing me to continue my work.

**Hüseyin Safa Ünal**

**2024**

## ÖZET

### SOSYAL DEĞERLERİN POLİTİK EKONOMİSİ ÜZERİNE ÇALIŞMALAR

Bu çalışma ana olarak üç bölümden oluşmaktadır. Her bir bölüm sosyal değerlerin birbirinden bağımsız gibi görünen farklı boyutlarına değinmektedir. İkinci bölüm, toplumsal değerlerin ve demografik özelliklerin Türkiye'deki göçmenlere yönelik tutumları nasıl etkilediğini incelemektedir. 2018 yılı Dünya Değerler Araştırması (WVS) verilerine dayanılarak oluşturulan logit model analiz sonuçları gösteriyor ki Türkiye'de göçmenlere yönelik olumsuz bakış açısı ile din ve milliyetçilik arasında güçlü bir ilişki vardır. Sosyal sınıfın iyileşmesi göçmenlere karşı bakış açısında olumlu şekilde etki ederken göçmenlerin işgücü piyasasında bir rekabet unsuru olarak algılanması göçmenlere karşı olumsuz tavır ile pozitif yönde etkileşimdedir. Demografik özelliklerden çok değerler ve toplumdaki sosyoekonomik konum göçmenlere yönelik görüşler üzerinde etkilidir. Çalışmanın üçüncü bölümünde Türkiye'de ve 2017-2022 yılları arasında WVS anket soruları sorulmuş 63 ülkede çevre koruma ile ekonomik büyüme arasındaki önceliklendirmeyi hangi demografik özelliklerin etkilediği logit model kullanılarak araştırılmıştır. Örüntü oluşturacak bir ampirik bulguya rastlanmamıştır. Ancak eğitim seviyesinin örnekleme dahil birçok ülkede çevre yanlısı önceliklendirme ile pozitif etkileşim içerisinde olduğu tespit edilmiştir. Diğer yandan Türkiye'de yaşı gençlik döneminde çevre yanlısı tutumla negatif ilişkide olduğu, gelir skalası, postmateryalist değerler, şehir büyüklüğü, bireyci tercihlerden ziyade devletçi tercihlerin iş ve sanayide baskın olması, din, milliyetçilik, siyasi yelpazenin sağ kanadında yer alma, demokrasiyi tercih etme ve sivil topluma olan güven ile de pozitif ilişkili olduğu tespit edilmiştir. Çalışmanın dördüncü bölümünde modernleşme ile dinsellik arasındaki ilişki 1989-2022 yılları arasında WVS çalışmasına dahil olan 108 ülke üzerinde Görünüşte İlgisiz Regresyon (SUR) yöntemi uygulanarak araştırılmıştır. Ampirik bulgular, dinsellik ile modernleşmenin çeşitli yönleri arasında var olan negatif ilişkinin bir sekülerleşme sürecine işaret ettiğini göstermektedir. Öte yandan, dinsellik, dini çoğulculuk ve bir devlet dininin varlığı ile negatif bir korelasyona sahiptir. Ancak, din piyasasının devlet tarafından düzenlenmesi ile pozitif bir etkileşime sahiptir.

**Anahtar Kelimeler:** Göçmenler, Çevre, Dinsellik, Modernleşme, Dünya Değerler Araştırması.

## ABSTRACT

### STUDIES ON THE POLITICAL ECONOMY OF SOCIAL VALUES

This study consists of three chapters, each addressing different dimensions of social values that appear to be independent of each other. The first chapter examines how social values and demographic characteristics influence attitudes toward migrants in Turkey. The results of the logit model analysis, based on 2018 World Values Survey (WVS) data, indicate a strong relationship between religion and nationalism and negative attitudes toward immigrants in Turkey. Improving one's social class has a positive effect on attitudes toward immigrants. However, perceiving immigrants as a competitive factor in the labor market is positively associated with negative attitudes towards them. Views toward immigrants are more influenced by values and socioeconomic position in society than by demographic characteristics. The second chapter of the study analyzes the impact of demographic characteristics on prioritizing environmental protection versus economic growth in Turkey and 63 other countries surveyed by the WVS between 2017 and 2022. A logit model is used to analyze the data, but no clear patterns are identified. However, in many of the surveyed countries, a positive correlation is found between education level and prioritizing pro-environmental policies. In Turkey, pro-environmental attitudes are negatively correlated with age in younger ages and positively correlated with income scale, postmaterialist values, town size, preference for statist rather than individualist preferences in business and industry, religion, nationalism, being on the right wing of the political spectrum, preference for democracy, and trust in civil society. The third chapter of the study analyzes the correlation between modernization and religiosity using the Seemingly Unrelated Regression (SUR) method on 108 countries included in the WVS study between 1989 and 2022. The empirical findings suggest the existence of a secularization process as there is a negative association between religiosity and various aspects of modernization. On the other hand, religiosity has a negative correlation with religious pluralism and the existence of a state religion. However, it has a positive correlation with state regulation of the religious market.

**Keywords:** Immigrants, Environment, Religiosity, Modernization, World Values Survey.

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## LIST OF ABBREVIATIONS

**AIC:** Akaike Information Criterion

**AME:** Average Marginal Effect

**ARDA:** Association of Religion Data Archives

**CIA:** Central Intelligence Agency

**CIRI:** Cingranelli and Richards

**CIRIGHTS:** CIRI Data Project

**EDGAR:** European Commission's Emissions Database for Global Atmospheric Research

**EFW:** Economic Freedom of the World

**EIU:** Economist Intelligence Unit

**EU:** European Union

**EVS:** European Values Survey

**FDI:** Foreign Direct Investment

**FI:** Fraser Institute

**GDP:** Gross Domestic Product

**GHG:** Greenhouse Gas

**GMS:** Gallup Millennium Survey

**GNI:** Gross National Income

**HDI:** Human Development Index

**HHI:** Herfindahl-Hirschman Index

**IMF:** The International Monetary Fund

**ISSP:** International Social Survey Programme

**KOF:** KOF Swiss Economic Institute

**LPM:** Linear Probability Model

**LR:** Likelihood Ratio

**MDG:** Millennium Development Goals

**MLE:** Maximum Likelihood Estimation

**OECD:** The Organization for Economic Cooperation and Development

**OLS:** Ordinary Least Squares

**PWT:** Penn World Table

**PPP:** Purchasing Power Parity

**RAS:** Religion and State Project

**SDG:** Sustainable Development Goals

**SUR:** Seemingly Unrelated Regression

**UN:** The United Nations

**UNDP:** United Nations Development Programme

**UNESCO:** The United Nations Educational, Scientific and Cultural Organization

**WB:** The World Bank

**WDI:** World Development Indicators

**WGI:** World Governance Indicators

**WVS:** World Values Survey

**t CO<sub>2</sub>eq/cap/yr:** tons of carbon dioxide equivalent produced per capita per year

**t CO<sub>2</sub>eq/kUSD/yr:** tons of carbon dioxide equivalent produced per thousands of U.S. dollars per year.

**Mt CO<sub>2</sub>eq/yr:** million tons of carbon dioxide equivalent produced per year.

## **1. INTRODUCTION**

Each chapter of this dissertation begins with an independent introduction. It is therefore deemed unnecessary to include a detailed introduction here in which the same topics are explained. Instead, a brief introduction is provided to explain why the three main topics of the chapters are worth examining and how they contribute to the literature.

In today's still globalizing and modernizing world, where economic growth is accelerated by technological advancements, it is crucial to understand the complex dynamics of socio-cultural phenomena. This study focuses on three concepts in this respect due to their broad social implications: Migration, environment, and religion.

Although some experience it positively and others negatively, migration has become a common reality in all societies. It has become an increasingly popular option for many people due to globalization and advanced communication. Given multifaceted outcomes of migration on various aspects of society, economy, and politics, it is crucial to make sense of the factors related to it.

In addition, technological advancements and growing production over the centuries, along with rapid progress in the 21st century, have made environmental protection a priority to mitigate the negative impacts of this production boom. It is not only a priority but also a necessity for life to continue. Like migration, environmental degradation is related to social equity and intergenerational justice as well. Public awareness and civil society engagement are needed to address both migration and environmental issues. But first, the dynamics of these challenges must be clearly identified.

Similar to migration and environment, religion is one of the most influential concepts in the world. While being the oldest social value, religion is an individual decision and belief system in which the individual chooses whether to believe or not. It is also an idea that drags societies as a whole behind it. It sometimes unites different societies and sometimes drives them apart, as it did in religiously motivated wars throughout history. Or it can unite the individuals of the same society around the same cause or push them to the opposite poles, and even causes them to emigrate. The impact of religion on the people differs from society to society and it also depends on the context. It is also a historical reality that the same doctrine produces different reactions in different societies. On this basis, modernization is one of the most important factors in the evolution of religion throughout history and its impact on societies and individuals.

This doctoral dissertation explores three key topics in three main chapters in this regard: the attitudes toward immigrants in Turkey, the prioritization between environmental protection and economic growth in Turkey and 63 countries classified according to various criteria, and the evolving status of religious beliefs as a result of modernization in the world. In other words, Turkey is taken as a focal point and the subject is opened up layer by layer. In each chapter, the main data source for individual characteristics and social values is the World Values Survey (WVS). This international survey program provides a detailed understanding of individual-level values in different countries and territories since the 1980s. The second and third chapters utilize logistic regression, while the fourth chapter employs Seemingly Unrelated Regression (SUR).

The study's novelty lies in its comprehensive and holistic view of three major socio-cultural phenomena that remain relevant and affect almost all of the world's population. The study's results, particularly in chapters two and three, are more generalizable than previous literature. This is due to the use of detailed data from the Turkish sample at the individual level and from various regions of the country in the analyses. In contrast to previous studies, the fourth section examines the relationship between modernization and religious beliefs by including globalization and institutional quality dimensions, in addition to economic growth. Furthermore, by expanding the dataset to cover a longer period of time and over 100 countries, changes in the relationship between modernization and religiosity can be observed. In this context, this study not only presents an assessment of the situation in these three areas, but also provides guidance for the formulation of social policy by shedding light on the values and individual characteristics that are closely related to the topics of research.

## **2. POLITICAL ECONOMY OF ATTITUDES TOWARD IMMIGRANTS IN TURKEY**

### **2.1. Introduction**

Civilizations throughout history have not been established by any pure ethnic group. All powerful empires owed their strength to how effectively they united different ethnic identities. The history of capitalism itself is simply a history of the exploitation of different regions of the world. The modern national state is simply the union of different people under the roof of a unique target through binding social contracts. There is no society in the world that does not interact with other societies, at least culturally. All of the institutions, as dynamic entities, created by human beings are subject to change and evolution as they interact with each other and learn from each other. Even in the Middle Ages, people were curious about the world beyond their own. Is the world outside better or worse? During times of famine, is there more food elsewhere? During droughts, is there a place with more water? During times of war, people seek a peaceful environment free from cruelty where they can live happily. This search may stem from a fear of death, a desire for a better life, or simple curiosity - the drive that compels human beings to constantly develop and learn. The urge to explore the unknown is irresistible, and it is this curiosity alone that propels civilization forward. Today, people interact with each other more than ever before in history.

Migration is a concept that has existed throughout history. And naturally, so are the problems it brings along between residents and migrants. Turkey provides an interesting case study for researching migration and society's perspective on migration. Throughout history, it has been home to states with diverse ethnic groups. It has played a significant role as a stop on the Silk Road and the Spice Route. Today, it is still a crucial point on the migration route from the Middle East and Asia to the West. Turkey has a unique position when it comes to migration due to its geography, history, and demographic structure as a successor of an imperial state. Considering the uniqueness of Turkey's migration history, this study aims to find individual factors that are particularly influential on attitudes toward immigration that has gained momentum recently in Turkey. How do social values, such as religion, affect attitudes toward immigrants? What is the impact of an individual's socioeconomic situation or demographics on their views of immigrants? How are political views related to an individual's perspective on immigrants in the country? What are the concerns of individuals who do not welcome migrants in their home country? Economic concerns, such as reduced job opportunities; security concerns, such as terrorism; or other concerns, are they important? This study explores

individuals' perspectives on migrants in Turkey with a focus on economic and security concerns. To this end, 2018 data on Turkey are retrieved from WVS. A comprehensive logistic regression<sup>1</sup> analysis is conducted.

The study is organized as follows. A brief summary of the history of migration in Turkey is presented in the second part. The third part summarizes recent migration statistics. The fourth part discusses the literature on migration. Part five provides details on the data and methodology, while part six presents the empirical findings. The study concludes in part seven.

## **2.2. Migration and Turkey: A Brief History**

From the very beginning, Turkish history can also be considered as a history of migrations. First, in the 11<sup>th</sup> century and before, there was a wave of migration from Central Asia to Asia Minor and Europe. Subsequently, due to the Mongol invasion, the Anatolian principalities concentrated in the western region of Anatolia. The adventure of the Ottoman Empire, which started with this wave of migration in the 13<sup>th</sup> century, continued in the 14<sup>th</sup> century, this time from Anatolia to Rumelia. Thus, a long migration route was established from Central Asia to Anatolia, then from there to Rumelia and into the interior of the Arabian Peninsula. This wave of migration was led by spiritual leaders and can be characterized as a form of missionary activity. In this way the Ottoman Empire established a permanent foothold in Eastern Europe under the leadership of these "colonizer Turkish dervishes", as referred to by Barkan (1942).

In the late 18<sup>th</sup> century, a new wave of migration was started by the Crimean Tatars and Nogais. This wave of migration was followed by another flux of migration from the Caucasus in the 19<sup>th</sup> century and from Rumelia to Turkey in the early 20<sup>th</sup> century. Moreover, the demographic structure of Anatolia underwent significant changes during the Russo-Turkish War (1877-1878), the Balkan Wars (1912-1913), World War I (1914-1918), and the Turkish War of Independence (1919-1923). The new Republic partially met its manpower needs through forced migration, population exchange, and the arrival of people from the Western Thrace and the Balkans. Turkey was able to replenish its productive population between the ages of 18 and 40, which had declined during the war years, through the Population Exchange between Greece and Turkey in 1923 and subsequent agreements with Bulgaria and Romania (Karpas, 2015, p. xxxii). These waves of migration brought people of the same ethnic origin that had migrated to the West in the 14<sup>th</sup> century back to Turkey. The issue with the Turkish-Greek Population

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<sup>1</sup> Logistic regression or logit model, both are used interchangeably.

Exchange that took place in 1923 was that the departing Greeks were primarily specialized in trade and industry, while 80-90% of the immigrants who arrived in Turkey were specialized in agriculture. Consequently, it was difficult to find experts to replace those who had left and to work in the lost sectors. However, the exchanged migrants who came to the country made a significant contribution to the national economy by transferring various agricultural techniques and skills to the homeland (Arı, 2000, pp. 172-182). Additionally, there was a significant migration from Bulgaria to Turkey after the establishment of the Republic, particularly during the Cold War. In 1989, over 300,000 people escaped the ethnically repressive regime in Bulgaria and migrated to Turkey. Although almost half of these immigrants returned in the 1990s, there are still significant numbers of Turkish immigrants of Bulgarian origin in Turkey (Ersoy-Hacısalıhoğlu & Hacısalıhoğlu, 2012).

These migration waves can be classified as major waves. However, there were also minor waves that nourished Turkey's ethnic diversity, such as the Jewish migration from Spain to the Ottoman Empire in the 15<sup>th</sup> century and migrations from Africa to Turkey until the Ottoman Empire lost its lands in Africa. This diversity persisted at least until the establishment of the Republic. However, population exchanges that occurred during the process of nation-state building in the 20<sup>th</sup> century aimed to ensure ethnic homogeneity in the demographic structure. According to İçduygu and Kirişçi (2009, p. 2) the total number of non-Muslims, including Greeks, Armenians, Jews, and other non-Muslims, decreased from 19.1% to 0.2% of the population between 1914 and 2005. Erdoğan and Kaya (2015, p. 12) reported that approximately 2 million immigrants, referred to as *soydaş* due to their shared ethnic background<sup>2</sup>, were admitted to Turkey between 1923 and 2010<sup>3</sup>. However, from 2010 to 2020, the total number of migrants in Turkey increased by 4,678,903, largely due to the war in Syria. The number of immigrants of Turkish origin or culture who have arrived in Turkey since 1923 is less than half of the current number of Syrian immigrants. In the study conducted among

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<sup>2</sup> Considering that the population exchange between Turkey and Greece was not based on race but on religious identity, it can be assumed that ethnic identity here does not include the concept of race merely. However, the society views the term *soydaş* from a broader perspective by evaluating it in terms of culture. For example, immigration from Yugoslavia was not homogeneously composed of people of Turkish origin. In fact, according to the settlement law enacted in 1934, the conditions of the settlement policy are to be of Turkish descent or to be connected to Turkish culture (İskân Kanunu, Law number: 2510, 1934). According to 1935 Turkish census, the number of people who recognized Albanian as their mother tongue or second language was 48,915, while the number of people who identified Bosnian as their mother tongue or second language was 38,141 (Özgür Baklacioğlu, 2015).

<sup>3</sup> For another comprehensive study on the migration policies pursued by the Republic of Turkey since its establishment, see (İçduygu et al., 2014).

2,253 Turkish citizens in 26 different cities, only 8.3% saw Syrians as culturally similar to themselves, while 81% did not see them as culturally similar (Erdoğan, 2022, p. 111).

This study focuses on immigration and the perception of immigrants in Turkey. However, the mass migration from Syria in the last 13 years has caused the terms “migrant” and “Syrian” to be perceived as synonyms among Turkish population. In fact, many people prefer to use the term “Syrian” instead of “migrant.” Additionally, most people have no social contact with Syrians. They do not shop from Syrians or establish business relationships with them, nor do they have Syrian friends. According to the Syrian Barometer-2021, 52.2% of the survey respondents who were Turkish citizens reported not having had a conversation with a Syrian (Erdoğan, 2022, p. 120). Although they do not have noticeable social relations with Syrians, most people perceive Syrians as a threat to various aspects of Turkish society, including economy, sociocultural structure, social peace, national identity, and the labor market. More than half of the population believes that Syrians may harm them, their families, or their children, despite the fact that 92.3% of the population has not experienced any harm from Syrians (Erdoğan, 2022).

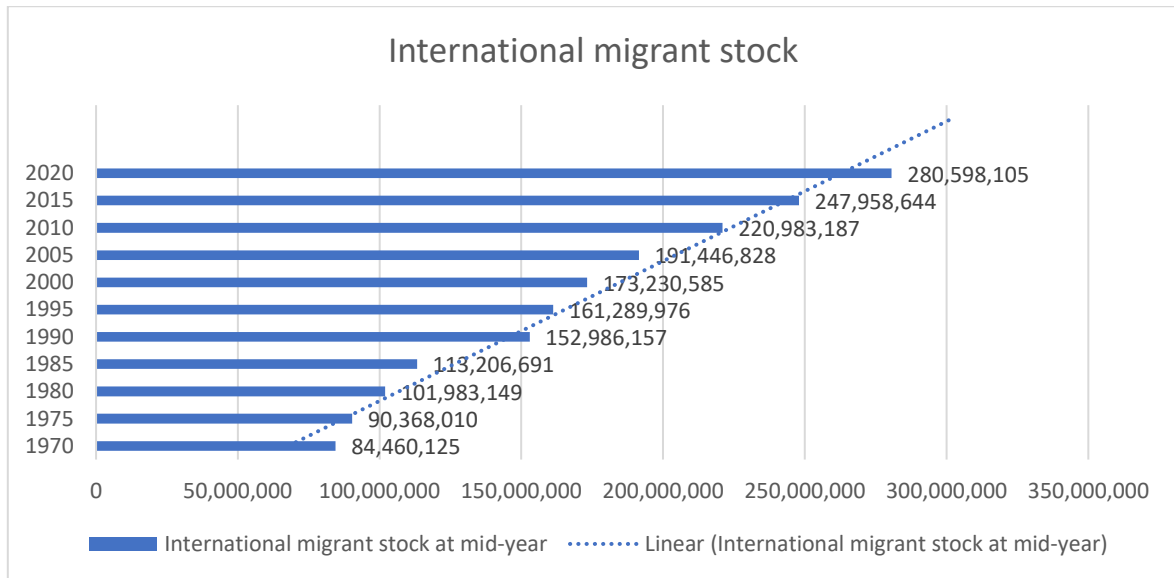
In 2014, a considerable number of Syrians expressed their willingness to return to their country if it were safe and stable. However, according to Erdoğan's 2014 study, Syrians in Turkey were not temporary but permanent, and the total number of Syrians staying in Turkey would exceed one million. Therefore, he emphasizes that social cohesion and harmonization are crucial for a common and peaceful life (Erdoğan, 2015).<sup>4</sup> Political, economic, social, and cultural policies that do not consider the situation of immigrants and refugees may perpetuate maladaptation instead of addressing the complications of migration. This migration process could radically affect Turkey's future if managed appropriately, but it is still manageable. The initial step is to determine what both migrants and citizens are content with and what they are dissatisfied with. Only then can the issues be addressed.

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<sup>4</sup> This study of Erdoğan and his subsequent survey-based research, in which he regularly solicits the views of both migrants and citizens who are parties to the issue, are invaluable sources. See for instance (Erdoğan, 2018; Erdoğan, 2022)

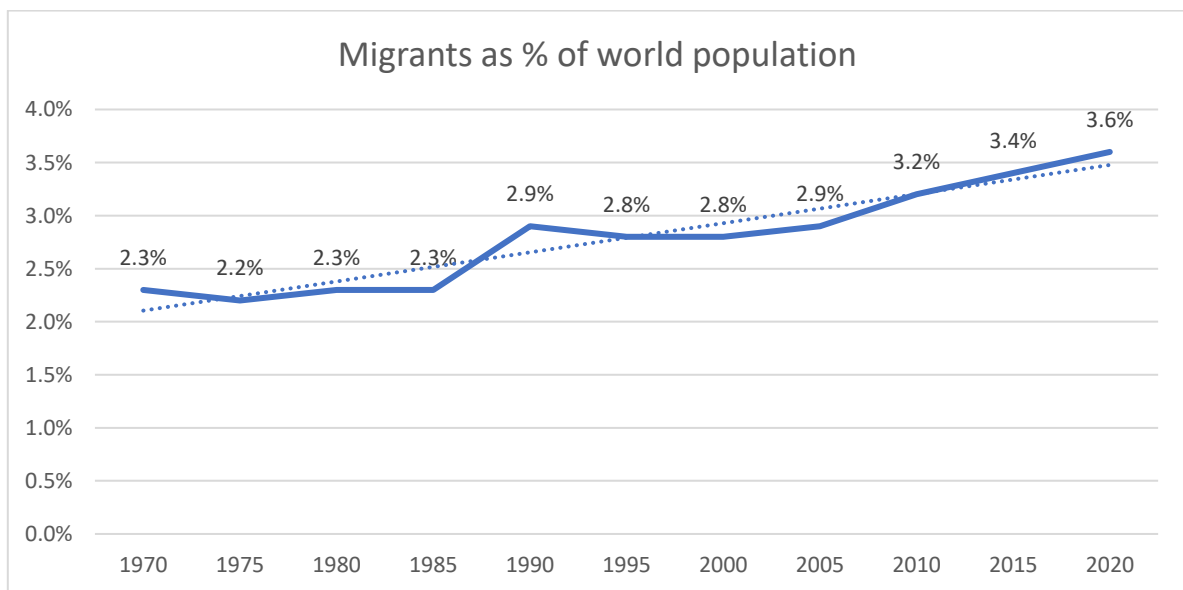
### 2.3. Migration Recently

International migration has increased significantly worldwide over the past two decades. According to the United Nations (UN), the number of people living outside their country of origin was 281 million in 2020, mounted up from around 84 million in the 1970s and has been on an upward trend ever since (see Figure 2.1).



**Figure 2.1.** International Migration Stock

**Source:** (McAuliffe & Triandafyllidou, 2021, p. 23; United Nations Department of Economic and Social Affairs, Population Division, 2020a)

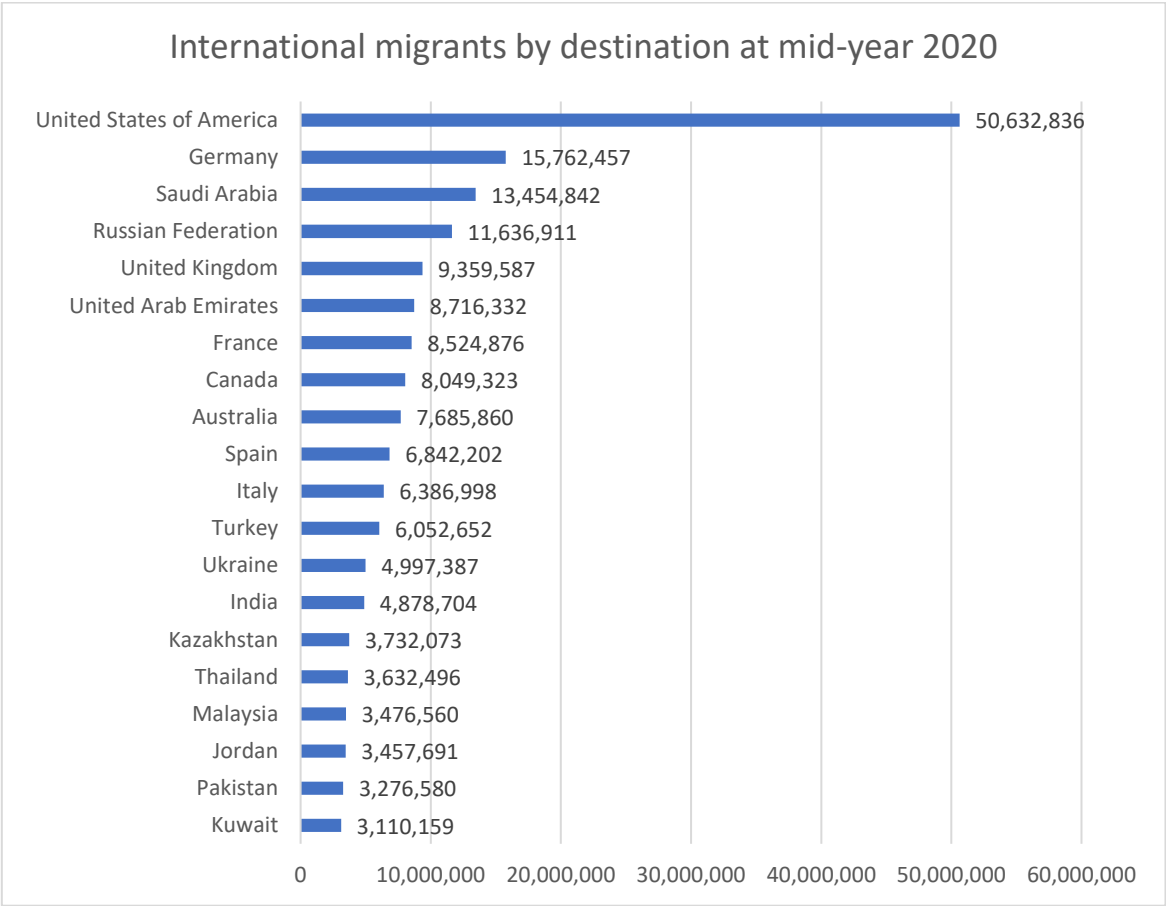


**Figure 2.2.** Migrants as % of World Population

**Source:** (McAuliffe & Triandafyllidou, 2021, p. 23)

The proportion of migrants in the world population rose from 2.3% in 1970 to 3.6% in 2020. This rate has consistently increased over the years (see Figure 2.2). Based on the statistics from the past 55 years, migration has been and will continue to be one of the most important issues concerning humanity.

Migration is shaped and influenced by various factors, including economic, social, demographic, ethnic factors, kinship, religion, and geographical accessibility. It is important to note that immigration is not an identical phenomenon worldwide. For example, Turkey experiences two distinct types of migration as it is involved in two major migration corridors. Specifically, Turkey serves as an origin country in the migration corridor from Turkey to Germany. In the migration corridor from the Syrian Arab Republic to Turkey, it is the destination.

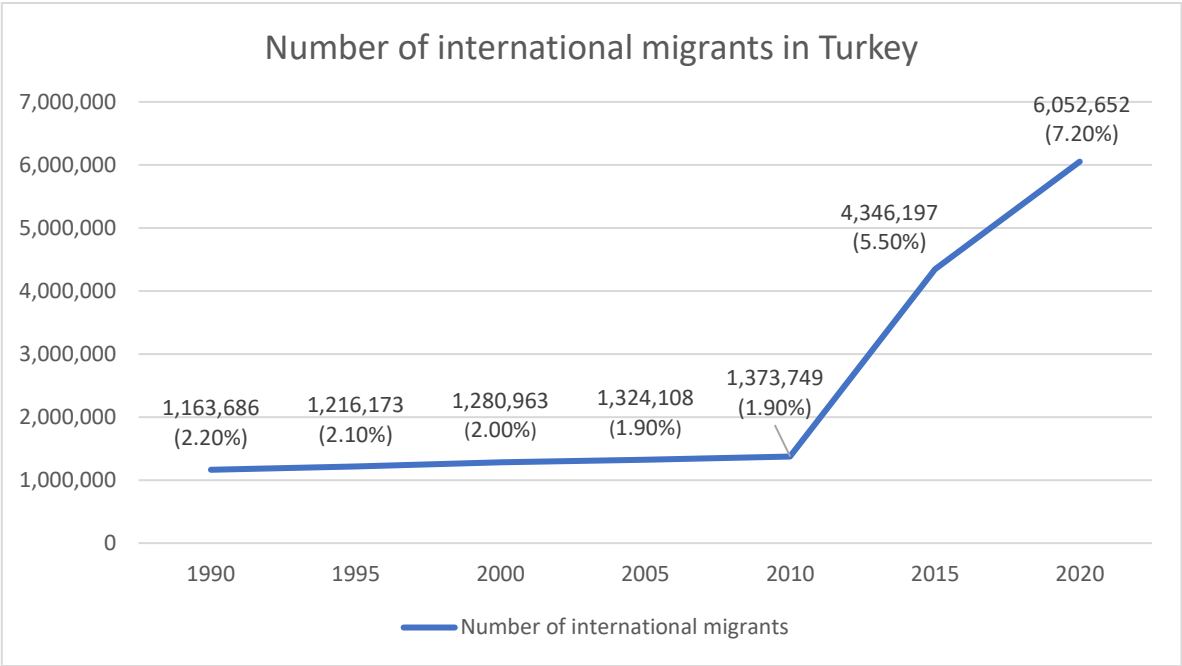


**Figure 2.3.** International Migrants by Destination at Mid-year 2020

**Source:** (United Nations Department of Economic and Social Affairs, Population Division, 2020a)

The first corridor has been primarily used for work-related migration since 1961, while the second corridor has seen an increase in migration due to the Syrian Civil War and the resulting humanitarian concerns. For the 5-year periods between 1990 and 2020 Turkey's ranking in the total number of international migrants was 27, 27, 28, 31, 33, 14, and 12, according to UN (2020a). After 2010, its ranking increased from 33<sup>rd</sup> to 14<sup>th</sup> in 2015 and then to 12<sup>th</sup> in 2020, coinciding with the Syrian Civil War. As of 2020, Turkey is the 12<sup>th</sup> most populous country in the world for international migrants (see Figure 2.3).<sup>5</sup>

The United States has been the first choice of immigrants for fifty years, while Germany has consistently ranked among the top three or five receiving countries since the 1990s. Saudi Arabia has also been a top destination, ranking in the top four since the early 2000s and in the top three for the last decade. However, the recent increase in migration to Turkey is unprecedented, with no historical background. This trend is largely due to the ongoing Syrian Civil War, which began in 2011.



**Figure 2.4.** Number of International Migrants in Turkey

**Source:** (United Nations International Organization for Migration, Global Migration Data Analysis Centre, 2021)

**Note:** International migrant stock as % of total population of Turkey are in the parentheses.

<sup>5</sup> Since data on international migration stock has been published every five years since 1990, the most current data available is for 2020 (United Nations Department of Economic and Social Affairs, Population Division, 2020a).

Since 2010, the number of international migrants in Turkey has increased significantly, from 1,373,749 to 4,346,197 in 2015, and 6,052,652 in mid-year 2020. This represents a rise from 2% of the total population in Turkey in 2010 to 5.5% in 2015 and 7.20% in 2020 (see Figure 2.4).

In addition to the sudden increase in migration, irregular immigration has also become a significant issue. Turkish authorities apprehended a total of 2,606,031 irregular migrants between 2005 and 2024 (see Table 2.2). The leading countries of origin for irregular migration to Turkey in 2023 are Afghanistan, Syria, Palestine, Morocco, Turkmenistan, Iran, Uzbekistan, Iraq, and Yemen. Among these, the numbers of migrants coming from Afghanistan and Syria are particularly high (see Table 2.1). Therefore, the recent surge in migration to Turkey, especially in the last decade, requires further investigation as a potential cause of social unrest against immigrants in Turkey.

**Table 2.1.** Number of Irregular Migrants in Turkey in 2023, by Citizenship

Country of Origin	Number of People
Afghanistan	68,687
Syria	58,621
Palestine	18,113
Morocco	13,040
Turkmenistan	14,328
Iran	8,803
Uzbekistan	9,649
Iraq	7,295
Yemen	6,383
Other	49,089
<b>Total</b>	<b>254,008</b>

**Source:** (Presidency of Migration Management, Ministry Interior of Turkey, 2024)

The number of irregular migrants in Turkey has shown an upward trend in general, with the exception of a dramatic decline from 454,662 in 2019 to 122,302 in 2020. The decrease is likely to be a result of the measures taken during the Covid-19 pandemic, both in Turkey and in the world.

**Table 2.2.** Number of Irregular Migrants Captured in Turkey, by Year

<b>Year</b>	<b>Total Number of People</b>
2005	57,428
2006	51,983
2007	64,290
2008	65,737
2009	34,345
2010	32,667
2011	44,415
2012	47,510
2013	39,890
2014	58,647
2015	146,485
2016	174,466
2017	175,752
2018	268,003
2019	454,662
2020	122,302
2021	162,996
2022	285,027
2023	254,008
2024	65,418*
<b>Total</b>	<b>2,606,031</b>

**Source:** (Presidency of Migration Management, Ministry Interior of Turkey, 2024)

*Note:* \*2024 data is up to date as of 04.18.2024

#### **2.4. Literature**

The situation and problems of immigrants in Turkey constitute the subject of a wide literature (Balkan & Tumen, 2016; Erdoğan & Kaya, 2015; İçduygu & Kirişçi, 2009; Karapınar Kocağ & Longhi, 2022; Tanrıku, 2021; Tolay, 2015). This includes not only immigrants from other countries but also internal migration. However, empirical evidence based on survey data and applied studies on this topic in Turkey is limited, with a few exceptions (Aksu et al., 2022; Ceritoglu et al., 2017; Del Carpio & Wagner, 2015; Demirci & Kırdar, 2023). It is crucial to evaluate the information obtained from host country citizens, who are the primary addressees of this issue. Therefore, this study aims to fill the comparatively empirical gap in literature.

Most of the literature concerning host country citizens' attitudes toward immigrants concentrates on developed European or Western countries, such as the United States.<sup>6</sup> However, thanks to the WVS, it has become possible to conduct this research by utilizing individual level data for Turkey.

Economic factors such as competition for and within the labor market has been an issue shaping individuals' preferences for immigrants. High-skilled laborers may not see immigrants as a threat to their jobs compared to low-skilled laborers. For O'Rourke and Sinnott (2006), anti-immigrant attitudes are more prevalent among low-skilled laborers. Moreover, the effect is stronger in countries where there is equality and prosperity. They base their conclusion by using individual level data of 24 countries for 1995 (O'Rourke & Sinnott, 2006). So, as the skill level of laborers improves, they may perceive themselves as irreplaceable, even though immigrant workers may be more competitive in terms of wages. Haubert and Fussell's (2006) study shows that highly educated, white-collar individuals who are against ethnocentrism tend to be more pro-immigrant. Because they tend to have chance to spend some time abroad and to interact with foreign cultures, they are more likely to have positive views about immigrants.

Rustenbach (2010) also finds that in Europe, individuals with higher education and more experience with immigrants tend to have lower anti-immigrant attitudes. Similarly, high-status individuals may not feel threatened by immigrants as they are not in direct competition with them. This is due to the fact that immigrants occupy lower positions in the social hierarchy of the host country (Rustenbach, 2010). In other words, education may not be the sole determining factor in the reason why people become more pro-immigrant as their level of education increases. As people's level of education increases, their hierarchical position in society also increases. Therefore, they may not find themselves in a situation where they have to compete in the labor market with immigrants who are integrated into society at the lower socioeconomic layers. In fact, there is no possibility these individuals need to encounter immigrants or need to be aware of their existence.

Immigration is not only an economic phenomenon, or related to the labor market, but also and even more so, it has sociological, cultural, and psychological implications. Therefore, any economic improvement in society alone is insufficient to overcome negative attitudes toward immigrants. Ceobanu and Escandell (2010) argue that if identities and ideologies are the sources of anti-immigrant attitudes, then public information campaigns and social programs

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<sup>6</sup> See for instance (Citrin & Sides, 2008).

for newcomers become more effective tools. They acknowledge that while economic explanations have a significant place in the literature, cultural-symbolic factors are the most important determinants of attitudes toward migration and immigrants (Ceobanu & Escandell, 2010).

Cooray et al. (2018) analyzes survey data from 53 countries between 2010 and 2014 to identify factors that contribute to discrimination against immigrants in the labor market. Their findings suggest that individual-level attributes, socio-demographic characteristics, and political views play a more significant role in hiring decisions in the labor market than economic determinants. For example, individuals who are elderly, who have low levels of education, and who come from low-income families tend to hold anti-immigrant views in the job market. However, immigrants and women are less likely to support this discrimination. If people believe their religion is the only right way and getting religious, they are less likely to accept immigrants especially in times of job scarcity. In addition to the religion case, those who position themselves further to the right on the ideological spectrum are more likely to discriminate against immigrants. Furthermore, as the size of the town increases, people become more tolerant of immigrants as laborers. The only economic factor that increases discrimination against immigrants in the labor market is the level of financial satisfaction of individuals in the host country. If individuals are less satisfied with their household's financial situation, they are more likely to support discrimination against immigrants (Cooray et al., 2018).

In the United States, support for immigration tends to increase with higher levels of education and income (Espenshade & Hempstead, 1996). According to Espenshade and Hempstead (1996), non-economic factors such as demographic characteristics or an isolationist viewpoint are more influential on the feelings about the levels of immigration in the U.S. Another study on the social factors that impact attitudes toward immigration reveals that college education and cultural threats to the English language are considered important, while the effects of political views, economic situation, age, and gender have limited impact (Chandler & Tsai, 2001). According to Chandler and Tsai (2001), race, income, or fear of crime do not significantly affect attitudes toward immigration in the U.S. case.

In addition, regional location can influence an individual's preferences. Views on migration may differ between those living in urban and rural areas. In rural areas, where individuals know their next-door neighbors closely, outsiders may be viewed with prejudice. While hospitality is generally considered an important characteristic of Turkish people, citizens living in rural areas, which are typically more isolated and smaller in size compared to urban

areas, may hold negative views toward migration. In their study on the impact of rural residence on attitudes toward immigration, Fennelly and Federico (2008) argue that rural citizens in the U.S. tend to support more restrictive immigration policies compared to suburban or urban residents due to the perceived high cost of migration in rural areas.

In addition to the effect of individual or country-specific characteristics, there is also research on the impact of socioeconomic environment on attitudes toward immigrants. For example, Hoxhaj and Zuccotti (2021) finds a positive correlation between high concentrations of immigration and positive attitudes toward immigrants in 12 European countries for 2014. However, attitudes shift from positive to neutral or negative as socioeconomic conditions worsen, often due to intense competition and poor integration of immigrants into the host society.

Attitudes toward immigrants are often related to the host society's values and their perception of migration. Some might believe that immigrants cause the economic situation to deteriorate, reduce the available job opportunities, even increase crime rates. However, it is important to note that these attitudes are not always based on factual or real-life data. A variety of factors can lead to negative attitudes toward immigrants, such as racist or discriminatory beliefs, economic struggles, or biased preferences for certain types of immigrants (Constant et al., 2009). It is important to interrupt this vicious cycle in order to prevent the further increase of anti-immigrant sentiment. Even immigrants themselves may be wary of new waves of migration from outside. Although most immigrants in the European Union (EU) have pro-immigrant attitudes, 15% of them are against the arrival of new immigrants because they may become competitors in the labor market, especially in markets composed of businesses that cater to the ethnic needs, of the host country (Zimmermann, et al., 2008, p. 41).

Therefore, in addition to economic factors, particularly the fear of job loss, social and individual-level factors also influence people's attitudes toward immigrants. Demographics play a crucial role in some cases. However, the way in which these factors operate varies across societies. Even the environment or the country in which an individual resides can have a significant impact, according to literature. Therefore, Turkey's experience with immigrants may differ from that of developed countries in the literature.

## 2.5. Data and Method

### 2.5.1. Data

The empirical analysis in this study is based on data from the WVS, which has been conducted in over 120 countries approximately every five years since 1981. The survey evaluates individual-level data on social, religious, cultural, political, and ethical values. Samples between waves are independent of each other, meaning that the IDs of the individuals are not the same across waves. The data used in this study is from the seventh wave of the WVS conducted in Turkey. The seventh wave of the survey was conducted between 2017 and 2022. But data for Turkey is from 2018 (Inglehart, et al., 2022). The Turkish version of the survey was administered to 2,415 respondents in March, April, and May of 2018, with 290 questions asked. Face-to-face interviews were conducted in Turkish language across 26 different statistical regions. In 83% of cases, there were no observers present during the interviews. 73.6% of the respondents are from urban areas, while 26.4% are from rural areas (World Values Survey Association, 2018).

In this study, the interest is on how the values and other individual characteristics are effective on the attitudes of host country individuals toward immigrants. The dependent variable is people's views on immigrants, which is analyzed using seven different questions. Each focus on different aspects of attitudes. Answers to question 21 in the survey, "On this list are various groups of people. Could you please mention any that you would not like to have as neighbors?" are used as the first dependent variable *neighimmig*. The options include "Immigrants/foreign workers". A response is coded as 1 if the respondent mentions this group and 2 if they do not. For the purposes of interpretation, not mentioning the group is coded as 0 and mentioning it is coded as 1 in the study.

The remaining dependent variables, *jobpriority*, *crime*, *terrorism*, *unemployment*, *socconf*, *limitwork* shed light on various aspects of negative attitudes toward immigrants. Question 34 asks respondents to indicate their level of agreement with the statement, "When jobs are scarce, employers should give priority to people of this country over immigrants." "Agree strongly" and "agree" are coded as 1, and "neither agree nor disagree", "disagree", and "disagree strongly" are coded as 0. Questions 124, 126, 128, and 129 require respondents to evaluate the effects of immigration on the development of their country. The questioners presented the following statements: "Increases the crime rate", "Increases the risks of

terrorism”, “Increases unemployment”, and “Leads to social conflict.”<sup>7</sup> The answer choices are “Agree”, “Hard to say” and “Disagree”, with “Agree” being coded as 1 and the rest as 0.

Question 130 asks participants about their opinion on foreign workers coming to their country. The question is what the government should do about this. Choices “Let anyone come who wants to” and “Let people come as long as there are jobs available” are coded as 0. And choices “Place strict limits on the number of foreigners who can come here” and “Prohibit people coming here from other countries” are coded as 1 due to their negative connotations.

Demographic characteristics such as gender, education level, age, marital status, and settlement type are commonly used. Gender is coded as 1 for male and 0 for female. Education level is measured on a 0-4 scale, ranging from early childhood education to doctoral or equivalent.<sup>8</sup> Age is utilized without any intervention. Marital status is indicated by legal status, with “married” being the accepted designation. So married option is coded as 1. Living together as married, divorced, separated, widowed and single are coded as 0. Settlement type is coded as 1 for urban areas, including cities and towns, and 0 for rural areas, including villages.

In the model, individual-level characteristics are used as control variables in addition to demographic characteristics. Question 6 asks “For each of the following, indicate how important it is in your life. Would you say it is...” Religion is shown as choice, and it is coded at 1-4 scale from “not at all important” to “very important”. Question 254 asks “How proud are you to be [country’s nationality]?” and it is coded in 1-4 scale from “not at all proud” to “very proud”. Question 287 is utilized as the social class variable including an economic touch. The question is “People sometimes describe themselves as belonging to the working class, the middle class, or the upper or lower class. Would you describe yourself as belonging to the...” Choices are “upper class”, “upper middle class”, “lower middle class”, “working class”, and “lower class” coded from 5 to 1 respectively. Question 240 pertains to the political scale. “In political matters, people talk of “the left” and “the right.” How would you place your views on this scale, generally speaking?”. 1-10 scale is used where 1 represents the left and 10 represents

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<sup>7</sup> In line with this sequence of questions, question 122 “Fills important jobs vacancies” also asks for negative thoughts toward immigration in English. But its Turkish version “Göç sayesinde, boş kalan önemli işlerde çalışacak birileri bulunur” has a positive nuance rather than a negative meaning. It implies that migrants are filling a gap in areas where native workers are unwilling to work. We did not prefer to use this question because of this shift in meaning in the translation.

<sup>8</sup> Answers to education question “What is the highest educational level that you have attained?” are classified according to ISCED-2011 – International Standard Classification for Education utilized by The United Nations Educational, Scientific and Cultural Organization (UNESCO) (UNESCO Institute for Statistics, 2012).

the right.<sup>9</sup> Table 2.3 provides a brief summary of the descriptive statistics for different alternatives of dependent variables and control variables.

**Table 2.3.** Descriptive Statistics-Turkey

VARIABLES	N	Mean	Standard Deviation	Min.	Max.
<b>Alternative Dependent Variables</b>					
<i>neighimmig</i>	2,350	0.494	0.500	0	1
<i>jobpriority</i>	2,364	0.652	0.476	0	1
<i>crime</i>	2,331	0.634	0.482	0	1
<i>terrorism</i>	2,321	0.629	0.483	0	1
<i>unemployment</i>	2,330	0.725	0.447	0	1
<i>socconf</i>	2,329	0.641	0.480	0	1
<i>limitwork</i>	2,349	0.696	0.460	0	1
<b>Independent Variables</b>					
<i>religinlife</i>	2,409	3.477	0.721	1	4
<i>nationalism</i>	2,288	3.559	0.661	1	4
<i>socclass</i>	2,334	2.874	0.953	1	5
<i>politicalscale</i>	2,151	6.292	2.573	1	10
<i>age</i>	2,414	38.83	12.67	18	95
<i>male</i>	2,415	0.500	0.500	0	1
<i>education</i>	2,406	1.991	1.324	0	4
<i>married</i>	2,412	0.621	0.485	0	1
<i>urban</i>	2,415	0.736	0.441	0	1

**Source:** (World Values Survey Association, 2018)

### 2.5.2. Method

Table 2.3 shows that all alternative dependent variables are binary and on a 0-1 scale. Anti-immigrant will henceforth be used as an umbrella term for these variables. While Ordinary Least Squares (OLS) estimates for Linear Probability Model (LPM) coefficients are unbiased, they are not best. t and F tests, as well as confidence intervals, may not be valid even in large samples (Aldrich & Nelson, 1984, p. 14). In OLS estimation, there is no limit to the predicted values of dependent variables. Estimation results are likely to fall outside the range of 0 to 1. On the other hand, predicted values of binomial dependent variables show the probability of y being equal to 1 in a LPM. This may create a potential incompatibility between the predicted probabilities and the model restrictions.

$$P(\text{Antiimmigrant}_i = 1) = P_i = \beta_0 + \beta_1 x_{i1} + \dots + \beta_k x_{ik} = \beta_0 + \sum_{j=1}^k \beta_j x_{ij} \quad (2.1)$$

<sup>9</sup> Please refer to Appendix-1 for a detailed explanation of the variables, related questions, and coding for each variable.

$i$  subscript is used for  $i$ th observation, and  $j$  denotes the  $j$ th independent variable. To deal with the limitations explained above, logistic regression model is utilized instead of linear probability:

$$\ln\left(\frac{P_i}{1-P_i}\right) = \ln(Odds_i) = \beta_0 + \sum_{j=1}^k \beta_j x_{ij} = Z_i \quad (2.2)$$

$$\exp\left(\ln\left(\frac{P_i}{1-P_i}\right)\right) = \exp(\beta_0 + \sum_{j=1}^k \beta_j x_{ij}) \quad (2.3)$$

$$\frac{P_i}{1-P_i} = e^{\beta_0} e^{\beta_1 x_{i1}} \dots e^{\beta_k x_{ik}} \quad (2.4)$$

The partial effect of one independent variable on the odds of the event of interest, while controlling for other variables, is represented by  $e^{\beta_j}$ . In OLS, the probability is linear in independent variables, but not in logistic regression. The logistic model is estimated using the Maximum Likelihood Estimation (MLE) technique. The interpretation of log odds and the effect of a change in one of the regressors on the dependent variable is not straightforward in the logistic model. But the sign of the effect is intuitive for interpretation.<sup>10</sup>

## 2.6. Empirical Findings

The logit models presented in Table 2.4 use the dependent variable of *neighimmig* to measure anti-immigrant attitudes. *neighimmig* equals to 1 if people do not prefer immigrants or foreign workers as neighbors, and 0 otherwise. The first model indicates that gender and age do not have a statistically significant association with attitudes toward immigrants. However, as education level increases, the log odds of negative attitudes toward immigrants decrease. If individuals reside in urban areas instead of rural ones, the log odds of negative attitudes decrease. Being married, on the other hand, is in a positive relationship with the anti-immigrant attitudes. That is, married individuals are more likely to hold anti-immigrant views than unmarried base group. Along with demographic variables, individual values and political preferences are included in the model as control variables.

As the importance of religion increases in one's life, negative attitudes also increase. Similarly, nationalist thoughts have a positive relationship with anti-immigrant attitudes. On the other hand, as an individual's social class improves, the log odds of negative attitudes decline. The social class variable also takes into account the individual's own socioeconomic assessment. Therefore, as an individual's position in the socioeconomic environment improves,

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<sup>10</sup> For a detailed explanation of the logistic model, estimation techniques, and related statistical tests, please refer to Appendix-2.

the log odds of negative attitudes decrease. Aksu et al.'s (2022) study indicates that Syrian migration to Turkey has primarily affected those with less job security and on temporary wage, particularly in the informal sector. Part-time, or self-employed women, agricultural workers, and construction workers who are employed seasonally are particularly affected by the influx

**Table 2.4.** Log Odds-Attitudes Toward Immigrants-Turkey

Variables	(1) <i>neighimmig</i>	(2) <i>neighimmig</i>	(3) <i>neighimmig</i>	(4) <i>neighimmig</i>	(5) <i>neighimmig</i>	(6) <i>neighimmig</i>
<i>male</i>	0.003 (0.971)		-0.034 (0.729)	-0.034 (0.728)	-0.600** (0.025)	-0.034 (0.726)
<i>education</i>	-0.095*** (0.005)		-0.049 (0.227)	-0.049 (0.229)	-0.055 (0.182)	-0.217* (0.085)
<i>age</i>	-0.004 (0.345)		-0.005 (0.273)	-0.005 (0.288)	-0.005 (0.266)	-0.005 (0.259)
<i>married</i>	0.362*** (0.000)		0.265** (0.022)	-0.354 (0.284)	0.269** (0.021)	-0.029 (0.872)
<i>urban</i>	-0.495*** (0.000)		-0.519*** (0.000)	-0.523*** (0.000)	-0.530*** (0.000)	-0.530*** (0.000)
<i>religinlife</i>		0.603*** (0.000)	0.582*** (0.000)	0.584*** (0.000)	0.588*** (0.000)	0.581*** (0.000)
<i>nationalism</i>		0.558*** (0.000)	0.554*** (0.000)	0.556*** (0.000)	0.551*** (0.000)	0.554*** (0.000)
<i>socclass</i>		-0.224*** (0.000)	-0.190*** (0.000)	-0.324*** (0.000)	-0.190*** (0.000)	-0.289*** (0.002)
<i>politicalscale</i>		-0.007 (0.709)	-0.018 (0.373)	-0.016 (0.423)	-0.063** (0.026)	-0.016 (0.430)
<i>married*socclass</i>				0.213** (0.046)		
<i>male*politicalscale</i>					0.089** (0.023)	
<i>married*socclass*education</i>						0.071* (0.078)
Constant	0.448** (0.018)	-3.363*** (0.000)	-2.777*** (0.000)	-2.416*** (0.000)	-2.486*** (0.000)	-2.284*** (0.000)
Observations	2,339	1,963	1,959	1,959	1,959	1,959
Pseudo R-squared	0.0170	0.0776	0.0887	0.0902	0.0906	0.0910

p-values in parentheses

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

**Source:** (World Values Survey Association, 2018)

of migration to Turkey. Young workers with lower levels of education are among the groups that experience the most negative effects. Therefore, the negative association between socioeconomic class and negative attitudes, and between education and negative attitudes

toward immigrants are expected results for Turkish sample. As income and education levels increase, individuals tend to move away from environments where they compete with immigrants in the labor market. Since they will be less exposed to competition, they may not have anyone toward whom they hold a negative attitude. When combining these values and demographic characteristics in a model, the statistical significance of education disappears or at least the significance decreases starting from model 3.

The results in Table 2.4 indicate that political orientation does not have a significant effect on its own in any of the models. However, male respondents are more likely to hold anti-immigrant views than females as they move toward the right end of the political spectrum in model 5. Being married and social class are associated with anti-immigrant views in opposite ways. In model 4, the impact of being married dominates as it is combined with social class. Married individuals are more likely to hold negative attitudes toward immigrants as their social class improves, compared to their unmarried counterparts. The interaction term composed of *married*, *socclass*, and *education* in model 6 has a positive coefficient, indicating that as education level and socioeconomic status improve, married individuals are more likely to hold anti-immigrant views compared to unmarried individuals.

To ensure robustness, we made use of six alternative variables to *neighimmig* to measure negative attitudes toward immigrants (see Table 2.5). The log odds of having negative attitudes toward immigrants increase as the importance of religion in individuals' lives and their nationalist views increase. When job opportunities are scarce, people tend to prefer natives over immigrants. They believe that immigrants cause an increase in crime rates, terrorism, unemployment, and social conflict. They prefer stricter government policies to limit the entrance of immigrants.

Table 2.5 shows a negative association between living in an urban area and the log odds of being anti-immigrant, consistent with the findings in Table 2.4. People in urban areas are less likely to have negative attitudes toward immigrants. The coefficient for 'urban' is positive in model 7 though. The *jobpriority* question assesses whether the respondent believes that employers should give priority to native workers over immigrants in the labor market in case of job scarcity. Thus, a positive estimate for the log odds coefficient indicates a higher probability of being anti-immigrant. This may be because people in urban areas believe that they face negative effects of migrants' existence in the labor market as competitors to themselves.

**Table 2.5. Log Odds-Attitudes Toward Immigrants-Turkey (Alternative Dependent Variables)**

	(7)	(8)	(9)	(10)	(11)	(12)
Variables	<i>jobpriority</i>	<i>crime</i>	<i>terrorism</i>	<i>unemployment</i>	<i>socconf</i>	<i>limitwork</i>
<i>male</i>	0.026 (0.793)	0.038 (0.706)	-0.055 (0.583)	0.005 (0.965)	-0.102 (0.313)	-0.027 (0.800)
<i>education</i>	-0.088** (0.035)	-0.033 (0.433)	-0.034 (0.421)	-0.021 (0.642)	0.009 (0.834)	-0.009 (0.829)
<i>age</i>	-0.006 (0.165)	0.003 (0.518)	0.002 (0.675)	0.008 (0.121)	0.008* (0.095)	0.001 (0.901)
<i>married</i>	-0.006 (0.958)	-0.129 (0.275)	-0.030 (0.798)	-0.137 (0.281)	-0.051 (0.667)	0.078 (0.529)
<i>urban</i>	0.355*** (0.001)	-0.403*** (0.001)	-0.676*** (0.000)	-0.502*** (0.000)	-0.618*** (0.000)	-0.201* (0.099)
<i>religinlife</i>	0.543*** (0.000)	0.133* (0.060)	0.266*** (0.000)	0.325*** (0.000)	0.227*** (0.001)	0.585*** (0.000)
<i>nationalism</i>	0.364*** (0.000)	0.777*** (0.000)	0.700*** (0.000)	0.792*** (0.000)	0.744*** (0.000)	0.477*** (0.000)
<i>socclass</i>	0.087 (0.114)	-0.151*** (0.007)	-0.086 (0.125)	-0.176*** (0.004)	-0.109* (0.053)	0.111* (0.058)
<i>politicalscale</i>	-0.048** (0.022)	-0.018 (0.395)	-0.014 (0.505)	-0.034 (0.142)	-0.054** (0.013)	-0.113*** (0.000)
Constant	-2.267*** (0.000)	-1.706*** (0.000)	-1.892*** (0.000)	-1.964*** (0.000)	-1.852*** (0.000)	-2.218*** (0.000)
Observations	1,973	1,953	1,952	1,952	1,946	1,960
Pseudo R-squared	0.0479	0.0656	0.0727	0.0855	0.0698	0.0603

p-values in parentheses

\*\*\* p&lt;0.01, \*\* p&lt;0.05, \* p&lt;0.1

**Source:** (World Values Survey Association, 2018)

Demographic characteristics, such as gender, education level, age, and marital status, do not show a pattern in their association with anti-immigrant attitudes. However, an increase in social class is negatively related to anti-immigrant attitudes, as measured by views that see immigrants as the source of increasing crime rates, unemployment, and social conflict. The association between social class and the view that sees immigrants as the source of terrorism is not statistically significant. Terrorism in Turkey is often viewed as being related to ethnic conflict rather than an immigration-related issue. Model 7 and Model 12 show that social class is not significantly related to anti-immigrant sentiments, when considering the immigrants' position in the labor market, at a 1% level of statistical significance. But the log odds are positive. Being closer to the right end of the political spectrum is negatively associated with anti-immigrant attitudes in the labor market, despite the positive nationalism coefficient. In Turkey, nationalism, measured by pride in citizenship identity, is common not only among those

who vote for right-wing political parties but also among respondents who vote for left-wing political parties.

Because the numerical interpretation of log odds is difficult to process, odds ratios or marginal effects can be used instead. Because the right side of the odds ratio equation is multiplicative rather than additive, any change in the regressors affects the odds ratio multiplicatively. Thus, if the coefficient  $e^{\beta_j x_{ij}}$  is greater than 1, the odds ratio increases. If it is less than 1, the odds ratio decreases. If it is equal to 1, the odds ratio remains the same.

**Table 2.6.** Odds Ratios-Attitudes Toward Immigrants-Turkey

	(3)	(7)	(8)	(9)	(10)	(11)	(12)
Variables	<i>neighimmig</i>	<i>jobpriority</i>	<i>crime</i>	<i>terrorism</i>	<i>unemployment</i>	<i>socconf</i>	<i>limitwork</i>
<i>male</i>	0.967 (0.729)	1.026 (0.793)	1.038 (0.706)	0.946 (0.583)	1.005 (0.965)	0.903 (0.313)	0.974 (0.800)
<i>education</i>	0.952 (0.227)	0.916** (0.035)	0.968 (0.433)	0.967 (0.421)	0.979 (0.642)	1.009 (0.834)	0.991 (0.829)
<i>age</i>	0.995 (0.273)	0.994 (0.165)	1.003 (0.518)	1.002 (0.675)	1.008 (0.121)	1.008* (0.095)	1.001 (0.901)
<i>married</i>	1.303** (0.022)	0.994 (0.958)	0.879 (0.275)	0.970 (0.798)	0.872 (0.281)	0.950 (0.667)	1.081 (0.529)
<i>urban</i>	0.595*** (0.000)	1.427*** (0.001)	0.668*** (0.001)	0.509*** (0.000)	0.606*** (0.000)	0.539*** (0.000)	0.818* (0.099)
<i>religinlife</i>	1.790*** (0.000)	1.720*** (0.000)	1.142* (0.060)	1.304*** (0.000)	1.384*** (0.000)	1.255*** (0.001)	1.795*** (0.000)
<i>nationalism</i>	1.741*** (0.000)	1.440*** (0.000)	2.175*** (0.000)	2.014*** (0.000)	2.207*** (0.000)	2.105*** (0.000)	1.611*** (0.000)
<i>socclass</i>	0.827*** (0.000)	1.091 (0.114)	0.860*** (0.007)	0.918 (0.125)	0.839*** (0.004)	0.897* (0.053)	1.117* (0.058)
<i>politicalscale</i>	0.982 (0.373)	0.953** (0.022)	0.982 (0.395)	0.986 (0.505)	0.966 (0.142)	0.947** (0.013)	0.894*** (0.000)
Constant	0.062*** (0.000)	0.104*** (0.000)	0.182*** (0.000)	0.151*** (0.000)	0.140*** (0.000)	0.157*** (0.000)	0.109*** (0.000)
Observations	1,959	1,973	1,953	1,952	1,952	1,946	1,960
Pseudo R-squared	0.0887	0.0479	0.0656	0.0727	0.0855	0.0698	0.0603

p-values in parentheses  
 \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

**Source:** (World Values Survey Association, 2018)

Although the magnitudes of odds ratios and marginal effects are important for interpretation, the intuitive interpretations of odds ratios and marginal effects are no different from the interpretation of log odds. In fact, they are statistics that can be derived from each other. We have already covered the reasons for differences in the estimation results of the models. Therefore, we do not go into the details of all of the coefficient estimates in Table 2.6,

but rather select only one of the variables and provide a numerical explanation of the models. For two otherwise identical respondents, odds for the one in urban areas is 0.595 times lower in model (3). A similar negative association between urban residence and anti-immigrant views exists in other models. For two otherwise identical respondents, the odds for the one in urban areas are 0.668 times lower in model 8, 0.509 times lower in model 9, 0.606 times lower in model 10, 0.539 times lower in model 11, and 0.818 times lower in model 12. The odds of preferring natives to immigrants as workers in case of job scarcity are 1.427 times higher for respondents living in urban areas than for those living in rural areas.

In model 3, the odds of married respondents not preferring immigrants as neighbors are 1.303 times higher than the odds of unmarried respondents. As religion in life increases the odds of having negative attitudes toward immigrants increases by 1.79 times. This is 1.741 for nationalistic views. As social class improves, the odds of having negative attitudes lowers by 0.827 times for each class jump.

Marginal effects in Table 2.7 can be more useful because probabilities are used more than odds in everyday life. The average marginal effects are reported in the table below. For model (3), as religion becomes more important in people's lives, the probability of not preferring immigrants as neighbors is 12.9 percentage points higher. For each jump on the 1-4 scale of nationalism, the probability of being not comfortable with immigrant neighbors increases by 12.2 percentage points. If a person is married, the probability of not preferring immigrants as neighbors is 5.9 percentage points higher. The probability of having negative attitudes decreases by 4.2 percentage points as one moves up the social ladder. Natives in urban areas are less likely to hold anti-immigrant views. As an exception, however, people in urban areas prefer their co-citizens to immigrants in the labor market when jobs are scarce, as seen in the model (7). The results for religion and nationalism are robust across models. As social class increases, people are less likely to see immigrants as a security threat. Respondents are less likely to see immigrants as a source of crime, unemployment, or social conflict. Yet, the probability of a desire for stricter government policies against immigrants who come to work increases as social class improves in the model (12).

**Table 2.7.** Average Marginal Effects (AME)-Attitudes Toward Immigrants-Turkey

Variables	(3) <i>neighimmig</i>	(7) <i>jobpriority</i>	(8) <i>crime</i>	(9) <i>terrorism</i>	(10) <i>unemployment</i>	(11) <i>socconf</i>	(12) <i>limitwork</i>
<i>male</i>	-0.007 (0.729)	0.005 (0.793)	0.008 (0.706)	-0.011 (0.583)	0.001 (0.965)	-0.021 (0.312)	-0.005 (0.800)
<i>education</i>	-0.011 (0.226)	-0.019** (0.034)	-0.007 (0.433)	-0.007 (0.421)	-0.004 (0.642)	0.002 (0.834)	-0.002 (0.829)
<i>age</i>	-0.001 (0.273)	-0.001 (0.164)	0.001 (0.518)	0.000 (0.675)	0.001 (0.121)	0.002* (0.094)	0.000 (0.901)
<i>married</i>	0.059** (0.022)	-0.001 (0.958)	-0.027 (0.275)	-0.006 (0.798)	-0.025 (0.280)	-0.011 (0.667)	0.015 (0.529)
<i>urban</i>	-0.114*** (0.000)	0.075*** (0.001)	-0.084*** (0.001)	-0.141*** (0.000)	-0.090*** (0.000)	-0.127*** (0.000)	-0.038* (0.099)
<i>religinlife</i>	0.129*** (0.000)	0.115*** (0.000)	0.028* (0.059)	0.055*** (0.000)	0.059*** (0.000)	0.047*** (0.001)	0.111*** (0.000)
<i>nationalism</i>	0.122*** (0.000)	0.077*** (0.000)	0.163*** (0.000)	0.146*** (0.000)	0.143*** (0.000)	0.153*** (0.000)	0.090*** (0.000)
<i>socclass</i>	-0.042*** (0.000)	0.018 (0.113)	-0.032*** (0.007)	-0.018 (0.125)	-0.032*** (0.004)	-0.022* (0.052)	0.021* (0.057)
<i>politicalscale</i>	-0.004 (0.372)	-0.010** (0.021)	-0.004 (0.394)	-0.003 (0.504)	-0.006 (0.142)	-0.011** (0.012)	-0.021*** (0.000)
Observations	1,959	1,973	1,953	1,952	1,952	1,946	1,960

p-values in parentheses

\*\*\* p&lt;0.01, \*\* p&lt;0.05, \* p&lt;0.1

**Source:** (World Values Survey Association, 2018)

Average adjusted predictions in Table 2.8 give the direct probability of holding anti-immigrant views. If religion is not at all important in the life of an average person, then the probability of having negative attitudes toward immigrants is 0.625. If religion is very important, the probability is 0.556. However, the overall effect of religion on anti-immigrant attitudes is positive, as shown in Table 2.3 through Table 2.7. For example, for nationalism, the probability of holding anti-immigrant views among those who are not at all proud of their nationality is 0.39. However, for those who are very proud of their nationality, the probability increases to 0.557. The probability of having negative attitudes toward immigrants is 0.623 but decreases to 0.426 as social class increases. Although the effect of self-positioning on the left-right scale is not statistically significant in the logit model, its categorical decomposition shows that the probability of holding anti-immigrant views decreases as one moves closer to the right among those with left-wing views. The probability decreases from 0.67 to 0.448 as one moves from category 1 to 7, where 1 is extreme left and 10 is extreme right. Then it jumps to 0.593 at the extreme right of the political scale, but the probability is still not as high as at the left end. This seems to contradict literature, especially focusing on the developed countries. Rustenbach (2010, pp. 67-68) argues that right-leaning political affiliation is associated with opposition to

**Table 2.8.** Average Adjusted Predictions-Attitudes Toward Immigrants-Turkey (Dependent Variable: *neighimmig*)

Variables	(1) <i>religinlife</i>	(2) <i>nationalism</i>	(3) <i>socclass</i>	(4) <i>politicalscale</i>	(5) <i>male</i>	(6) <i>education</i>	(7) <i>agecat</i>	(8) <i>married</i>	(9) <i>urban</i>
<i>religinlife</i> =1	0.625*** (0.111)								
<i>religinlife</i> =2	0.218*** (0.0328)								
<i>religinlife</i> =3	0.487*** (0.0203)								
<i>religinlife</i> =4	0.556*** (0.0147)								
<i>nationalism</i> =1		0.390*** (0.105)							
<i>nationalism</i> =2		0.355*** (0.0410)							
<i>nationalism</i> =3		0.417*** (0.0218)							
<i>nationalism</i> =4		0.557*** (0.0138)							
<i>socclass</i> =1			0.623*** (0.0394)						
<i>socclass</i> =2			0.510*** (0.0203)						
<i>socclass</i> =3			0.500*** (0.0185)						
<i>socclass</i> =4			0.474*** (0.0197)						
<i>socclass</i> =5			0.426*** (0.105)						
<i>politicalscale</i> =1 (Left)				0.670*** (0.0447)					
<i>politicalscale</i> =2				0.595*** (0.0583)					
<i>politicalscale</i> =3				0.535*** (0.0495)					
<i>politicalscale</i> =4				0.476*** (0.0396)					
<i>politicalscale</i> =5				0.470*** (0.0244)					
<i>politicalscale</i> =6				0.444*** (0.0327)					
<i>politicalscale</i> =7				0.448*** (0.0300)					
<i>politicalscale</i> =8				0.511*** (0.0276)					
<i>politicalscale</i> =9				0.422*** (0.0393)					
<i>politicalscale</i> =10 (Right)				0.593*** (0.0304)					
<i>male</i> =0					0.503*** (0.0149)				
<i>male</i> =1					0.502*** (0.0147)				

(Continues)

**Table 2.8. (Continued)**

Variables	(1) <i>religinlife</i>	(2) <i>nationalism</i>	(3) <i>socclass</i>	(4) <i>politicalscale</i>	(5) <i>male</i>	(6) <i>education</i>	(7) <i>agecat</i>	(8) <i>married</i>	(9) <i>urban</i>
<i>education=0</i>						0.553*** (0.0339)			
<i>education=1</i>						0.503*** (0.0178)			
<i>education=2</i>						0.504*** (0.0334)			
<i>education=3</i>						0.506*** (0.0219)			
<i>education=4</i>						0.467*** (0.0261)			
<i>agecat=1: 18-24</i>							0.518*** (0.0310)		
<i>agecat=2: 25-29</i>							0.526*** (0.0293)		
<i>agecat=3: 30-34</i>							0.540*** (0.0324)		
<i>agecat=4:35-39</i>							0.475*** (0.0267)		
<i>agecat=5: 40-44</i>							0.509*** (0.0391)		
<i>agecat=6: 45-49</i>							0.472*** (0.0314)		
<i>agecat=7: 50-54</i>							0.570*** (0.0469)		
<i>agecat=8: 55-59</i>							0.483*** (0.0269)		
<i>agecat=9: 60-64</i>							0.382*** (0.0782)		
<i>agecat=10: 65+</i>							0.464*** (0.0904)		
<i>married=0</i>								0.464*** (0.0203)	
<i>married=1</i>								0.526*** (0.0146)	
<i>urban=0</i>									0.579*** (0.0209)
<i>urban=1</i>									0.476*** (0.0122)
Observations	1,946	1,946	1,946	1,959	1,946	1,946	1,959	1,946	1,946
p-values in parentheses									
*** p<0.01, ** p<0.05, * p<0.1									

**Source:** (World Values Survey Association, 2018)

immigrants in European countries, as the right-wing political parties tend to support more strict public policy toward immigrants and try to portray them as disruptive to economic and cultural stability. However, the ruling right-wing political party in Turkey is known for its moderate migration policies. Therefore, the lower probability of respondents on the right of the political spectrum, compared to those on the left, can be attributed to the influence of party ideology on the values and preferences of citizens regarding certain issues, such as migration.

While the overall effect of education is not statistically significant as seen in Table 2.7, its decomposition in Table 2.8 shows that having more education reduces the probability of holding anti-immigrant views. The categorical disaggregation by age shows that anti-immigrant views are more popular among the young population. The first three categories cover the age groups 18-24, 25-29 and 30-34. Although there is no decreasing or increasing pattern with age, those in the 7<sup>th</sup> age category, which includes the 50-54 age group, are more likely to be anti-immigrant compared to other categories. In line with the previous results for odds ratios and marginal effects, being married strengthens anti-immigrant thoughts and living in urban areas weakens them compared to being unmarried and living in rural areas respectively.

## **2.7. Conclusion**

Migration has been a long-standing reality in Turkey. Turkish history can almost be characterized as a history of migrations as the Turkish presence in Anatolia has been shaped by migrations for more than 1000 years. The last century has seen further migrations, resulting in a relatively homogeneous demography compared to the population of the Empire. The relative demographic homogeneity that was achieved in the last century through migrations is perceived as a requirement for the newly established nation-state. Domestic migration from rural to urban areas, which Karpat (1976) emphasizes as an important field of study, contributes to this homogeneity. Although migration patterns may not always be predictable, the state has been consciously determining who will be accepted and who will not since 1923.

Examples of this policy include the migration from the Balkans, Greece, the Caucasus, and even Iraq. However, the migration wave that began with the Syrian civil war has continued in an uncontrolled manner since 2011. Turkey is the destination country of Syrian Arab Republic-Turkey migration corridor which is the second largest migration corridor in the world after the Mexico-US corridor (McAuliffe & Triandafyllidou, 2021, p. 27). With nearly 4 million migrants, Turkey has the highest number of refugees and asylum seekers in the world as of 2020 (United Nations Department of Economic and Social Affairs, Population Division, 2020b). It is now widely accepted that migrants have become an integral part of the population in Turkey, despite the initial expectations that the situation would be temporary. According to the Syrian Barometer-2021, only 2.4% of Turkish citizens maintain the belief that all Syrians will return to their country. However, the percentage of Syrians who stated that they would not return to Syria under any circumstances increased significantly from 16.7% in 2017 to 60.8% in 2021 (Erdoğan, 2022). This discrepancy in perceptions and opinions can be seen as a cause of social unrest. Neither Syrians have an understanding of the source of Turkish citizens'

concerns, nor do Turks have an awareness of the source of Syrians' problems and how to improve their situation. The priority may be to identify the source of positive or negative opinions.

In this respect, this study aims to identify the key factors that are in relation with the Turkish perspective on migrants and investigates the determinants of negative attitudes toward immigrants in the Turkish sample. It contributes to the literature on attitudes toward immigrants, which has been extensively studied for developed countries. The variables analyzed reveal that religion and nationalism are the main factors that are positively associated with the anti-immigrant attitudes. Socio-economic variables, such as social class, is significantly related to anti-immigrant views, although less significant and in the opposite direction compared to religion and nationalism. As individuals' socio-economic status improves, they are less likely to support anti-immigrant discourse. However, when faced with the threat of competition in the labor market, the opinion that stricter immigration policies should be pursued is escalating with the increasing social class. Residing in an urban area is negatively related to the likelihood of holding anti-immigrant attitudes. The increased interaction with diverse cultures in urban areas may have contributed to a more open-minded perspective compared to those residing in rural areas.

Unlike the literature (Cooray et al., 2018), political position on the left-right scale does not have a robust relationship with negative attitudes toward immigrants in Turkey. Similarly, demographic characteristics such as education, age, and marital status do not significantly influence people's decisions regarding immigrants. In the Turkish sample, demographic characteristics that are difficult to change do not have a significant effect on people's perception of migrants. Therefore, changing the perception about migration in society may be relatively easier. It would be necessary to construct social policies that will direct the perspective on immigrants through values such as religion and nationalism. Although religious and nationalist values may be the primary determinants of attitudes toward immigrants in Turkey, it is important to acknowledge that socioeconomic, political, and regional factors may also play a role as the source of religious and nationalist values. Furthermore, socio-economic improvements are likely to reduce anti-immigrant sentiment and xenophobia in Turkish society.

Average adjusted predictions indicate that left-leaning individuals are more likely to hold negative attitudes toward immigrants compared to those on the right end of the political spectrum. Additionally, people with low levels of education are more likely to hold anti-immigrant views than people with a bachelor's degree. In line with this result, younger

individuals tend to exhibit relatively higher levels of anti-immigrant attitudes. Furthermore, married individuals and those residing in rural areas are more likely to hold anti-immigrant views as well.

On one hand, society acknowledges the reality of migration and the permanence of immigrants. On the other hand, there is an expectation for immigrants to adapt to society without any social interaction and contact with them. This has resulted in the development of two distinct lifestyles, disconnected from each other, with little knowledge and avoiding interaction with each other. This perpetuates a vicious cycle of isolation. This leads to the emergence of neighborhoods that refuse to integrate into social life and that are even inhabited exclusively by immigrants. Harmonization and social cohesion need to be the main objectives of migration policy. Social policies have to include two main target groups: immigrants and natives. A migration policy that only considers the situation of immigrants and assumes that citizens of the host country must accept all conditions is bound to fail. Instead, it is necessary to pursue a more sophisticated social migration policy that takes into account the religious, nationalist, socio-economic, and political values of the citizens of the destination country. Strategies should be tailored to each target group, including different age groups, levels of education, and geographical areas of residence. In the event of an extraordinary situation where immigrants return or are required to return to their home countries, the education received by those who were born or raised in Turkey, as well as their ability to speak Turkish as a second language, can be considered as an invaluable strategic achievement for Turkey.

To further validate the results internally, smaller geographical areas could be sampled instead of focusing on the entire country. This would allow for a more detailed examination of the regions in Turkey that are most affected by migration, namely large cities, and the southeast part of the country. Additionally, a comparative analysis can be conducted for European countries, as they are also affected by immigration, although not to the same extent as Turkey. This provides an opportunity to test the external validity of the empirical findings.

### **3. POLITICAL ECONOMY OF ENVIRONMENT-ECONOMY TRADE-OFF IN TURKEY**

#### **3.1. Introduction**

In 2000, UN member states signed the UN Millennium Declaration and agreed on the UN Millennium Development Goals (MDG). According to the declaration, by the year 2015, the signatory countries would strive to achieve eight goals, the most emphasized of which was the fight against poverty and hunger. The others are the fight against illiteracy, discrimination against women, the reduction of child mortality and the improvement of maternal health, the fight against disease, the achievement of environmental sustainability and building a partnership for development worldwide (The United Nations, 2000). Even though the goals have been partially achieved, the most important problems, for example in the environmental field, still persist. Global CO<sub>2</sub> emissions increased by more than 50% from 1990 to 2015. The increase in greenhouse gas (GHG) emissions and the critical problem of climate change continue to threaten the entire world. Deforestation, loss of biodiversity, and water scarcity, which affects 40% of the world's population, are still present (The United Nations, 2015a). The poorest regions and countries continue to lag behind and bear the brunt of environmental degradation, but global action is moving forward, albeit at a slow and uneven pace.

In 2015, MDG were superseded by Sustainable Development Goals (SDG) which have a deadline of 2030. The aims, the designs for achieving those aims, and the means of achieving those aims may vary from society to society or within a given society. Sustainable development is a combination of three concepts that have been agreed upon: “economic development, environmental sustainability, and social inclusion” (Sachs, 2012). Among the 17 SDG, poverty eradication and combat against climate change are the most emphasized ones. Unlike the MDG, which call for action only in developing countries, the SDG have a scope of application that covers all countries. However, by 2023, more than half of the targets are not on the desired development path, and even more than 30% of the targets have not been achieved at all or are in regress (The United Nations, 2023). For example, public funding for clean energy is declining, and although the use of renewable energy is on the rise, the least developed countries are lagging behind. The use of renewable energy is also limited to the heating and transport sectors. Biodiversity loss, land degradation around the world, and forest loss, particularly in South America and Africa, continue to be a problem. Sea levels continue to rise at an increasing rate. Climate finance in developed countries has not reached the targeted level of \$100 billion yet. Global warming is 1.1°C above the pre-industrial levels due to the use of fossil fuels,

excessive energy and land use, and irresponsible consumption and production patterns. And the 1.5°C tipping point is expected to be reached by 2035. There is a risk of 2.5°C warming by 2100 (The United Nations, 2023). But the main goal of the 2015 Paris Agreement, adopted by 196 parties, is to keep global warming below 2°C and, if possible, to limit it to 1.5°C by reducing carbon emissions (The United Nations, 2015b). Regulation and public policy intervention are still necessary for the achievement of pro-environmental goals. Although the main goals have not been fully achieved, the setting of goals such as the MDG and SDG and establishing global cooperation through international agreements such as the 1997 Kyoto Protocol and its successor, the 2015 Paris Agreement, are of the utmost significance in creating global environmental awareness. This is the concept that will raise people's environmental concerns and put pressure on policymakers to implement pro-environmental public policies in return.

Since the Neolithic revolution, the discovery of agriculture, and the resulting population growth, the world has experienced both demographic and economic expansion. There is no clear manual outlining the steps to mitigate the side effects of this economic growth. A combination of technological change and strong public policy for the environment might alleviate the side effects. This can even lead to environment-friendly economic growth. That is why environmental concerns of individuals are so much important on the environmental quality because they shape the public policy. For this reason, understanding the determinants of environmental concern is paramount, because without public support, public policy is not efficient. Understanding and even shaping individual environmental preferences is crucial. That is why in this study we attempt to find out factors that shape environmental concerns. Turkey, one of the upper-middle income countries, is the focus of this study. Utilizing data from the WVS, which represents the entire population of Turkey, we conduct research with results that can be generalized to the whole population. The seventh wave of the WVS spans the period between 2017 and 2022 for 64 countries or territories. Data for Turkey were collected in 2018. In addition to demographic characteristics, this study examines the potential relationship between prioritizing the environment over economic growth and various factors, including life satisfaction, income, postmaterialism, statist preferences in business and industry, religiosity, perception of democracy and civil society, nationalism, and political choice. We use logit regression results to analyze these factors.

In the literature on Turkey, the environmental perspective is mostly examined in the context of education. Studies have examined students' environmental perceptions, attitudes, and

the factors that influence them. These studies have been conducted among students ranging from primary school to university level (Alp et al., 2008; Berberoglu & Tosunoglu, 1995; Taskin, 2009; Tuncer, 2008; Yilmaz et al., 2004). Demographic characteristics, such as age and gender, or individual characteristics, such as family income, area of residence, and knowledge of the environment, are examined as possible factors that influence attitudes toward the environment. However, because the samples are generally composed of specific age intervals and education levels, the results cannot apply to the entire population. This study fills a gap in the literature by providing evidence that can be extended to the whole society. To create an effective legal framework and public policy that involves civil society and citizens in combating environmental degradation, it is necessary to understand the factors that influence social behavior and environmental concerns. Specifically, this study aims to answer the question of which social values and individual characteristics are associated with prioritizing environmental protection over economic growth in the Turkish sample.

The rest of the study is organized as follows. The second part is a brief narrative on the relationship between economic growth and environmental problems. The third part is a review of the trade-off literature on the environment and economic growth and a discussion of the determinants of environmental concern as they are addressed in the literature. The fourth part covers data and methodology. And the results of the study are discussed in the fifth part. The sixth part extends the analysis of the basic model to other countries than Turkey using different classification criteria. Part seven concludes the research.

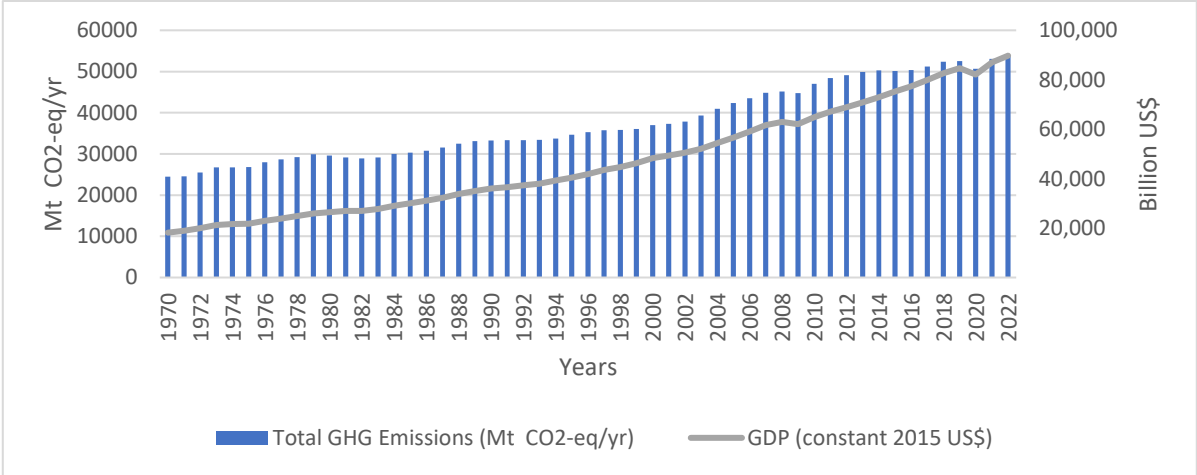
### **3.2. Economic Growth and Environmental Problems: A Brief History**

Environmental problems are as old as human history. Interaction with nature has led to the evolution of nature into tools to serve people. The entire production process is, in a sense, a transformation of a piece of the world. The extent to which this transformation harms the environment depends on the structure of production, use of natural resources, and the emphasis placed on sustainability. As the volume of production has expanded, the damage to the environment has escalated. Except for the currently popular ones, such as renewable energy and environment-friendly technologies, the development of technological methods has led to an ever-increasing exploitation of the outside world. The transition from self-sufficient production to profit-oriented production increased the amount of manufactured goods produced through the exploitation of nature.

As production increased, the environment was exposed to more impacts. Braudel (1985) states that the coal revolution that influenced England after the 1600s both modernized England and created a pollution problem that would affect London for centuries. Coal was used from domestic heating to bakery ovens, from small producers to the largest industrial plants (Braudel, 1985, p. 369). The authorities in Amsterdam were aware of a similar problem, and in 1614 they banned the use of coal in sugar refineries because of air pollution. However, factories kept producing and more factories were built (Braudel, 1983, s. 193). In a sense, the environment was being sacrificed for the sake of production. And the coal technology that gave start to industrial revolution in Britain could not be possible without destruction of forests thousands of years ago. While deforestation had an ongoing destructive impact on the environment at the time and for many years afterward, it also led to the creation of the coal that would provide the energy needed to fuel the Industrial Revolution in Britain. However, the use of coal has exacerbated environmental problems. In the last quarter of the 19<sup>th</sup> century, air pollution was the worst in British history. In London, even a significant amount of sunlight was blocked by atmospheric pollution (Clapp, 2013, p. 14).

However, environmental problems are not limited to industrialized societies. The roots of the environmental issues date back to ancient civilizations. Runnels (1995) states that deforestation and soil erosion in Greece has been going on for 8000 years due to the need for more agricultural land and land abuse per se. Huge amounts of charcoal remains from 4,500-5,000 B.C. indicate that there was a massive deforestation in Eastern Anatolia (Willcox, 1974). Scientific research proves that the climate was more humid in the Roman Classical Period, after which it has become drier and warmer due to the human use of the land surface (Hughes, 2011). From its early stages to the 20th century, agriculture had been a major source of environmental problems. Deforestation caused erosion and desertification. Increased crop yields led to population growth, but overexploitation of the land led to lower yields and eventually to food crises. This cycle eventually led to population declines or social movements such as migration that would profoundly affect world history. The industrialization of agriculture, especially after World War II, increased the amount of crops to an unprecedented level. However, this has led to significant environmental problems such as chemical pollution, erosion, depletion of water resources, reduced resistance to diseases and pests due to decreased crop diversity, and more deforestation (Bentley, 2013).

World’s economy has grown 155 times from 1820 to 2022 (Maddison, 2001, p. 173; The World Bank, 2023a), while the world population has grown almost 8 times from 1820 to 2022 (McNeill, 2001, p. 8; The World Bank, 2023b). Since the beginning of this century, there has been a sharp acceleration in these growth rates. A quarter of the growth in population occurred in less than 25 years, starting in 2000, and two-thirds of the 155-fold economic growth also occurred in less than a quarter century (The World Bank, 2023a ; The World Bank, 2023b). Whether because of industrialization or the evolution of agriculture, population and economic growth have been moving hand in hand with environmental problems. City centers with high population concentrations, exploitation of natural resources, demand for limited energy resources, increasing level of toxins, contamination of air, soil, and water by chemicals are just a few of these negative impacts (Bentley, 2013). For example, the steady increase over the past half century in GHG emissions, one of the leading causes of climate change, has accompanied the growth of the global economy.



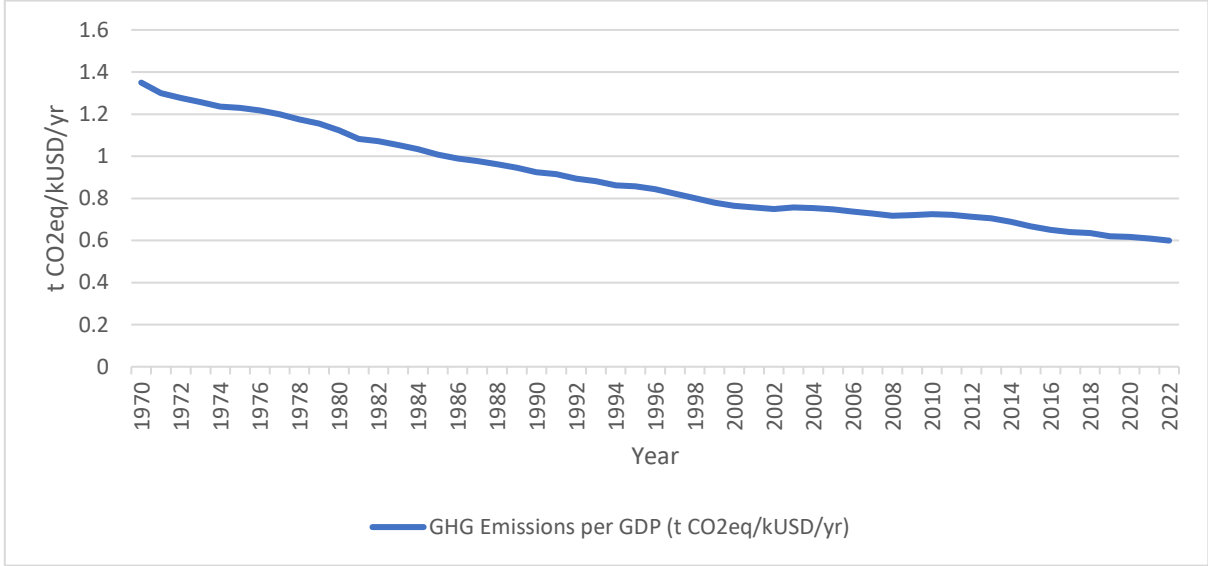
**Figure 3.1.** Global GHG Emissions<sup>11</sup> (Left Axis, Bars) and GDP (Right Axis, Line), 1970-2002

**Source:** European Commission’s Emissions Database for Global Atmospheric Research (EDGAR) (Crippa, et al., 2023), (The World Bank, 2023c).

The increase in the gross domestic product (GDP) was 4.95 times between 1970 and 2022. GHG emissions, while not keeping pace with the growing global economy, increased 2.20 times over the same period. Total GHG emissions have increased at an accelerating rate since the 1970s, as shown in Figure 3.1. Thus, the carbon efficiency of the global production structure has improved over the past half century. That is, economic activity has become less

<sup>11</sup> Measured in million tons of carbon dioxide equivalent produced per year.

carbon intensive over the past half century. Global GHG emissions per unit of GDP declined from 1.35 to 0.60 t CO<sub>2</sub>eq/kUSD per year from 1970 to 2022 (see G Figure 3.2).

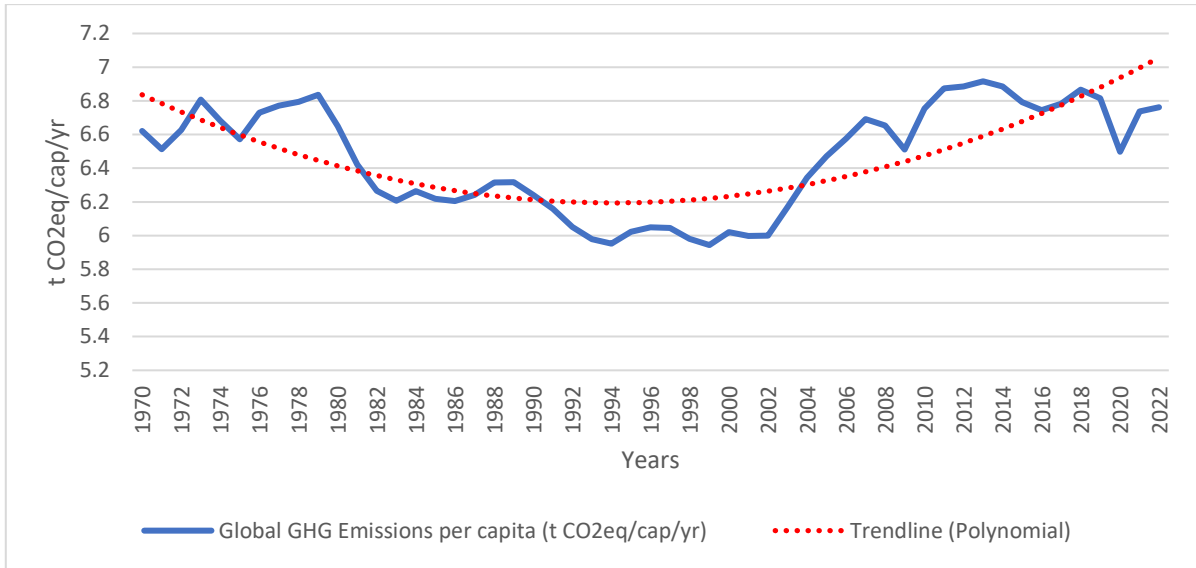


**Figure 3.2.** Global GHG Emissions per GDP (t CO<sub>2</sub>eq/kUSD/yr)<sup>12</sup>, 1970-2022

**Source:** European Commission’s Emissions Database for Global Atmospheric Research (EDGAR) (Crippa, et al., 2023), (The World Bank, 2023c).

GHG emissions are increasing as the global economy grows, but production structures have become less intensive in terms of the pollution they produce. However, per capita GHG emissions, which had been on a downward trend from the early 1970s to the mid-1990s, have been on an upward trend since then. This can be attributed to the decrease in the growth rate of the world's population during these years. On the other hand, this situation proves that people have been more intensively exposed to greenhouse gases since the 1990s (see Figure 3.3).

<sup>12</sup> Amount of GHG emissions measured in tons of carbon dioxide equivalent produced per thousands of U.S. dollars per year.



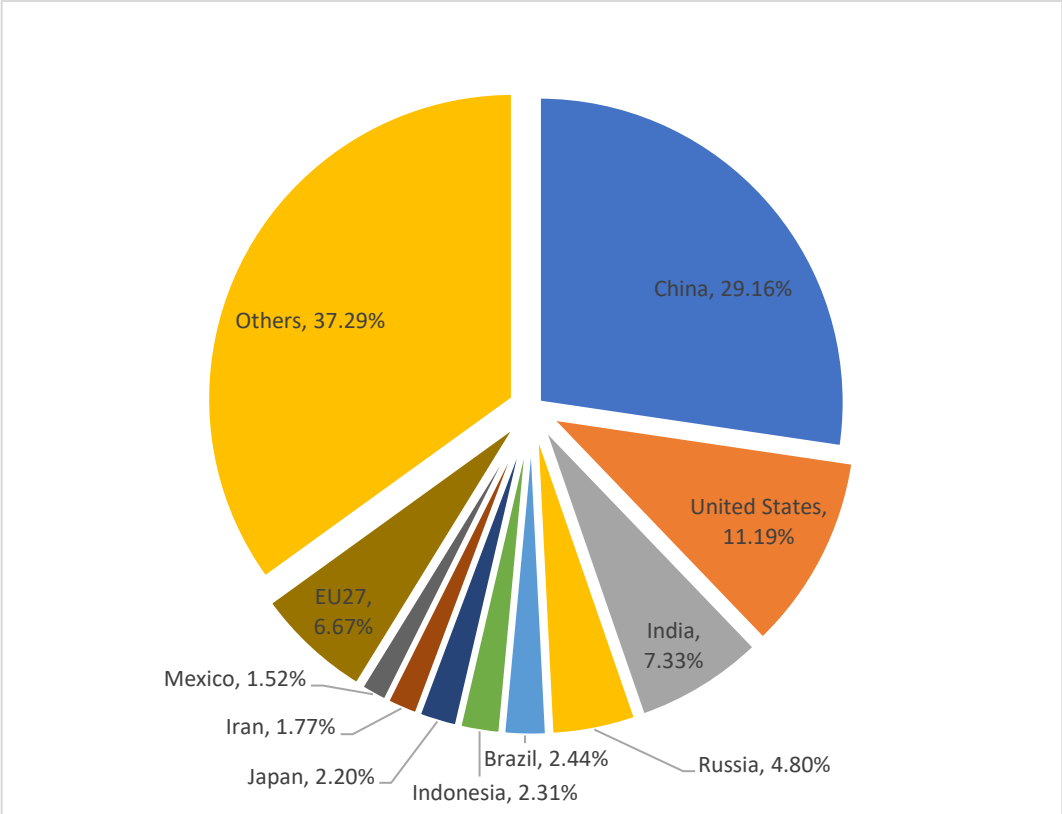
**Figure 3.3.** Global GHG Emissions per capita (t CO<sub>2</sub>eq/cap/yr)<sup>13</sup>, 1970-2022

**Source:** European Commission’s Emissions Database for Global Atmospheric Research (EDGAR) (Crippa, et al., 2023).

Environmental problems do not necessarily increase in a linear fashion with production or economic growth. In some cases, the increase in GDP is in line with the deterioration of environmental conditions in poor countries, but after a certain level of income, environmental quality improves (Grossman & Krueger, 1995). As countries increase their level of development, they can have access to cleaner technologies and shift their production of polluting goods to poorer countries. Or they can stop producing these goods altogether and import them from poorer countries preferably. Poor countries could benefit from the experience of other countries. And by this learning effect, developing countries can reach to the turning point of environmental degradation at lower levels of economic development (Zhao et al., 2023), or they might not continue this up-and-down pattern at all. Instead, an economic development can be achieved in which economic growth progresses linearly with environmental quality. But to achieve such a positive relationship, conscious and determined environmental policies are needed. In fact, Ekins (2000) argues that while the motivation for economic growth is itself a cause of environmental damage, the same relationship cannot lead at some point to an improvement in environmental quality. He refers to OECD and European countries where income has risen but environmental quality has not improved proportionately (Ekins, 2000).

<sup>13</sup> Amount of GHG emissions measured in tons of carbon dioxide equivalent produced per capita per year.

Thus, active engagement is needed to improve environmental quality, rather than expecting an endogenous change in economic growth to alleviate environmental problems. The absence of an efficient public policy is the reason for environmental problems in the early stages of economic development. Wong and Wan (2011) assert that among many factors, gender, education level, people’s pro-environmental beliefs, concern about potential environmental damages, the steps governments take about environmental protection are the main determinants of environmental concern. Their evidence based on the 2000 and 2008 data for Hong Kong reveals that government action is the most important factor influencing the concern for the environment (Wong & Wan, 2011). The role of government is critical in raising environmental awareness through the formulation of pro-environmental public policy, the enactment of legislation, and the effective enforcement of environmental protection laws. This would be the most effective plan to maintain the balance between environmental degradation and economic growth.



**Figure 3.4.** The Top-10 GHG Emitters, Share of GHG Emissions in 2022.

**Source:** EDGAR (Crippa, et al., 2023).

EDGAR data in Figure 3.4 shows that the top-10 emitters of GHG contribute 69.4% of global emissions. Top 5 emitters constitute 54.9% of the total GHG emissions in the world. It

is not a coincidence that these countries also have a high share of the world's GDP. China is responsible for the largest share of global GHG emissions, accounting for 29.2%, which is 18% more than the United States, its closest competitor. Turkey is ranked fifteenth in the world. It produces only 1.27% of the world's total GHG emissions, but its emissions are equivalent to 19.2% of the total GHG emissions produced by the 27 EU member states geographically closest to it.

Data reveal that pollution remains a significant issue in both the US and the EU, despite their well-developed institutional quality and regulatory frameworks. In summary, environmental concern cannot be achieved solely through an independent judiciary, a well-developed legal system, education, and government effectiveness. Conscious and active environmental policies are necessary to combat environmental pollution and increase environmental awareness.

### **3.3. On the Trade-off between Environment and Economic Growth**

Measuring any idea is a controversial issue in social sciences. Designing survey questions is a very important task for a research path to reach a meaningful result. Changing emphasis on any word in a question may change the response of survey attendees. Open-ended questions do not force respondents to fit into research boundaries and researcher frames. And unexpected answers to questions can be observed. But because of the diversity of responses, the answers are difficult to analyze (Fowler, 1995). Also, responses are more valid than the open-ended form of questions when a list of choices is provided in some cases (Shuman & Presser, 1996). That is, the respondents and the relationships are correctly described by the question. In fact, there is no superiority of one form of question over another. The context determines the usefulness of open or closed form. For this reason, the design of questions that accurately measure the respondent's opinion on the issue itself may be more challenging than the implementation of the survey. We measure the relationship between the environment and economic growth with a question in which the respondent is asked to choose between limited options. A significant proportion of international surveys adopt this approach. For example, WVS, International Social Survey Programme (ISSP), European Values Study (EVS), Gallup have examined the trade-off between environmental protection and economic improvement in the same way (Dunlap et al., 1993; EVS, 2022; Inglehart, et al., 2022; ISSP Research Group, 2023).

In this regard, there is a significant and growing body of literature that measures whether people are more likely to prioritize environmental issues or economic goals (Dunlap & York, 2008; Dunlap et al., 1991; Franzen, 2003; Inglehart, 1988; Inglehart, 1995). Within these studies, people are asked to choose between two options. One is to protect the environment even if it slows down economic growth, and the other is to give priority to economic growth even if it harms the environment. There is, however, a large body of literature that is critical of this dichotomous question, which presents the economy and the environment as alternatives to each other and forces people to make choices only between them (Kaplowitz et al., 2011; Klineberg et al., 1998). They show that respondents do not always view environmental policy and economic growth as mutually exclusive goals, and that a binary set of responses does not represent the preferences of a significant proportion of potential respondents. Economic development or growth does not necessarily require sacrificing environmental protection or environmental quality (DeCanio, 1997; Feiock & Stream, 2001). Therefore, this question may not accurately reflect the true cost of environmental protection for the individuals in question. For some, there is a need for follow-up questions to further investigate the intensity of prioritization of environmental problems (Nadeau et al., 2022). At least, there is no consensus on how to correctly measure individuals' environmental concern or attitudes (Dunlap & Jones, 2002).

In addition, the choice between two options does not necessarily mean the sacrifice of one of them for the sake of the other. Or, if they choose one option over the other, it should not mean that they have completely discarded the latter. It is a hypothetical situation that is intentionally created for the purpose of understanding individual behavior. In other words, it is not the choices people make that are the subject of research, but rather the reasoning behind those choices. For instance, although mixed and with no clear conclusions, at least some environmental sacrifices need to be made for Malaysians to develop economically. Yet, more than half of the people are still of the opinion that environmental protection is a higher priority than economic growth in Malaysia (Chin et al., 2019; De Pretto et al., 2015). People believe that there is a need for compromise on the environment, but they are still the most concerned about the environment.

It is not surprising that an individual has positive attitudes toward environmental problems. Probably everyone would be surprised to see an attitude in favor of environmental problems. It is therefore valuable to consider individuals' perspectives when introducing new variables into the equation. Environmental problems are a consequence of industrialization,

which has continued unabated for several centuries. It is not possible to consider them independent from the concepts of economic growth and development. So, what changes when the concept of economic growth is introduced into the analysis? People tend to express their preferences more precisely when they are given different choices. For instance, the ideological position on the support for the environment is stronger. The impact of the ideological divide becomes more pronounced when the support for the environment and the support for economic growth are presented and compared as alternatives to each other. Harring and Sohlberg (2017) prove that the right-wing supporters express more negative attitudes toward the environment when economic growth is served as a second option.

In this study, we aimed to determine what factors influence people's choices when they have to make a choice between environmental problems and different options, such as economic growth. In this way, instead of analyzing the answers to direct questions, it has been possible to carry out an analysis that emphasizes more the complexity of the multi-layered human way of thinking. We believe that for a meaningful analysis, using the trade-off between economy and environment is a proper way to measure the determinants of environmental concern.<sup>14</sup>

### **3.3.1. Determinants of Environmental Concern**

As for the environment itself, environmental concern is also a dynamic concept that evolves depending on the environmental problems. That is why there are many definitions for environmental concern, each dealing with a specific aspect of the concept. Dunlap and Jones (2002) define environmental concern in a comprehensive way as “the degree to which people are aware of problems regarding the environment and support efforts to solve them and/or indicate a willingness to contribute personally to their solution”. So, the concept itself has a personal emphasis. This is why the studies on the determinants of environmental concern tend to focus on personal characteristics mostly. Age, gender, education, income, or social class as a proxy for income, political views, religion, location of residence are just a few of the many variables that have been studied as potential determinants of environmental concern.

Understanding the nature of the trade-off between economic prosperity and environmental protection is the key to implementing effective environmental policy. Observing the influence of individual values and characteristics on the trade-off decision between the economy and the environment is also an important point to consider in raising environmental

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<sup>14</sup> To overcome a potential conceptual conflict, the terms "pro-environment" or “pro-environmental” and "pro-economy" are also used instead of "environmental concern”. These emphasize the opposite ends of the trade-off between environmental protection and economic growth.

awareness which is a resource that feeds the idea for public policies. There are individual and social factors that shape pro-environmental behavior and concern, according to Gifford and Nilsson (2014). Being knowledgeable and highly educated, being a woman, having a high income, and being in the middle or upper-middle social classes are some of the many individuals and social factors that promote pro-environmental behavior and concern. Although younger age cohorts tend to be more concerned about the environment, older people are more likely to engage in pro-environmental behavior. Proximity to the source of the environmental problem also leads to more pro-environmental behavior. However, religion and urban/rural residence have inconclusive effects on environmental attitudes and behavior (Gifford & Nilsson, 2014). Birch (2020) shows that individual level characteristics such as income, education and female gender are in a positive relationship with the support for the environmental protection over economic growth. Research conducted by Kajsa et al. (2020) among climate change protesters shows that they clearly prioritize the environment over economic growth. But the results are ambiguous when social welfare is used as a proxy for economic interest. For example, women are more concerned about the environment than about economic growth, but they give priority to social welfare over the environment. And protesters with higher education are more pro-environment than pro-welfare (Kajsa et al., 2020). This is because highly educated people tend to have higher incomes and less job insecurity. So, it is a question of whose welfare is at stake.

Opinion about environmental problems includes attitudes toward environmental problems and environmental awareness as well. Awareness about the environmental problems is positively related to education, age, health conditions of the individual and positive parenting especially in developing countries (Chin et al., 2019; De Pretto et al., 2015; Sudarmadi, et al., 2001; Wang, et al., 2015). However, there is no consensus especially about the effect of demographic variables on the awareness of environmental problems such as air pollution. While some authors find a positive relationship between age and environmental awareness (Chin et al., 2019; Qian, et al., 2016; Rotko, et al., 2002), some find a contradictory association between two (Egondi, et al., 2013; Semenza, et al., 2008). This is because different surveys, asking different questions in different societies, may not measure the same concept of awareness of environmental problems. Furthermore, when measuring between the same two variables in different countries, controlling for different characteristics of the survey respondents will not actually measure the same relationship as well. Our study utilizes a dataset that includes identical survey questions asked in the same manner across various countries. The analysis of

different countries employs the same variables, thereby avoiding the limitations associated with comparing results from studies that use different datasets and variables.

### **3.3.1.1. Religion**

There is a dynamic and growing body of literature on the interaction between religion and the environment or ecology. Although the focus is primarily on Christianity, the literature also touches on Judaism, Islam, Asian traditions, and indigenous practices. Their views on environmental issues such as biodiversity loss and climate change are discussed by the literature (Jenkins & Chapple, 2011). It is inevitable that people who follow different religious teachings will have different views of life. But it is also possible that seemingly unrelated religious teachings may influence people's views on certain issues in the same direction. A survey of Christian, Muslim and secular communities in the UK shows that all communities see climate change as a problem. However, the logic they use to reach this conclusion differs. Divine and intergenerational responsibility shape the views of Christians and Muslims on environmental issues. However, seculars approach the problems in an evolutionary way of thinking and see human responsibility, and they place environmental problems in an urgent context (Hope & Jones, 2014). Evidence from 25 different countries shows that the ones who state that they believe in God are more pro-environmental (Neumayer, 2004). Data from 2007 to 2010 for post-Soviet countries show that the importance of God in individuals' lives increases support for environmental protection but has a negative effect on preferences for economic growth (Čábelková et al., 2023). The sample is heterogeneous, comprising the secular Baltic countries, religiously diverse Russia, and predominantly Islamic Central Asia.

Indeed, people who believe in the same religion but differ in the importance they place on religion may not have similar views on the daily life issues. Believing in a specific religion does not necessarily affect people's environmental behavior or attitudes in a systematic way. In their study based on U.S. data among Christians, Eom et al. (2021) show that within Christianity, while the adoption of a stewardship belief leads to more pro-environmental support, the belief in a more controlling God does not. Stewardship is the belief that people are responsible for the world that God created. But the belief in a controlling God requires people to believe that God is in control of all things and events, and that human beings do not have any influence over them. For instance, church attendance is negatively related to environmental attitudes while it is in a positive relationship with environmental behavior (Kanagy & Willits, 1993). Or religious values may affect public concern on different aspects of the environmental problems in different ways as it is in the Swedish example on genetically modified organisms

and air pollution (Biel & Nilsson, 2005). Therefore, the impact of religious values on environmental concern or behavior is ambiguous and depends on the societal characteristics such as values, sociocultural structure, historical development, and economic prosperity.

### **3.3.1.2. Politics**

The literature shows that elite polarization on environmental issues deepens the left-right divide in attitudes toward environmental problems. This finding is empirically supported by many studies for the U.S. case, and European countries (Dunlap & McCright, 2008; Egan & Mullin, 2017; Guber, 2013; Hamilton, 2011; Harring & Sohlberg, 2017; McCright & Dunlap, 2011). Birch (2020) generalizes this finding to a more global context, using data from 42 countries for the different years between 1995 and 2015. The evidence shows that, with the exception of post-communist countries, mass polarization among voters occurs analogously to elite polarization between political parties (Birch, 2020). Moreover, party ideology may also shape citizens' attitudes toward issues such as environmental problems. Party leaders can be influential in shaping ideas about environmental issues. This influence is not limited to their supporters but can extend beyond the ideological spectrum of the party. 2007 data for Australia shows that although environmental concern is stronger among the left-wing party followers and postmaterialists, leaders' effect on shaping public views on environmental issues are beyond their own partisans (Tranter, 2011).

Control variables used in this study is in parallel to the literature that focuses on the individual level analysis on the views on the environmental problems. Age, for instance, is in a negative relationship with the environmental concerns, while education, female gender, income, social class are in a positive association with environmental concern in the literature (Franzen & Meyer, 2010; Gelissen, 2007; Kvaløy et al., 2012; Lewis et al., 2019; Marquart-Pyatt, 2012). Postmaterialist values are in positive association with environmental concerns and environmental action as well (Booth, 2017). Conservation values play an important role in the explanation of the pro-growth views (Drews & van den Bergh, 2016; Guiso et al., 2003). The association between religiosity and right-wing political views with economic growth is explained by Marxist literature mostly. System justification theory (Jost et al., 2007; Jost, et al., 2014; Jost & van der Toorn, 2012) asserts that people, intentionally or not, tend to maintain the status quo. For this reason, they justify and defend all aspects of it with all the means at their disposal. Because economic growth is an integral part of the prevailing economic, social, and political system, conservation values defend the necessity of economic growth for the continuation of the system.

For Birch (2020), according to self-placement on the political scale, the ones on the left end of the scale are more pro-environment than the ones in the right (Birch, 2020). In his study using data from 45 countries, Neumayer (2004) shows that, apart from party ideology, an individual's left-wing orientation increases the likelihood of having a pro-environmental position. Evidence from the literature shows that being younger, being highly educated, having more income, being an urban resident rather than rural, being liberal rather than conservative<sup>15</sup> are the factors that seems to be in positive relationship with the environmental concern (Van Liere & Dunlap, 1980; Inglehart, 1990). Demographic and individual-level characteristics can sometimes be intertwined with political views and ideology. Moreover, in some societies, political views may have a direct impact on individual or social preferences. For this reason, there is always the potential for ideology to play a worthwhile role in raising awareness for environmental issues.

### **3.3.1.3. Postmaterialism**

Inglehart (1971) proposed a theory of value change in Europe. In advanced industrial societies there would be a shift in value priorities from what might be called materialist concerns to what might be called postmaterialist values (Inglehart, 1971). Materialist values can be summarized as values or goals related to economic security and physical security. On the other hand, postmaterialist values include collective social concerns such as freedom, self-expression and the improvement of quality of life. While the economy and security are still important goals, they are no longer seen as the top priorities (Abramson & Inglehart, 1995, pp. 9-10). Inglehart's materialist-postmaterialist value approach is highly influenced by Maslow's theory on the hierarchical ranking of the basic human needs by relative prepotency. As the needs are satisfied, higher needs arise. From very basic material needs to more immaterial needs, they are "physiological, safety, love, esteem and self-actualization" (Maslow, 1943).

The main force driving the values of societies from materialist to postmaterialist is, in the long run, intergenerational value change. This is a process whereby older cohorts with predominantly materialist values are replaced by younger cohorts with relatively postmaterialist values (Inglehart & Abramson, 1999). The post-World War II generations, who experienced less economic and physical insecurity than the pre-war generations, put more emphasis on immaterial needs. The crisis years may cause a decline in their postmaterialist values, but this

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<sup>15</sup> Inglehart (1990) uses conservative and liberal interchangeably for right and left especially in English-speaking countries.

is a temporary effect. As soon as economic and physical security is no longer a concern, postmaterialist values become dominant again. So, younger birth cohorts do not prioritize materialist values as much as they do postmaterialist values.

There is a strong and positive relationship between postmaterialism and economic prosperity. According to Booth (2018), the increase in economic welfare per capita has triggered an improvement in postmaterialism and even led to a decline in fertility rates around the world. However, while economic development has the potential to damage the environment, it also triggers two important developments that promote environmental sustainability: postmaterialism and declining fertility rates (2018).

In fact, the shift to postmaterialist values is not limited to Western Europe. Because of the close relationship between postmaterialist values and prosperity, the shift from materialist to postmaterialist values can take place in any society with high economic growth and a sufficient level of physical security (Inglehart, 2008; Inglehart & Abramson, 1994). That is, younger cohorts have less economic or physical security concerns because of economic development, so they can seek more humane societal goals including more freedom, self-expression, and a higher quality of life for Inglehart's theory of postmaterialism. If environmental protection is associated with higher needs and postmaterialist values, then we can expect environmental awareness and concern to increase as postmaterialist values become stronger.

#### **3.3.1.4. Postmaterialism, Income, and Pollution as Litmus Papers**

Kuznets (1955) theorized the long-run effects of economic growth by focusing on income inequality. He asserted that income inequality rises and reaches its peak than decreases as economic development proceeds (Kuznets, 1955; Kuznets, 1984). That is, income inequality is a concave function of economic development. The inverted U-shaped relationship between economic growth and income inequality inspired researchers to extend the pattern to the environment. Environmental degradation increases with per capita GDP at low levels of income and decreases at high levels of national income (Grossman & Krueger, 1991). Especially at low levels of national income, where environmental problems are relatively severe, environmental protection measures are detrimental to economic growth. The trade-off between environmental protection and economic growth can therefore have a more fundamental impact on the economy (Čábelková et al., 2023). However, as with the original Kuznets curve (Acemoglu & Robinson, 2002), there are growing doubts regarding whether the environmental Kuznets curve holds in

real data. The relationship between income and environmental degradation is trending upward, especially in middle-income countries (Aşıcı, 2013). Sometimes developing countries are more effective at adopting environmental standards of a developed country (Stern, 2004).

The relationship between postmaterialist values and environmental protection is clearer in advanced industrialized countries than in low-income countries. Support for environmental protection rises steadily in advanced industrialized countries as the number of postmaterialist goals prioritized increases (Inglehart, 1995).

Franzen and Meyer's (2010) study conducted among 26 countries consisting of OECD and developing countries for the years 1993 and 2000 shows that individuals living in richer countries have a higher concern of the environment. Consistent with this finding, people in high-income households have higher levels of environmental concern as well. In addition, postmaterialists are more concerned about the environment than are the materialists. Individuals also tend to care more about the environment depending on their education, environmental knowledge, and the consequences they experience because of environmental issues (Franzen & Meyer, 2010). Research by Gugushvili (2021), based on 2017 data for European countries, shows strong support for protecting the environment at the expense of economic growth. Moreover, within countries, postmaterialists, those on the left end of the political scale, high-income owners, and educated people are more willing to sacrifice economic growth for the positive effects of environmental protection. Like household income, the economic prosperity of the country is also positively related to pro-environmental attitudes (Gugushvili, 2021).

On the other hand, Post and Meng's (2018) study, based on data from 53 countries for the years between 2010 and 2014, shows that respondents in the poorest countries prioritize economic growth over environmental protection. This is in line with the postmaterialism literature started by Inglehart. But this relationship between environmental concern and a country's economic affluence is not linear. High-income country citizens, for instance, value environment rather than economy not more than citizens of a middle-income country does (Post & Meng, 2018). So, country's economic prosperity is not a necessity for environmental concern (Dunlap & York, 2008). Thus, a country's economic performance does not necessarily affect individual attitudes toward the environment. Rather, it is the household economy.

A sample composed of developed and developing countries shows that the correlation between CO<sub>2</sub> emissions and average environmental concern is negative (Franzen & Meyer, 2010). Since the amount of energy use depends on the structure of production, and since the

service sector accounts for a larger share of total production than industrial production in highly developed countries, the CO<sub>2</sub> emissions are likely to be low. Thus, the level of development, rather than the level of pollution, may be the source of high environmental concern among residents. People living in high CO<sub>2</sub> producer countries have the lowest probability to give priority to environment (Post & Meng, 2018; Sandvik, 2008), or as it is stated in some studies, there is no significant relationship between CO<sub>2</sub> emissions of the country and the prioritization of environment (Kvaløy et al., 2012).

Postmaterialist values, income, but especially the household income, and CO<sub>2</sub> emission levels are generally recognized as correlated with attitudes toward the environment. Although there are exceptions, the literature tends to conclude that countries with high postmaterialist values and high-income levels also have high levels of environmental concern. In addition, countries with low CO<sub>2</sub> emissions due to their production structure also seem to have relatively high levels of development and therefore high levels of environmental concern. All these implications can be explained by the assumption that postmaterialist values lead people to satisfy higher needs abstracted from economic and physical needs.

### **3.4. Data and Method**

#### **3.4.1. Data**

The data employed here is from the 7<sup>th</sup> wave of the WVS. Although the country samples do not exactly overlap between waves, more than 120 countries have been surveyed almost every five years since 1981. In addition to demographic characteristics, social, religious, cultural, political, and ethical values are examined at the individual level. The samples for each country are independent of each other between the waves. That is, individuals are not identical across the waves. The seventh wave was conducted between 2017 and 2022. The time of data collection changes in each country within this period. For example, Turkish data used in this study are for 2018 (Inglehart, et al., 2022). 2415 respondents from Turkey participated in the survey by answering 290 different questions during March, April and May 2018. The respondents are from 26 different statistical regions from Turkey. All interviews were conducted face-to-face. No one other than the respondent was present to follow the interview in 83% of the cases. In other words, the factors in the environment that influence participants, whether inside or outside the family, are quite limited. While 73.6% of the respondents are from urban areas, 26.4% are from rural areas (World Values Survey Association, 2018). Before conducting the analyses, it is important to note some significant observations revealed by the descriptive

statistics of the Turkey sample, as listed in Table 3.1. Table 3.1 shows that the average town size of the respondents is more than 50,000. Although the age range is 18-95, the average age of the Turkish sample is 38.83. 62.1% of the respondents in Turkish sample is married. In the Turkish sample, the role of God appears to be significant with an average rating of 8.14 on a scale of 1-10. Similarly, the average political leaning of the participants was 6.3, indicating a tendency toward the right side of the spectrum on a scale of 1 (left) to 10 (right). The survey results show that while the average importance rating for living in a democratic country is 7.89 out of 10, the average rating for the actual democracy in the country is 6.27. This suggests the existence of a critical attitude toward the government.

**Table 3.1.** Descriptive Statistics-Turkey<sup>16</sup>

Variables	N	Mean	Standard Deviation	Minimum	Maximum
<i>environment</i>	2,318	0.578	0.494	0	1
<i>age</i>	2,414	38.83	12.67	18	95
<i>incscale</i>	2,329	5.343	1.722	1	10
<i>educrec</i>	2,406	1.586	0.765	1	3
<i>married</i>	2,412	0.621	0.485	0	1
<i>male</i>	2,415	0.500	0.500	0	1
<i>townsize</i>	2,415	6.393	1.620	1	8
<i>lifesat</i>	2,405	6.518	1.907	1	10
<i>postmat4</i>	2,360	1.781	0.613	1	3
<i>godinlife</i>	2,398	8.138	2.176	1	10
<i>nationalism</i>	2,382	4.419	0.948	1	5
<i>polscale</i>	2,151	6.292	2.573	1	10
<i>incomeeq</i>	2,362	5.213	2.676	1	10
<i>businessown</i>	2,296	6.099	2.389	1	10
<i>governmentresp</i>	2,364	6.102	2.600	1	10
<i>confenv</i>	2,285	2.511	0.837	1	4
<i>impdemocracy</i>	2,364	7.892	2.100	1	10
<i>democraticgov</i>	2,347	6.265	2.295	1	10

**Source:** (Inglehart, et al., 2022)

In this study, we examine how demographic characteristics and individual values relate to environmental concerns. These individual values include not only personal preferences, but also individual assessments of the country's institutional and industrial structure. Different models are evaluated in the analyses. But for each of them the dependent variable is fixed. For environmental concern, we utilized question 111 of the survey, which asks respondents to choose between prioritizing environmental protection even if it causes slower economic growth and some loss of jobs (1) or prioritizing economic growth and job creation even if the

<sup>16</sup> For detailed description of the variables used in the study, see Appendix-3.

environment suffers to some extent (0). Other responses different than these two options such as “Missing”, “Don’t know”, “No response”, and “Other” are coded as missing variable.<sup>17</sup> The trade-off question is:

Question 111: “Here are two statements people sometimes make when discussing the environment and economic growth. Which of them comes closer to your own point of view?”

Choices: =1 if “Protecting the environment should be given priority, even if it causes slower economic growth and some loss of jobs.”

= 0 if “Economic growth and creating jobs should be the top priority, even if the environment suffers to some extent.”

We used independent variables that take into account many aspects, such as demographic characteristics, both individual characteristics and individual assessment of economic, societal, and institutional characteristics.

Age, income scale, education level, marital status, gender, and town size are used as demographic characteristics. We do not modify the respondents’ answer for age question. We used question 288 for income scale. Answers change between 1 as the lowest group and 10 as the highest group. For education level, we utilized a recreated version of question 275 asking for the highest education level attained. By doing so, we aim to make a more comparable analysis between countries. Because each country has its own peculiarity in education structure, they are not necessarily similar in all countries investigated. We only consider legal status for marital status. Married is coded as 1. Living together as married, divorced, separated, widowed and single are all coded as 0. Male is coded as 1 and female as 0 for gender variable. Size of the town where the questionnaire is asked is recorded by the interviewee in 7 different categories.

There are three variables we use as indicators of economic values, *incomeeq*, *businessown*, and *governmentresp* namely. For *incomeeq*, respondents are asked to place their views on a 1-10 scale in question 106. 1 is “Incomes should be made more equal”, and 10 is

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<sup>17</sup> This question about the trade-off between environmental protection and economic performance is the most common question across waves. Since it is expected that this study will be expanded layer by layer in the future with variations from different waves, this question was preferred as the dependent variable. It should be noted, however, that the question touches on only one aspect of the concept. Yet, this aspect is quite broad and complex in that it includes both economic performance, preferences on unemployment and opinions on environmental concerns.

“There should be greater incentives for individual effort”.<sup>18</sup> So, if 1 is chosen income equality is preferred, and if 10 is chosen larger income differences are normalized. For *businessown*, respondents are asked to place their views on a 1-10 scale in question 107. 1 is for “Private ownership of business and industry should be increased”, and 10 stands for “Government ownership of business and industry should be increased.” Thus, from 1 to 10, individual preferences shift from a preference for private property to a more statist approach. For *governmentresp*, respondents are asked to place their views on a 1-10 scale, in question 108. 1 is for “Government should take more responsibility to ensure that everyone is provided for”, 10 is for “People should take more responsibility to provide for themselves.” So, these three variables altogether represent the ideas of individuals on almost each actor of the market, namely consumer, producer, and government.

In addition to demographic characteristics, individual characteristics are utilized in the study. People are asked how satisfied they are with their lives as a whole these days in question 49. Responses range from “completely dissatisfied” (1) to “completely satisfied”. How important God is in their lives is answered in 1-10 scale for question 164. 1 is being “not at all important”, and 10 is “very important”. Question 254 is for nationalism asking how proud the respondents are to be [country’s nationality]. 1 stands for “not at all proud, 2 is “not very proud”, 3 is “quite proud”, and 4 is “very proud.” People are asked for self-placement on the left-right political scale of 1-10 in question 240. And it is named as *polscale*.

The four-item classical postmaterialist index of Inglehart is utilized as an indicator of postmaterialism. It is a version of the responses for questions 154 and 155 asking for prioritization of four different goals. Based on how respondents prioritize the items as first or second choices, postmaterialist index is shaped (Inglehart & Abramson, 1999). The first item: “Maintaining order in the nation” and the third item: “Fighting rising prices” are regarding materialist values. The second item: “Giving people more say in important government decisions” and the fourth item: “Protecting freedom of speech” are regarded as postmaterialist values. If the first and second choices are both materialist items, then the respondent is materialist (1). If both of the prioritized items are postmaterialist, then the respondent is postmaterialist (3). If one of the items prioritized is postmaterialist and the other is materialist,

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<sup>18</sup> In 1-10 scale, 10 “There should be greater incentives for individual effort” does not include an explicit choice for income differences. Yet, the Turkish version “Kişisel çabaları teşvik için gelirlerin daha da farklı olması gerekir” asks for an explicit decision on the income differences. A proper translation of Turkish version might be “Incomes need to be more differentiated to incentivize personal effort.”

then the respondent is regarded as mixed (2) in materialist-postmaterialist scale (Inglehart, 1997).

Question 154: If you had to choose which one of the things on this card would you say is most important?

Question 155: And which would be the next most important?

- Choices:
1. Maintaining order in the nation
  2. Giving people more say in important government decisions
  3. Fighting rising prices
  4. Protecting freedom of speech

We also utilize Individual assessment of institutional characteristics as independent variables. For this aim, *impdemocracy* variable from question 250 asking for the importance of living in a country that is governed democratically is utilized. From “not at all important” to absolutely important”, 1-10 scale is used. *democraticgov* is derived from question 251, asking for how democratically the country of respondent is being governed at the time of the survey implemented. 1-10 scale from “Not at all democratic” to “completely democratic” is used. And the last independent variable is *confenv*. It is derived from question 79 asking how much confidence respondent has in environmental organizations. The choices are “none at all”, “not very much”, “quite a lot”, and “a great deal” at 1-4 scale respectively.<sup>19</sup>

In addition to individuals' perceptions of the country in which they live, we identified several relatively objective criteria to classify countries. We classified the countries participating in the 7<sup>th</sup> wave according to these criteria and conducted analyses similar to those conducted for Turkey. In this way, we both added diversity to the study and had the opportunity to test the external validity of the findings for Turkey. Religion adherence, income, democracy level, level of freedom in general and economic freedom in particular, GHG emissions, and Human Development Index (HDI) are used as country classification criteria.<sup>20</sup>

### 3.4.2. Method

Answers for the survey question used as the dependent variable are at 0-1 scale. So, the dependent variable “Environment” is binary. 1 is for pro-environment, and 0 is for pro-

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<sup>19</sup> See Appendix-3 for the variables, related questions, and how each variable is coded in detail. Table in the appendix briefly summarizes the descriptive statistics of the different alternatives of dependent and control variables.

<sup>20</sup> For further information about the country classification criteria see Appendix-4

economy. OLS estimation gives unbiased estimates for LPM coefficients. However, they are not best. t and F tests, therefore the confidence intervals cannot be valid even in large samples (Aldrich & Nelson, 1984, p. 14).

In OLS estimation, there is no limit to the predicted values of dependent variables. That is, estimation results are highly likely to end up with values larger than one and smaller than zero. On the other hand, predicted values of dichotomous dependent variables show the predicted probability of y being equal to 1 in a linear probability model. And probability can take values only between 0 and 1. So there is a potential incompatibility between the predicted probabilities and the model estimates.

$$P(\text{Environment}_i = 1) = P_i = \beta_0 + \beta_1 x_{i1} + \dots + \beta_k x_{ik} = \beta_0 + \sum_{j=1}^k \beta_j x_{ij} \quad (3.1)$$

The subscript i refers to the i-th observation and j denotes the j-th independent variable. To address the aforementioned limitations of OLS estimates of LPM, we use logistic regression model instead of linear probabilities:

$$\ln\left(\frac{P_i}{1-P_i}\right) = \ln(\text{Odds}_i) = \beta_0 + \sum_{j=1}^k \beta_j x_{ij} = Z_i \quad (3.2)$$

$$\exp\left(\ln\left(\frac{P_i}{1-P_i}\right)\right) = \exp(\beta_0 + \sum_{j=1}^k \beta_j x_{ij}) \quad (3.3)$$

$$\frac{P_i}{1-P_i} = e^{\beta_0} e^{\beta_1 x_{i1}} \dots e^{\beta_k x_{ik}} \quad (3.4)$$

$e^{\beta_j}$  is the partial effect of one independent variable on the odds of the event of interest, controlling for the other independent variable. The probability is linear in the independent variables in the OLS, but it is not linear in the logistic regression. To estimate the logistic model, MLE is used. Interpretation of log odds and the effect of a change in one of the predictors on the dependent variable is not straightforward. The sign of the effect, however, is intuitive for interpretation.<sup>21</sup>

### 3.5. Results

Logit model dependent variables presented in Table 3.2 are *environment*. If people prioritize the environment over economic growth, it equals 1, otherwise 0. That is, we took those who declared their priority of the environment over economic growth as having pro-environmental views rather than being pro-economy. The first model is the base model

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<sup>21</sup> A detailed explanation of the properties of the logistic model, estimation techniques, and related statistical tests is provided in Appendix-2.

consisting of only demographic characteristics as independent variables. In the early stages of age, *age* is in a negative association with the log odds of pro-environmental views.<sup>22</sup> That is, as the age increases within the younger cohorts especially, people tend to give less priority to environmental protection over economic growth. The positive coefficient for age-squared indicates that the relationship between age and the log odds of being pro-environment is not linear. In other words, the negative relationship becomes less pronounced. At the inflection point of 33, i.e.  $[-(-0.066)/2 \times 0.001]$ , the relationship between age and the log odds of being pro-environment reverses. The rate of decline gradually slows over time, with a very gradual pace of change. In younger cohorts, age-related erosion of pro-environmental views is more pronounced than in older cohorts until the age 33. As age approaches 33, the decline in pro-environmental views is less pronounced than in younger age groups. The dependent variable presents respondents with a choice between prioritizing environmental protection at the expense of economic growth and job creation and prioritizing economic growth and job creation at the expense of environmental degradation. Given the high level of job insecurity in younger age groups, it is possible that individuals may prioritize economic growth and job creation over environmental protection. However, long-tenured employees may experience less job insecurity as they age. Consequently, the inverse relationship between age and pro-environmental views gradually diminishes at the age of 33. Subsequently, they tend to prioritize environmental concerns over economic considerations. Furthermore, as they age, they become more pro-environmental.

On the other hand, the association between income scale and the log odds of pro-environmental views is positive. As people get older, the economic situation may become less of a priority than it was in their younger years. They are more likely to realize their self-actualization and financial security becomes less of an issue. In other words, it might not be correct to establish a direct causal link between age and environment. As age increases, the level of education might also tend to increase. It is common for people's incomes to improve in relation to this. It is possible to move up the income scale, depending on the education level and the experience that comes with age. Therefore, it might not be possible to isolate and

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<sup>22</sup> The coefficients for the *age* variable are not statistically significant in any of the models in which we are looking for only a linear relationship between age and environmental concern. Therefore, we add the square of age as a second independent variable to assess the non-linear relationship between age and environmental concern. We prefer not to report the results of the model with only the age variable here so as not to further distract from the focus of this study.

causally link the mutual impact of age and income or other demographic characteristics with pro-environmental views.

**Table 3.2.** Log Odds-Environment vs. Economic Growth-Turkey

Variables	(1) <i>environment</i>	(2) <i>environment</i>	(3) <i>environment</i>	(4) <i>environment</i>	(5) <i>environment</i>	(6) <i>environment</i>	(7) <i>environment</i>	(8) <i>environment</i>
<i>age</i>	-0.066*** (0.008)	-0.064** (0.012)	-0.066*** (0.009)	-0.055** (0.039)	-0.065*** (0.010)	-0.069** (0.011)	-0.067*** (0.008)	-0.085*** (0.001)
<i>age</i> <sup>2</sup>	0.001*** (0.005)	0.001*** (0.007)	0.001*** (0.006)	0.001** (0.020)	0.001*** (0.006)	0.001*** (0.008)	0.001*** (0.005)	0.001*** (0.001)
<i>incscale</i>	0.086*** (0.001)	0.074*** (0.007)	0.093*** (0.001)	0.135*** (0.000)	0.082*** (0.002)	0.099*** (0.000)	0.086*** (0.001)	0.095*** (0.001)
<i>educrec</i>	0.059 (0.342)	0.058 (0.352)	0.047 (0.455)	0.071 (0.263)	0.066 (0.289)	0.019 (0.772)	0.066 (0.288)	0.032 (0.619)
<i>married</i>	0.058 (0.594)	0.038 (0.731)	0.044 (0.690)	-0.003 (0.978)	0.037 (0.739)	0.069 (0.549)	0.074 (0.503)	0.192* (0.097)
<i>male</i>	0.055 (0.525)	0.048 (0.579)	0.069 (0.430)	0.069 (0.442)	0.054 (0.536)	0.058 (0.518)	0.065 (0.455)	0.078 (0.390)
<i>townsize</i>	0.065** (0.016)	0.060** (0.028)	0.055** (0.041)	0.064** (0.020)	0.065** (0.017)	0.089*** (0.002)	0.065** (0.017)	0.048* (0.090)
<i>lifesat</i>		0.050** (0.035)						
<i>postmat4</i>			0.199*** (0.006)					
<i>incomeeq</i>				-0.076*** (0.000)				
<i>businessown</i>				0.139*** (0.000)				
<i>governmentresp</i>				-0.052*** (0.008)				
<i>godinlife</i>					0.045** (0.024)			
<i>impdemocracy</i>						0.100*** (0.000)		
<i>democraticgov</i>						-0.066*** (0.001)		
<i>confenv</i>						0.230*** (0.000)		
<i>nationalism</i>							0.131*** (0.004)	
<i>polscale</i>								-0.103*** (0.000)
Constant	0.476 (0.359)	0.215 (0.688)	0.150 (0.780)	-0.202 (0.734)	0.119 (0.827)	-0.591 (0.327)	-0.113 (0.842)	1.519*** (0.007)
Observations	2,255	2,252	2,236	2,168	2,252	2,131	2,235	2,043
Ps. R-squared	0.0107	0.0122	0.0133	0.0375	0.0124	0.0297	0.0140	0.0217

p-values in parentheses  
 \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

**Source:** (World Values Survey Association, 2018).

Education does not have a statistically significant relationship with being pro-environment. The results do not indicate that being married has any effect on pro-environmental views compared to being unmarried. Just as the association of gender with having pro-environmental views is not statistically significant. The log odds of having pro-environmental

views increase with the town's size. That is, as the size of the town people live in increases, they are more likely to prioritize the environment over the economy. Environmental problems are more serious in larger cities, mainly because of manufacturing. And people are more directly and densely exposed to the negative effects of environmental degradation than in smaller cities and rural areas. Thus, while economic growth may create new jobs, its negative impact on the environment may be more important for people who experience it firsthand. The association between demographic characteristics and pro-environmental views is similar across models, although the magnitude of the relationship and the levels of significance vary.

The results of models 2 and 3 prove that increases in life satisfaction and postmaterialist values are positively related to pro-environment thoughts. As individuals become more satisfied with their lives, they may become more concerned with the environment rather than the household. And because their material needs are satisfied, their immaterial needs become more important. Satisfaction of higher needs, which are exempt from financial and physical security issues, might become more essential to them.

Individual economic values are tested in model 4. Three variables, *incomeeq*, *businessown*, and *governmentresp*, measure the opinions of people on whether an individualistic or statist approach should prevail in the economy. As people favor income differences to support individual effort over income equality, the log odds of having pro-environment views decrease. The more people are in favor of an increasing share of government in business and industry relative to individual entrepreneurs, the more likely they are to hold pro-environmental views. The closer one is to the view that people should try harder to make a living on their own rather than relying on the state, the less likely one is to hold pro-environmental views. If people tend to have more individualistic than statist views on income distribution, entrepreneurship, and the welfare state, their views on the economy are shaped by more capitalist values. Therefore, when faced with a choice between the environment and economic performance, they may favor economic growth and the possibility of new jobs at the expense of the environment. In the same way that cost prioritization takes a back seat in government investment relative to the private sector, individuals who express statist preferences are likely to favor the environment when faced with a choice between the environment and economic growth.

*godinlife* variable in model 5, is used as an indicator of the place of religion in one's life. As God becomes more important in an individual's life, the log odds of having pro-environmental views increase. According to 2020 data, 98.41% of Turkey's population, Sunni

or Shia, believes in Islam (The ARDA, 2023). This percentage is expected to be 97.6% in 2050 projections (Johnson & Grim, 2023), which is still very high, albeit slightly lower than the 2020 statistics. And a dominant idea of stewardship (*khalīfa*) in Islam makes people responsible for God's creations. Not only are they responsible, but it is believed that they will be held accountable in the hereafter (Saniotis, 2012) Therefore, the earth and its resources are of divine significance for Islam. Thus, the belief in stewardship and the hereafter shapes the Islamic environmental ethic and could put pressure on people to protect the environment even if it means sacrificing the economy.

Model 6 focuses on individuals' perceptions of democracy and civil society. The importance of how democratically the country is governed to the respondent and how democratically the country is governed in the respondent's view are used as indicators of ideal preferences for democracy and actual experience of democracy, respectively. As the importance of democratic government increases, the log odds of having pro-environmental thoughts increase. However, as people observe that Turkey is more democratically governed, the log odds of being pro-environment decrease. These two results may seem controversial at first glance. But the latter involves a more subjective observation about the regime of the country. And it is very likely to include political preconceptions and biases. For instance, supporters of the ruling parties, Justice and Development Party and Nationalist Movement Party, are more likely to perceive the country as being governed democratically, whereas those who vote for opposition parties are more likely to view the country as not being governed democratically in 2018 wave of the WVS in Turkey. When analyzing the first five parties with the highest number of votes in the general elections, most respondents stated the importance of a democratic regime. However, 916 out of 1084 respondents who voted for the Justice and Development Party, which received the highest number of votes, rated the country's democratic governance as 6 or higher on a scale of 1-10. Only 8 out of 516 respondents who voted for the main opposition party, Republican People's Party, indicated that the country is governed in a completely democratic manner.

In addition, the more individuals trust the civil society of environmental organizations, the more likely they are to be pro-environment. Thus, not only improving the institutional structure of the country, but also having a civil society that can inspire confidence can guarantee the formation of pro-environmental concerns.

Findings for nationalism in the 7<sup>th</sup> model are parallel to the religion case. As individuals feel prouder to hold Turkish citizenship, the log odds of having pro-environmental thoughts

increase. In Turkey, there has been a symbolic relationship between ethnic separatism, terrorism, and forest fires for years. 90% of the forest fires in Turkey are caused by anthropogenic activities, including intentional fires such as arson and terror attacks (Çolak & Sunar, 2020). In this respect, observing a positive relationship between nationalism and environmental concern is an expected result for us.

As individuals move to the right of the political scale, the log odds of being more pro-environment in Turkey decrease. Consistent with the literature (Birch, 2020; Inglehart, 1990; Neumayer, 2004; Van Liere & Dunlap, 1980), right-leaning political supporters are more

**Table 3.3.** Self-position on Political Scale-Turkey (2018) (5 Major Political Parties)

Political Scale	Justice and Development Party	Republican People's Party	Nationalist Movement Party	The Good Party	Peoples' Democratic Party	Total Respondents
1 (Left)	1 (0.1%)	72 (14.3%)	4 (1.6%)	2 (2%)	45 (24.1%)	124 (6.02%)
2	1 (0.1%)	41 (8.1%)	1 (0.4%)	2 (2%)	25 (13.4%)	70 (3.4%)
3	14 (1.4%)	54 (10.7%)	2 (0.8%)	5 (5%)	28 (15%)	103 (5%)
4	41 (4%)	89 (17.6%)	9 (3.7%)	7 (7%)	18 (9.6%)	164 (7.96%)
5	146 (14.3%)	116 (23%)	49 (20.1%)	37 (37%)	40 (21.4%)	388 (18.83%)
6	93 (9.1%)	51 (10.1%)	34 (13.9%)	14 (14%)	16 (8.6%)	208 (10.1%)
7	151 (14.7%)	33 (6.5%)	27 (11.1%)	22 (22%)	7 (3.7%)	240 (11.65%)
8	204 (19.9%)	35 (6.9%)	35 (14.3%)	10 (10%)	5 (2.7%)	289 (14.03%)
9	116 (11.3%)	9 (1.8%)	14 (5.7%)	1 (1%)	0 (0%)	140 (6.8%)
10 (Right)	257 (25.1%)	5 (1%)	69 (28.3%)	0 (0%)	3 (1.6%)	334 (16.21%)
Total Respondents	1024 (100%)	505 (100%)	244 (100%)	100 (100%)	187 (100%)	2060 (100%)

**Source:** (World Values Survey Association, 2018).

*Note:* The percentages in parentheses represent the share of those who expressed a specific value on the left-right scale among those who voted for that party. For instance, 25.1% of Justice and Development Party voters identified themselves as far-right on the 1-10 left-right scale and selected 10. These are 257 out of 1024 voters of that political party.

likely to preserve the current economic status quo, even if this means not preserving the environment. Nationalism, as measured by pride in civic identity, tends to increase as one moves to the right of the political scale in many countries. This trend is also observed in the Turkish sample. However, it is noteworthy that people in Turkey who position themselves closer to the left of the political scale and who vote for the Republican People's Party (in Table 3.3), the main opposition party where left-wing politics traditionally congregate, also express pride in their citizenship identity (in Table 3.4). This demonstrates how social values are uniquely shaped in Turkey.

**Table 3.4.** Nationalism-Turkey (2018) (5 Major Political Parties)

Nationalism	Justice and Development Party	Republican People's Party	Nationalist Movement Party	The Good Party	Peoples' Democratic Party	Total Respondents
Not Turkish	35 (3.17%)	3 (0.58%)	0 (0%)	0 (0%)	55 (28.95%)	93 (4.26%)
Not at all proud	8 (0.72%)	7 (1.35%)	0 (0%)	0 (0%)	7 (3.68%)	22 (1.01%)
Not very proud	54 (4.89%)	40 (7.72%)	12 (4.63%)	4 (3.54%)	26 (13.68%)	136 (6.23%)
Quite proud	255 (23.1%)	206 (39.77%)	55 (21.24%)	26 (23.01%)	56 (29.47%)	598 (27.38%)
Very proud	752 (68.12%)	262 (50.58%)	192 (74.13%)	83 (73.45%)	46 (24.21%)	1335 (61.13%)
Total Respondents	1104 (100%)	518 (100%)	259 (100%)	113 (100%)	190 (100%)	2184 (100%)

**Source:** (World Values Survey Association, 2018).

*Note:* Percentages in parentheses indicate the percentage of those who chose the options "Not Turkish", "Not at all proud", "Not very proud", "Quite proud", and "Very proud" as an indicator of nationalism among those who voted for that party. For instance, 206 out of 518 respondents who voted for the Republican People's Party chose the option "Quite proud" for their citizenship identity, constituting 39.77% of those who voted for the same political party.

To make numerical interpretation easier, odds ratios or marginal effects can be used instead of log odds.<sup>23</sup> The right-hand side of the odds ratio equation is multiplicative, meaning any change in the regressors affects the odds ratio multiplicatively. The odds ratio increases when the coefficient  $e^{\beta_j x_{ij}}$  is greater than 1, decreases when the coefficient is lower than 1, and remains the same when the coefficient is equal to 1. We have already expressed intuition by interpreting log odds coefficients. But the magnitude of the effects of changes in variables are shown by odds ratios in Table 3.5.

Education, marital status, and gender were found to be statistically insignificant among the demographic characteristics. Our model shows that for each increase in age, there is a 0.936-fold decrease in the odds ratio of pro-environmental attitudes. However, it is important to note that the coefficient of the square of age is greater than 1, which may suggest that odds ratios will become positive in later years of life. The inflection point for change in the behavior is calculated as age 33 for the base model (1) in Table 3.2 above. Additionally, the odds ratio of pro-environmental views increases by a factor of 1.09 with each category increase in the income scale. Similarly, as the size of the town increases,

<sup>23</sup> Log odds, odds ratios, and marginal effects all measure the same topic in different ways and can be interpreted similarly. In this case, we have used log odds to interpret the sign of the relationship and odds ratios to interpret the magnitude of the relationship. Marginal effects are not reported here to avoid repetition, but the calculated marginal effects are available upon request.

**Table 3.5.** Odds Ratios-Environment vs. Economic Growth-Turkey

Variables	(1) <i>environment</i>	(2) <i>environment</i>	(3) <i>environment</i>	(4) <i>environment</i>	(5) <i>environment</i>	(8) <i>environment</i>	(6) <i>environment</i>	(7) <i>environment</i>
<i>age</i>	0.936*** (0.008)	0.938** (0.012)	0.936*** (0.009)	0.946** (0.039)	0.937*** (0.010)	0.934** (0.011)	0.935*** (0.008)	0.919*** (0.001)
<i>age</i> <sup>2</sup>	1.001*** (0.005)	1.001*** (0.007)	1.001*** (0.006)	1.001** (0.020)	1.001*** (0.006)	1.001*** (0.008)	1.001*** (0.005)	1.001*** (0.001)
<i>incscale</i>	1.090*** (0.001)	1.077*** (0.007)	1.097*** (0.001)	1.145*** (0.000)	1.086*** (0.002)	1.104*** (0.000)	1.090*** (0.001)	1.100*** (0.001)
<i>educrec</i>	1.060 (0.342)	1.059 (0.352)	1.048 (0.455)	1.074 (0.263)	1.068 (0.289)	1.019 (0.772)	1.068 (0.288)	1.033 (0.619)
<i>married</i>	1.060 (0.594)	1.039 (0.731)	1.045 (0.690)	0.997 (0.978)	1.037 (0.739)	1.071 (0.549)	1.077 (0.503)	1.211* (0.097)
<i>male</i>	1.057 (0.525)	1.049 (0.579)	1.071 (0.430)	1.071 (0.442)	1.055 (0.536)	1.060 (0.518)	1.067 (0.455)	1.082 (0.390)
<i>townsize</i>	1.067** (0.016)	1.062** (0.028)	1.057** (0.041)	1.067** (0.020)	1.067** (0.017)	1.093*** (0.002)	1.067** (0.017)	1.049* (0.090)
<i>lifesat</i>		1.051** (0.035)						
<i>postmat4</i>			1.220*** (0.006)					
<i>incomeeq</i>				0.927*** (0.000)				
<i>businessown</i>				1.150*** (0.000)				
<i>governmentresp</i>				0.949*** (0.008)				
<i>godinlife</i>					1.046** (0.024)			
<i>impdemocracy</i>						1.105*** (0.000)		
<i>democraticgov</i>						0.936*** (0.001)		
<i>confenv</i>						1.259*** (0.000)		
<i>nationalism</i>							1.139*** (0.004)	
<i>polscale</i>								0.903*** (0.000)
Constant	1.610 (0.359)	1.240 (0.688)	1.161 (0.780)	0.817 (0.734)	1.127 (0.827)	0.554 (0.327)	0.893 (0.842)	4.568*** (0.007)
Observations	2,255	2,252	2,236	2,168	2,252	2,131	2,235	2,043
Ps. R-squared	0.0107	0.0122	0.0133	0.0375	0.0124	0.0297	0.0140	0.0217

p-values in parentheses  
 \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

**Source:** (World Values Survey Association, 2018).

odds ratios favoring pro-environmental views increase by a factor of 1.067. All inferences made for demographic characteristics based on the base model are held in models 2 through 7, despite differences in statistical magnitudes.

As life satisfaction increases, the odds of being at the pro-environment end in the trade-off between environmental protection and economic growth increases by 1.051 times. The same is true for postmaterialist values, with a 1-unit increase resulting in 1.22 times higher odds of having pro-environment views.

Individuals who support income inequality are less likely to hold pro-environment views (odds ratio decreased by 0.927). On the other hand, those who favor government involvement in business are more likely to hold pro-environment views (odds ratio increased by 1.15). Additionally, those who prioritize individual effort over state subsidies are less likely to prioritize pro-environment views over pro-economy views (odds ratio lowered by 0.949).

Each increase in the category on the scale of the role of God in life results in a 1.046-fold increase in the odds ratio. Similarly, each increase in the category of nationalism toward “very proud” results in a 1.139-fold increase in the odds ratio of prioritizing the environment over economic growth. Conversely, each shift toward the right wing on the political scale leads to a 0.903-fold decrease in the same odds ratio.

As individuals prioritize living under a democratic government, their odds ratio of prioritizing the environment over the economy increases by 1.105 times. Additionally, greater trust in civil society and environmental organizations leads to a 1.259-fold increase in the odds ratio of pro-environmental views. However, there is a negative correlation between having pro-environmental views and believing that the country has a democratic government in practice. Arguing that democracy exists decreases the odds ratio of having pro-environmental views by 0.936 times.

### **3.6. Extension: Whole Sample by Country Classification**

Our extended sample consists of 64 countries surveyed by the WVS between 2017 and 2022. The countries have been classified based on their income level, freedom scores, democracy index, economic freedom index, religion adherences, HDI, and GHG emissions using various data sources. We conducted the same analysis for the other 63 countries as we did for Turkey above. We did not find any clear patterns in the demographic characteristics of any of the country classifications.<sup>24</sup> However, education is generally positively associated with the prioritization of the environment, with some exceptions. The statistically significant positive coefficients are concentrated in high-income countries. This is the case for upper-middle

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<sup>24</sup> Refer to Appendix-5 for the complete set of results from the base model for the extended sample of 64 countries, including Turkey.

income and lower-middle income countries. However, the coefficients are not statistically significant for all or most of the countries in these two groups.

A similar pattern is observed for the degree of freedom. Education is generally positively related to pro-environmental views, with some exceptions such as Brazil, Chile, Cyprus, and Czechia, which have no statistically significant coefficient for education. Positive relationships exist in partly-free and not free countries, but they are not in the majority. The same is true for democracy. In countries with full democracy, except for Chile, education is positively related to pro-environmental views. As the level of democracy shifts toward authoritarianism, the number of statistically significant education coefficients decreases. Similarly, economic freedom and the HDI exhibit the same pattern. When countries are classified based on their GHG emission levels, the positive correlation with education still holds. However, we cannot draw any conclusions about a pattern by low, medium, or high GHG emission levels. In our sample, only China and Uruguay are high emitters. Education is positively associated with pro-environmental views in these countries, although the number of countries is not sufficient to establish a pattern.

When we classify by religion adherence, we do not observe a pattern in any demographic characteristic, including education. However, there is still a positive association between education and prioritizing the environment over economic growth. But it does not show any clustering around a particular religion.

### **3.7. Conclusion**

Although individuals who prefer environmental protection to economic growth may have more pro-environmental views, people who attach more importance to welfare may at some point make pro-environmental choices. There is a need for a catalyzer to promote their environmental awareness. A study that uses the question on environment vs. economic growth as a selection criterion to classify countries concludes that people from countries that prefers environmental protection over economic growth are more likely to be in pro-environmental behavior. On the other hand, the linkage between environmental awareness and pro-environmental behavioral intention is more effectively established in countries that attach more importance to economic growth. (Yang et al., 2021). Therefore, it is very important to improve environmental awareness in order to foster pro-environmental views in countries where economic growth is a priority over the environment. The study uses data from 39 countries, representing 70% of the world population. Awareness of local or global environmental

problems leads to an increased desire for active financial participation in the fight against pollution. It even leads people to support government action to reduce pollution through higher taxes. Social class and income level are positively related to pro-environmental behavior. This micro-level relationship holds at the macro level as well, suggesting that environmental concern moves in tandem with country's income (Franzen & Vogl, 2013).

When people are exposed to something negative, they are more likely to express their discomfort and unease. Kim and Lee (2018) find that people's knowledge about environmental pollution does not influence their attitude toward environmental problems. Instead, it is the extent to which they are exposed to the consequences of environmental problems that matters. They show that people do not care about the harmful effects of foreign direct investment (FDI) projects carried out in remote areas in Kenya unless the project is close to the neighborhood (Kim & Lee, 2018). The key issue for people is therefore the directness of the harmful effects and how close they are to home. While it is important for people to consider whether a project is environmentally harmful or pro-environmental, the impact on their daily lives may be much more important. People can even change their voting behavior and punish the local government when a project directly affects their quality of life, even if it is pro-environmental (Stokes, 2015).

Therefore, it is important for people to understand the negative consequences of an environmental problem, even if it does not affect them directly. Environmental education is the most effective means of promoting global environmental awareness, in addition to mainstream education. This approach enables individuals to take prompt and active roles in environmental issues, even if they are not exposed to a direct impact.

While raising knowledge, awareness, and concern about environmental issues through environmental education is the first step in protecting the environment, establishing a legal basis is the next step. In order to maintain their position, administrators must take into account the wishes of citizens. Therefore, they cannot ignore people's attitudes toward the environment. Actually, it is the public opinion that shapes legislative grounds. Pro-environmental policies, including renewable energy, between 1974 and 2015 in Europe are mainly the result of pro-environmental public opinion that has affected the whole of Europe (Anderson et al., 2017). Hence, if there is a concern about environmental problems and if protecting the environment is a necessity for people, the way to transform these ideas into public policies at the state level is to educate and raise awareness among the masses and establish a functioning legal framework. The mechanism is reciprocal. Education raises public awareness and creates environmental

concern, and public awareness puts pressure on government to form pro-environment public policies including education of people to create environmental concern in return.

Education plays a crucial role in shaping environmental awareness and concern, especially in high-income countries, countries where freedom is embraced, democracy is better practiced, and human development is high. However, the Turkish sample suggests that the existing education system may not systematically cultivate environmental awareness, as there was no statistically significant relationship between education and pro-environmental views. Tuncer et al.'s (2005) study of 1497 lower secondary and upper secondary level students in Ankara demonstrates that young people have environmental awareness. However, students enrolled in private schools exhibit significantly higher environmental awareness than their peers attending public schools. The limited scope of environmental education in Turkey is understandable, given the predominance of state investment in educational institutions. In September 2023, out of the total 75,019 formal education institutions in Turkey, 14,281 are private schools, which account for only 19% of the total. Meanwhile, 60,734 public schools make up 80.1% of the total formal education institutions (Republic of Türkiye Ministry of National Education, 2023). We have not found a statistically significant relationship between education and environmental prioritization in Turkey. This might be due to the limited scope of environmental education in public schools. In other words, education cannot be expected to improve environmental awareness and concern unless it influences environmental behavior.

Economic conditions are important factors in shaping people's opinions about environmental protection. Rather than macroeconomic indicators such as high or low growth rates or GDP levels, people are more concerned about wage fluctuations, job insecurity and unemployment. Indeed, when unemployment rises, people tend to be less concerned about protecting the environment and give it a lower priority (Kenny, 2020). That is, not all economic problems, but economic problems that directly affect their daily lives, are of primary concern to people. Therefore, problems with long-term consequences, such as climate change and global warming, lose priority for people when they are confronted with economic issues that have an immediate impact on their routines. As the economic and financial burden of the crisis continues to mount, people prioritize their economic wellbeing over the environment. A decline in concern about climate change and its adverse effects in the Western world between 2008 and 2011 (Ratter et al., 2012), following the Great Recession of 2008, is a case in point. That is the reason why demographic characteristics, individual values, and societal values are the subject of this research. Although the question used for dependent variable includes economic growth as a

macro-level, a personal touch is still there, that is condition of job scarcity. The positive coefficients for income, life satisfaction, postmaterialism, trust in civil society, and the value attributed to democratic governance is an indicator of how individuals prioritize their higher needs after ensuring their basic needs, economic and physical security as Inglehart (1971) suggests. The positive relationship between town size, which can be seen as an indicator of urbanization and modernization, and environmental prioritization is another indication of this. Furthermore, prioritizing the environment over the economy and taking measures to avoid environmental pollution have become a necessity rather than a luxury. This is especially important in the current context of accelerating global warming.

Empirical evidence suggests that the role of God in one's life is positively correlated with pro-environmental views. This finding reflects the unique characteristics of Turkey, including the effects of the stewardship understanding of Islam and the belief in the afterlife. Additionally, prioritizing economic growth over the environment is directly related to holding the view that the country is governed democratically and being on the right side of the political spectrum. However, in Turkey, nationalism is uniquely positively correlated with pro-environmental views. The concept of nationalism defined on the basis of citizenship identity serves as a unifying factor for both left-wing and right-wing political parties. Additionally, statist preferences in business and industry are positively associated with pro-environmental views.

In Turkey, as well as in other parts of the world, it is important to implement concise and clear environmental goals that are targeted and easily understandable. This will enable a larger number of people to adopt these goals. While long-term goals are necessary, short-term goals are also important. Feedback can be used to refine and adjust these goals. To achieve these goals, civil society should be encouraged to participate in policymaking. Additionally, the private sector, particularly the manufacturing sector, needs to be involved. The prioritization of the economy in Turkey, especially by those with individualistic and more capitalist views, may be based on the belief that the interests of the private sector and the individual may be in conflict with environmental protection. However, it is essential that employers unite in the view that a sustainable development approach is possible not only through environmental degradation but also through environmental improvement.

It is necessary to involve civil society in the execution of such solutions. However, for these policies to resonate with the masses and for environmental awareness to develop in Turkey, effective environmental education in public schools should be the priority. Education

is crucial because today's young cohorts will be the ones to transform society soon. It is essential to ensure job security and address material needs while prioritizing the environment over economic growth by focusing on higher, postmaterialist needs.

Effective environmental policies can be achieved through a democratic environment that supports public policies with education, that has a coherent legal structure entrenched with civil society and environmental organizations, and that builds strong and credible institutions. Private enterprises and civil society should have equal participation and influence with those from the public sector, ensuring a balanced approach to environmental policies.

## **4. POLITICAL ECONOMY OF RELIGIOUS VALUES AND MODERNIZATION**

### **4.1. Introduction**

The relationship between religion and modernization is not unidirectional. Due to the dynamic nature of both sides, the nature of the relationship may vary depending on the time, concept, and location of the study. Modernization, its institutions, and the impact of economic progress on religion constitute one aspect of this relationship. The association between religion and the institutions and economic growth created by modernization is another dimension to consider. In other words, in one design, a country's institutional structure and economic conditions can be taken as independent variables, and religious values, individual religiosity, and participation in religious rituals can be analyzed as dependent variables. On the other hand, another research design, just like Weber's (Weber, 1905/2012), examines the impact of religious perceptions, religious values, and religious practices on daily life, production, and social structure on economic conditions and the country's institutional structure.

This research analyzes the association between economic development and religious beliefs, as well as the relationship between institutional quality and religion. Our goal here is to partially replicate the work of McCleary and Barro (2006) by examining the issue of religiosity from the supply and demand side. Beyond that, however, we also aim to identify the relationship dynamics between religiosity and different modernization indicators, such as globalization and institutional quality from an institutional economics perspective.

Historically, religion has played a defining role in world politics, identities, and even economic structures, especially prior to the emergence of nation-states. The relationship between political economy and religion has thus become an important field of research. In his foundational work “The Protestant Ethic and the Spirit of Capitalism”, Weber (1905/2012) focuses on the spirit of capitalism which is a main source of work ethic of Protestantism and the focus on the success. He argues that the spirit was born in the 16<sup>th</sup> and 17<sup>th</sup> century ascetic Puritan churches and sects. Material success was the main focus of these religious groups. At the heart of this ethical understanding is the idea that it is the duty of the individual to increase personal wealth, that labor becomes a goal, and that the urge is to make money. But the core of this ethical understanding is to make more and more money, abstracted from all the pleasures it brings. In other words, instead of being a means to satisfy basic needs for survival, possession becomes the main purpose of life (Weber, 1905/2012, pp. 16-26). And modern capitalism, for

him, compounds economic activity with a form of economic ethic. An ethic that provides a basis for profit-seeking characteristics of capitalism with a combination of economic organization and labor. The spread of Protestant ethics in the seventeenth century and its penetration beyond churches and denominations into society in the eighteenth century led to the gradual loss of the religious characteristic in this ethic (Weber, 1905/2012). But capitalism, especially in Europe, remained as a legacy of this ethical and religious expansion. So, values, religious beliefs, and cultural factors facilitated the growth of capitalism through individual choices. They have a significant impact on economic and social development in addition to mere economic and materialistic factors. But economic expansion lost its religious component in return. In fact, there are studies showing that economic development itself has a destructive effect on religiosity (McCleary & Barro, 2006). Although modernization originated in the West and has Christian roots, its effects have spread globally through the nation-state and the market, which are free of theological influence and shaped by historical and contextual factors (Gauthier, 2020). Capitalism, which has become highly financialized and consumption-oriented, appears to have lost its foundational spirit and is spreading globally in this manner.

In attempting to analyze this multifaceted and reciprocal set of relationships, it would be useful to outline the basic framework, the existing condition in the world, and acknowledge previous contributions. So, the second part of the study is reserved for the secularization experiences in various parts of the world. The third part includes the theoretical debate on secularization, previous literature on religion, modernization, economic development, and institutional factors. The fourth part discusses the data and the methodology. Fifth part focuses on the empirical findings. While the sixth part focuses on different dimensions of modernization, the seventh part concludes the study.

#### **4.2. Different Experiences of Secularization in the World**

Social sciences differ from natural sciences in that the outcomes of actions cannot be measured with complete accuracy through a chain of reactions. It is not a field where Newton's immutable laws can be applied, where when a force is applied to an object, all other effects can be taken into account and the reaction and outcome can be determined with almost certainty. It is important to note that a nudge given to one society may not have the same effect in another society with different dynamics. American experience is not the same with that of Western Europe. Society in North America is secularized within the churches beginning from the 18<sup>th</sup> century. Because of the transformation of the religious groups, sects and eventually religion has been secularized. However, in Europe, society is secularized because the primary importance

of church was lost. Even Western Europe differs from Eastern Europe. And even Eastern Europe is not homogenous within itself. In other words, although how secularization is achieved, through which paths and processes, varies from society to society and from religion to religion, the final destination of secularization as a result of modernization does not change. To better understand the evolution of the theory, it is worthwhile to identify the situation in various parts of the world before going into the details of the theoretical background.

The world is in a transformation since the beginning of history. “All the world has changed, but not all change is modernization” (Bruce, 2011, p. 180). Thus, it is hard to identify if any decline in religiosity is due to modernization. Collier (2007) states that almost 80% of the poor world’s population is in a developing process. The remaining one billion have not even benefited from the Industrial Revolution of the 18<sup>th</sup> century. Furthermore, these developing countries did not experience any considerable progress in the 1980s or 1990s, and in fact, their economic situation worsened in the 2000s compared to the 1970s (Collier, 2007). All countries, whether at the core or periphery of the capitalist world economy, have experienced industrial expansion due to globalization of industrialization since the 17<sup>th</sup> century. Modernization affects core and periphery countries similarly within the new international division of labor framework, albeit to varying degrees and with time lags.

Every society, every culture, and every religious doctrine has its own pace of secularization paradigm. Demerath (2007) classifies secularization scenarios by whether they are internal or external and directed or non-directed. There are secularization experiences that can be defined as *emergent* which are internal and non-directed. This type of secularization has taken place in the Western World as a slow and natural process for centuries. And there exists some that can be called *coercive*. This type of secularization was experienced in Turkey at the beginning of the 20<sup>th</sup> century. It is still internal but imposed by a powerful authority effectively. USSR and Chinese experiences do lie in this category as well. Secularization in Turkey was influenced by the Enlightenment, positivism, and Durkheim's thought. On the other hand, the ideology of Marxism, which can also be considered Western in origin and includes secularism, has been influential in Russia and China.

There are two external types of secularization processes according to Demerath as well. One is *imperialist* and the other is *diffused* secularization. The United States’s deliberate intervention of directed secularization in Japan after the World War II falls into the imperialist secularization category. This category can also include the actions of the Mongols in the 16<sup>th</sup> century and the impact of the British Empire on India. Both Japanese and Indian societies

underwent forced modernization in education and culture, as well as the imposition of authority over law. In diffused secularization experiences, the process is not directed but rather originates externally and diffuses. These are the unintended results of cultural interaction. Traditional beliefs and rituals can be modified or eliminated by hegemonic cultures. During World War II, indigenous people in New Guinea were introduced to the outside world when they saw American navy ships. This led to the emergence of the concept of the cargo cult, in which people believed that the products and blessings of the modern world would come to them in the form of cargo and attributed sanctity to it. Therefore, there was a period of sacralization before secularization (Demerath III, 2007, pp. 71-77). As Atatürk took the Western Enlightenment, particularly French Positivism, as a role model, the Turkish example can be partly considered as an example of diffused secularization.

Finke and Stark (2005) contradict with the secularization thesis that economic development reduces religiosity. In their study, they argue that from the last quarter of the 18<sup>th</sup> century to the beginning of the 21<sup>st</sup> century, religious participation did not decline, contrary to popular belief, but rather increased. This increase in religiosity does not manifest itself as a homogeneous gain in power across all religious groups and denominations. As a result of competition in the religion market, some sects have lost popularity while others have gained more adherents. The failure of traditional mainline denominations can be explained by their unsuccessful adaptation to the consequences of religious freedom and the rise of a religious economy based on free market principles (Finke & Stark, 2005, p. 55). Therefore, the method of repression through the creation of a religious cartel backfired. The strictness of the existing, powerful mainline denominations in the religion market toward the upstarts and the desire to regulate the religious market against newcomers caused these mainlines to lose power and upstarts to strengthen. The growth of Baptists, and particularly the significant expansion of Methodists between 1776 and 1850 in North America, serves as a prime example of this phenomenon. Finke and Stark (2005) also challenge the idea that the rise of religious participation in America has been accompanied by a decline in religious belief. The situation is quite the opposite - religious groups with a growing number of followers and a growing strength are turning back to the traditional doctrines and beliefs about the afterlife. Religious structures can only survive if they offer spiritual purification and motivate the required sacrifice.

Finke and Stark (2005) sees the Churching of America as a historical process starting from the 18<sup>th</sup> century. Mainline denominations have been replaced by newly emerged, less worldly, more otherworldly groups. As religious practices become secularized, people turn to

other religious understandings to satisfy their sacred needs. Kelley (1986) summarizes this process for America as the failure of mainstream religious institutions to provide mainstream religious circles with a concept of religion that could be a safe haven. In the second half of the 20th century, as the Methodist, Congregationalist, Episcopalian, or Presbyterian Churches adapted to the culture of secularization, people turned to other faith-centered narratives to satisfy their sacred needs. Kelley argues that religious groups that are "unreasonable" and "unsociable" are stronger than others because the rigidity of the organization makes it stronger (Kelley, 1986, p. 26). However, when this strictness eventually liberalized, the organization loses power. Over the last two hundred years, the growth of religion in North America was partly due to demanding religion groups and partly due to the distinctive boundaries of the sects (Iannaccone, 1994; Iannaccone et al., 1995; Stark & Finke, 2000).

Bruce asserts that there are two major variables in the religion history of the West: economic development and democratization. Involvement in religious institutions and decrease in churchgoing became faster in the post-World War II period. In Ireland, for instance church involvement declined from 80% in the early 1980s to 40% in 2000s. Or the percentage of the ones having no denomination increased from 14% in 1930 to over 40% in the 2000s in Holland (Bruce, 2011). The trend in Britain starts in the second half of the 19<sup>th</sup> century. Attending church and Sunday school fell from 45% in 1851 to less than 10% in 1990s (Brown, 2003). Although 80% of the Swedish population is member of the Church of Sweden, over the twentieth century, church attendance and prayer declined. Having life satisfaction, well-being, and happiness above the average of Europe, so the rise in the material welfare might be the driving force of the decline in demand for religion in Sweden. The costs of religious commitment are greater than the benefits for most of the Swedish people, so the secularization is high (Pettersson, 1994). Even the artificial secularization created by communism in Eastern Europe has not been replaced by an extraordinary religious revival after the collapse of communism. Church attendance in Russia is very low compared to the rest of Europe (Pollack, 2008). Church attendance once a month was 6% in 1991, while it only increased by 5% till 2005. Belorussia, Bulgaria, Ukraine, Serbia, Romania, they have all experienced similar trends of religiosity with Russia as Australia, Canada, New Zealand have experienced secularization trend similar to the rest of Western Europe (Bruce, 2011, pp. 12-15). The reliability of the 1991 statistic is also questionable due to the communist regime's tendency to exaggerate its achievements. Rather, the artificial secular environment created by repression gave way to a liberal religious market.

Voas (2011, p. 43) defines secularization as “a one-way street”. And, once the demand for religion decreases, it cannot be revived to its previous state.

The situation outside Western societies is more complicated. Madsen (2011) argues that the construction of new temples or the rebuilding of existing ones in the Chinese countryside is not due to a religious revival, but rather a search for a communal space to perform rituals. The fact that this is also the case for Catholics in China, many of whom are very skeptical about religious teachings, shows that this orientation is a cultural rather than a religious phenomenon. Individual religious beliefs cannot take precedence over cultural traditions and practices. In Japan, theological culture is a mix of Shintoism, Buddhism and Confucianism. And “praxis, aesthetics, and feelings are the core of religion” (Davis, 1992). Secularization in Japan is not related to the decline of religious beliefs but the change of religious customs. It is a transformation rather than a decline. Nevertheless, Davis (1992) acknowledges that religion as a set of institutions and beliefs plays a much less decisive role in Japanese society and politics than in the United States. Especially religion is less popular among the educated, middle-class Japanese people.

Indonesia is a prime field of study for the modernization of Muslim societies due to its status as the country with the largest Muslim population in the world. In Indonesia, under the post-World War II regimes of General Sukarno and later the U.S.-backed Suharto regime, members of all religions, Muslims, Buddhists, Hindus, Christians, and those of traditional religions, were oppressed and regulated (Bruce, 2011, p. 185; Madsen, 2011, p. 262). Although after the collapse of dictatorship in 1998, religious conflict increased, religious elements within the country were in contact and interacted with their global counterparts. Even though religion still plays a role in ethnic conflicts, Bruce (2011) argues that Islamic institutions have become more formalized, and standardization of doctrines and rituals has begun. Supernatural beliefs gave way to a more rational and knowledgeable active Islamic faith.

In the Western context, modernization and industrialization occurred over the course of centuries, as did the accompanying secularization. The transformation of these concepts into society, economy, politics, institutions, and even into the state structure was a slow and cautious process, often marked by pain, such as during the French Revolution. Especially in the newly established countries in the former Ottoman lands of the Middle East, these processes often developed suddenly and from the top-down. One common characteristic is that the economic benefits of the newly established regimes are not equally shared among all citizens. As a result, the new regimes are unable to meet the expectations of the people, and they become more

authoritarian than their predecessors, whom they pledged to replace. This has led to continuous government replacements and political instability. Centuries of modernization have led to the transformation of Christianity, with people moving toward new sects and denominations. This has led mainline churches to evolve, even though it has been difficult. Catholicism's doctrine is not exactly the same as it was in the 15<sup>th</sup> century due to people choosing among many Gods. Religious pluralism is a source of toleration and a cause of secularism. However, in many Muslim societies in the Middle East, there is no need for such tolerance as the majority of the population adheres to Islam. Secularization is therefore emerging as a popular choice that can be blamed as the source of social unrest, economic and political distress. Countries such as Iran, Iraq, Syria, Lebanon, Egypt, and Pakistan share similar experiences. Society has become divided into Islamist and non-Islamist on many issues, leading to opinions being expressed within these frameworks. The situation of women in Libya, Yemen, Tunisia, and Egypt, for example, has always been discussed in this context (Tadros, 2015). It is the case even in the Turkish Republic which is one of the countries that has successfully implemented secularism after the fall of the Ottoman Empire. Even after 100 years, secularization is a concept that is blamed for societal issues by those who were oppressed and did not benefit equally from the new regime.

In Latin America, individualistic Pentecostalism has largely replaced communal Catholicism. This shift is evident in countries such as Guatemala, Brazil, Chile, Uruguay, and the rest of the region. Similar to the rise of Methodism in 18<sup>th</sup> century Britain during a period of rapid industrialization and urbanization, Pentecostal Protestantism is gaining popularity in Latin America (Martin, 1990). With the transformation of agrarian society into an industrialized and urbanized one, the individual has gained importance over the hacienda-like communal life. As a result, religious needs have also been transformed into individualistic versions, as seen in Northern America and Western Europe. However, according to Freston (2015), those who give up Catholicism often choose Protestantism as their new religious belief in Latin America. Another common option for those who leave Catholicism is to self-identify as having no religious affiliation.

Freeman (2015) draws a parallel between Pentecostalism and development in Sub-Saharan Africa, similar to Weber's connection between the Calvinist Ethic and the Spirit of Capitalism. Pentecostalism in Africa has integrated individuals into the capitalist economy by promoting saving and hard work while discouraging wasteful and unproductive consumption. This, in turn, has contributed to the region's development. Even in many of the newly

established churches that follow Pentecostalism, pastors act as trainers to improve the business and management skills of their members (Freeman, 2015, p. 120). In other words, Pentecostalism transcends church boundaries as an essential element in the articulation of Sub-Saharan Africa to the western world and the capitalist world system.

Hence, modernization and economic development have had varying impacts on religion worldwide, as demonstrated in the preceding paragraphs. In North America, these factors have led to an increase in the number of sects and churches and more people joining the church, resulting in further secularization of mainline churches. In Latin America, secularization has led to a shift of Catholic church attenders toward either atheism or Pentecostal Protestantism, which is more individualistic and less demanding. In Europe, secularization has resulted in a complete loss of the church's importance. In Japan, a similar phenomenon has occurred, but since the religion is more of a philosophical mix of different doctrines, the impact of secularization has not been significant. Religion in China has taken on a more social and cultural role. In Muslim societies, the adoption of modernization and secularization, which had been developing for centuries in the West, was abruptly implemented by authoritarian governments in general. This resulted in social conflict and the emergence of more authoritarian and repressive regimes in response. Hence, there is no universal form of secularization in the world.

#### **4.3. Two Different Paths of Secularization**

Modernization itself is a transformation process of a society, from a more traditional, agricultural, and rural one to a more secular, industrial, and urbanized one. The most critical component here is industrialization. It transforms the economy, institutions, technology, culture, society, ethics, and *the structures of everyday life*. It is not a mere transformation of the economy but each and every aspect of life. That is why sometimes modernization and industrialization are used interchangeably. Modernization, for Weber, includes a secularization process. Disenchantment or the “elimination of magic from the world” (*Entzauberung*) is of great importance in the formation and development of western religions (Weber, 1905/2012, p. 60). Religion became secularized by stripping it of its supernatural elements beginning in the 17<sup>th</sup> century. And through Protestantism, this disenchantment spread from Europe to the world through industrialization. That is how rationalization of the world is achieved. Secularization, with the help of industrialization and individualism, has transformed the place of religion in society. It transforms beliefs, the place of religion in individuals' lives, its practice, and the importance of religious institutions in society. Although religion retains its important place in people's lives, its central place in traditional society has been replaced by rationality and science

in modern society. Also, the institutions of traditional society have been replaced by modern-industrialized counterparts. Nation-states, democracy with its own bureaucratic institutions, self-determination, judicial system, and globalization which has gained momentum since the 18<sup>th</sup> century, have become the new topics introduced by modernization.

There are two main theories about the concept of religiosity. One theory, sometimes called the demand-side theory, is the secularization hypothesis. And the second, sometimes called the supply-side theory, is the religion-market model, or rational-choice paradigm (McCleary & Barro, 2006). According to the former, religious beliefs and participation in religious ceremonies decline with modernization and economic development (Wilson, 1966/2016). For the latter model, government involvement in the market influences religiosity. The existence of a state religion or state's regulation of the religion market can be listed as direct government intervention. In addition, religious pluralism, which can be seen as the diversity of religions within a country, is another essential element of the model. Contrary to Wilson's claim, proponents of the second theory argue that the demand for religion remains constant, but changes in the equilibrium result from changes on the supply side (Stark & Finke, 2000; Young, 2016). As a critique of both theories, Gorski (2000) argues that a middle ground is needed for both theories. He asserts that Western society has become more secular, but religiosity has not declined. Rather than a social differentiation between nonreligious and religious, Reformation in Western Europe resulted in a new combination of state, church, and society.

According to Wilson (1966/2016, p. 9), secularization is "the process whereby religious thinking, practice and institutions lose social significance". This compact definition of secularization encompasses the way individuals perceive religion and the diminishing importance of religion in this perception, the decrease in participation in religious ceremonies, and the waning influence of religious authorities supported by society. The process of secularization in Wilson's definition initiates a perpetually active cycle. The decrease in the social impact of religion makes it more difficult for older generations to convert younger generations, which can further diminish the social power of religion. However, an individualized religious doctrine that deviates from its traditional features may require less commitment and therefore result in less reward. As a result, its promises may not be appealing to younger generations. Therefore, a religious doctrine that secularizes to adapt itself may ultimately fail. As a result, modernization leads to the loss of religion's position as a popular choice, thereby losing its power and prestigious position in society. The decline of religion in

the World is a negative externality that is not desired but a natural consequence of the modernization for secularization paradigm. The process of secularization is irreversible, like any social movement. In fact, the process is accelerated by attempts to adapt traditional religious doctrines as it is in the US.

As Wilson, Bruce (2001) argues that religious beliefs are declining due to a lack of demand rather than an insufficient supply of religion. He compares the level of religiosity in Britain in different years, from 1851 through 2000, and concludes that any revision in the supply-side would not reverse the decline. Finke and Stark (2005) focus on North America while Bruce examines Britain as a case. The secularization experience of the two societies differs from each other. In North America, individuals turned to different newly emerging church alternatives and religious participation has increased, whereas in Britain, the church was completely eliminated from people's lives. In America, the plethora of supply and diversity of religious alternatives help people to experience different churches, but the mainline church also keeps revising itself and becomes more secular. In contrast, in England, there has been a decline in demand for religion. The way these changes manifest themselves differs between the two societies. It can be said that these two societies confirm two sides and different aspects of the theory. In both America and Britain, modernization, industrialization, and affluence have led to changes in religiosity.

Two concepts affect competitiveness in the religion market for supply-side researchers: religious pluralism and state regulation. They claim that religious pluralism increases competitiveness in the market by revealing a spectrum of different choices for individuals, which improves religious participation. However, it also erodes the societal power of religion (Finke & Iannaccone, 1993; Finke & Stark, 2005; Iannaccone, 1991; Stark & Bainbridge, 1987). On the other hand, Berger (1967, p. 134) argues that the competition in the religion market can lead to a decline in religious beliefs, resulting in decreased religious participation. Hence, as the concept of religion becomes more associated with free choice, it becomes increasingly difficult for existing religious understandings to maintain their original form. The growing diversity enables individuals and religious institutions to make comparisons and recalibrate themselves.

Another controversial issue is the effect of regulation on religiosity. According to Fox and Tabory (2008), religious pluralism increases the level of competition in the religion market, while state regulation creates a monopoly that limits competition and negatively impacts religious belief and participation. However, the decline in belief is not as significant as the

decrease in participation. This finding supports Stark and Finke's (2000) assertion that state regulation creating a religious monopoly does not lead to a change in belief but rather a decrease in participation. In other words, the demand for religion remains stable or demonstrates slight changes. "External behavior is more affected by the availability of religious alternatives than is internal belief" (Fox & Tabory, 2008, p. 267). Gill (1999) agrees that demand for religion can fluctuate due to socio-economic factors. However, he argues that secularization is primarily a result of state regulation of the religion market, rather than a demand-side phenomenon. State intervention in the religious market increases the cost of religious consumption, leading to a decrease in participation and religious diversity.

The state's involvement in the religious market is not limited to regulation. By declaring an official state religion, the state can indicate its stance in religious debates. But, according to secularization theory, modernization, industrialization, and technological developments all contribute to economic development, which in turn leads to secularization. And secularization reshapes institutional relations that had existed back in medieval Europe, specifically the bond between the state and the church, which results in the loss of the central position, power, and authority of religion in society. This weakens the prestigious position of religion in state administration. Chaves (1994) defines secularization "not as declining religion, but as the declining scope of religious authority" (p. 749). So, religion becomes less visible in state affairs. The existence of an official state religion can be regarded as a sort of state regulation of religious market. And the lack of an official state religion can be considered a defining feature of a secular society. Thus, the presence of a state religion is expected to be inversely related to religious belief and participation.

In economics, equilibrium occurs at a point where supply and demand meet, regardless of whether the market is perfectly competitive or whether any player in the economy has full or partial market power. Thus, it is important to examine both the supply and demand sides of the concept of religiosity and to combine them to fully elaborate the mechanism. McCleary and Barro have been doing this research since the 1990s (Barro & McCleary, 2003a; Barro & McCleary, 2003b; McCleary & Barro, 2006; McCleary & Barro, 2019). For them, religiosity tends to decline with economic development, as measured by per capita GDP. This result is consistent with the secularization hypothesis. However, the effects of subcomponents of development on religiosity are not homogeneous. For example, urbanization has a negative relationship with religiosity, while education has a positive relationship. On the other hand, on the religion-market side, the existence of a state religion increases religiosity because subsidies

are channeled to organized religion. However, state regulation decreases religiosity, which is also consistent with the religion-market model. Religious pluralism increases attendance at formal religious services, while it does not significantly affect religious beliefs (McCleary & Barro, 2006). As it is stated above, in this study we partially attempt to replicate McCleary and Barro's 2006 study. To avoid repetition, we will defer the explanation of the parallels to the following parts. We will elaborate on the variables used in our study in the following section.

#### **4.4. Data and Method**

##### **4.4.1. Data for the Base Model**

Our goal in this study is to examine the relationship between economic development and various dimensions of religiosity. In addition, we mainly examine the relationship between religious pluralism, the position of the state in the religious market, i.e., the active intervention of the state in the market, and religiosity. The relationship between modernization, its institutions, and religiosity in a broader sense is another dimension of this study. Therefore, we use country-level data in our analysis. But we plan to extend this study through the use of individual-level survey data on income and individual perceptions of institutional quality, such as democracy, human rights, the economic system, and government.

We use a compilation of different data sets. Our base model is largely a replication of McCleary and Barro's (2006) study, which basically looks for the relationship between GDP growth and religiosity. We use a similar framework and the time period analyzed overlaps with theirs to a large extent. Their data is for the period between 1981 and 2000. We, on the other hand, use religiosity data from 6 different waves of the WVS (Inglehart, et al., 2022). This study analyzes religiosity data from six waves of the WVS spanning the periods 1989-1993, 1994-1998, 1999-2004, 2005-2009, 2010-2014, 2017-2022 respectively. Waves include 21, 55, 41, 58, 60, and 64 countries respectively. The first wave conducted in 1981-1984 is excluded from the analysis as it includes data from only 11 countries. Like McCleary and Barro did, we take the country averages of the religiosity data. Although their data on religiosity come from a variety of sources in addition to the WVS, such as the ISSP and the Gallup Millennium Survey (GMS), we prefer not to use these additional sources. Instead, we prefer to keep the variables

**Table 4.1.** State Position on Religion, Religious Pluralism, Wave Information, by Countries in the WVS

Country	State Religion 2000	State Regulation 2014	Religious Pluralism 2020	Waves involved	Country	State Religion 2000	State Regulation 2014	Religious Pluralism 2020	Waves involved
1 Albania	0	4	0.506	3, 4	55 Macau SAR	.		0.595	7
2 Algeria	1	26	0.032	4, 6	56 Macedonia	1	18	0.483	3, 4
3 Andorra	1	0	0.170	5, 7	57 Malaysia	1	29	0.631	5, 6, 7
4 Argentina	1	0	0.205	1, 2, 3, 4, 5, 6, 7	58 Maldives	1	33	0.026	7
5 Armenia	1	3	0.101	3, 6, 7	59 Mali	0	4	0.215	5
6 Australia	0	1	0.568	1, 3, 5, 6, 7	60 Mexico	0	20	0.083	1, 2, 3, 4, 5, 6, 7
7 Azerbaijan	1	46	0.075	3, 6	61 Moldova	1	16	0.055	3, 4, 5
8 Bangladesh	1	18	0.202	3, 4, 7	62 Mongolia	0	2	0.600	7
9 Belarus	.	27	0.347	2, 3, 6	63 Montenegro	.	5	0.342	3, 4
10 Bolivia	1	12	0.137	7	64 Morocco	1	20	0.006	4, 5, 6, 7
11 Bosnia and Herzegovina	1	4	0.530	3, 4	65 Myanmar	.	39	0.429	7
12 Brazil	0	3	0.173	2, 3, 5, 6, 7	66 Netherlands	0	3	0.564	5, 6, 7
13 Bulgaria	0	16	0.296	3, 5	67 New Zealand	0	1	0.567	3, 5, 6, 7
14 Burkina Faso	0	1	0.602	5	68 Nicaragua	0	8	0.096	7
15 Canada	0	2	0.530	1, 2, 4, 5, 7	69 Nigeria	0	12	0.571	2, 3, 4, 6, 7
16 Chile	0	1	0.210	2, 3, 4, 5, 6, 7	70 Northern Ireland	0	1	0.147	7
17 China	0	47	0.716	2, 3, 4, 5, 6, 7	71 Norway	1	4	0.245	3, 5
18 Colombia	1	2	0.089	3, 5, 6, 7	72 Pakistan	1	20	0.069	3, 4, 6, 7
19 Croatia	1	3	0.118	3, 5, 6, 3	73 Palestine	.	15	0.328	6
20 Cyprus	0	6	0.447	5, 6, 7	74 Peru	1	5	0.069	3, 4, 5, 6, 7
21 Czechia	1	5	0.464	2, 3, 7	75 Philippines	0	5	0.175	3, 4, 6, 7
22 Dominican Republic	1	0	0.098	3	76 Poland	0	6	0.084	2, 3, 5, 6
23 Ecuador	0	3	0.088	6, 7	77 Puerto Rico	0	.	0.082	3
24 Egypt	1	29	0.180	4, 5, 6, 7	78 Qatar	1	25	0.361	6
25 El Salvador	1	9	0.065	3	79 Romania	0	6	0.029	3, 5, 6, 7
26 Estonia	0	7	0.474	3, 6	80 Russia	0	17	0.308	2, 3, 5, 6, 7

(Continues)

**Table 4.1. (Continued)**

27	Ethiopia	0	14	0.529	5, 7	81	Rwanda	0	13	0.159	5, 6
28	Finland	1	4	0.346	1, 3, 5	82	Saudi Arabia	1	41	0.179	4
29	France	0	11	0.512	5	83	Serbia	0	5	0.194	3, 4, 5, 7
30	Georgia	1	6	0.250	3, 5, 6	84	Singapore	0	19	0.767	4, 6, 7
31	Germany	0	9	0.477	3, 5, 6, 7	85	Slovakia	0	3	0.261	2, 3, 7
32	Ghana	0	9	0.451	5, 6	86	Slovenia	1	3	0.288	3, 5, 6
33	Great Britain	1	10	0.488	3, 5, 7	87	South Africa	0	0	0.322	1, 2, 3, 4, 5, 6
34	Greece	1	11	0.192	7	88	South Korea	0	3	0.774	1, 2, 3, 4, 5, 6, 7
35	Guatemala	1	6	0.052	5, 7	89	Spain	1	2	0.237	2, 3, 4, 5, 6
36	Haiti	1	12	0.110	6	90	Sweden	1	6	0.551	1, 2, 3, 4, 5, 6
37	Hong Kong SAR	.	.	0.721	5, 6, 7	91	Switzerland	0	6	0.393	2, 3, 5
38	Hungary	0	3	0.224	1, 3, 5	92	Taiwan ROC	0	1	0.719	3, 5, 6, 7
39	India	0	16	0.451	2, 3, 4, 5, 6	93	Tajikistan	1	47	0.050	7
40	Indonesia	0	23	0.358	4, 5, 7	94	Tanzania	0	10	0.581	4
41	Iran	1	34	0.029	4, 5, 7	95	Thailand	1	17	0.236	4, 5, 6, 7
42	Iraq	1	4	0.051	4, 5, 6, 7	96	Trinidad and Tobago	0	5	0.533	5, 6
43	Israel	1	13	0.441	4	97	Tunisia	1	32	0.010	6, 7
44	Italy	1	0	0.368	5	98	Turkey	0	38	0.031	2, 3, 4, 5, 6, 7
45	Japan	0	0	0.601	1, 2, 3, 4, 5, 6, 7	99	Uganda	0	5	0.273	4
46	Jordan	1	26	0.090	4, 5, 6, 7	100	Ukraine	1	15	0.265	3, 5, 6, 7
47	Kazakhstan	0	36	0.456	6, 7	101	United States of America	0	1	0.411	1, 2, 3, 4, 5, 6, 7
48	Kenya	0	6	0.329	7	102	Uruguay	0	1	0.470	3, 5, 6, 7
49	Kuwait	1	18	0.299	6	103	Uzbekistan	1	57	0.100	6
50	Kyrgyzstan	1	39	0.233	4, 6, 7	104	Venezuela	1	5	0.140	3, 4, 7
51	Latvia	0	8	0.309	3	105	Vietnam	0	55	0.696	4, 5, 7
52	Lebanon	0	4	0.523	6, 7	106	Yemen	1	24	0.015	6
53	Libya	1	11	0.020	6, 7	107	Zambia	0	8	0.256	5
54	Lithuania	0	5	0.194	3	108	Zimbabwe	0	10	0.307	4, 6, 7

**Source:** World Christian Encyclopedia (Barrett et al., 2001), RAS (Fox, 2017), WVS (Inglehart, et al., 2022)

*Note: Table 4.1 summarizes the full set of countries participating in the WVS according to the state's position in the religion market and religious pluralism. The first wave of the WVS was conducted in only 11 countries between 1981 and 1984. Because we use country averages for religiosity from the survey data and the sample size is too small, the first wave is excluded from our analysis. Christian countries are more represented in the sample. But when denominations are considered, there are much more Muslim countries than Catholic, Orthodox or Protestant countries.<sup>25</sup> State religion variable is binary coded as 0 and 1. State regulation is on a scale between 0 and 87, where 0 means less state regulation and 87 means absolute regulation in the religion market. In the sample, Uzbekistan has the highest level of state regulation of religion with a score of 57, followed by Vietnam with a score of 55. Tajikistan and Saudi Arabia follow them, with index scores of 47 and 41, respectively. Therefore, the index range for our sample used in the study is 0-57. Religious pluralism is on a scale of 0 to 1.*

within a certain standard, with the advantages and disadvantages of sticking to a single source. We still manage to include a maximum of 108 countries in the analysis, compared to McCleary and Barro's 68 countries. The main determinant of the sample size is the religiosity measure. Table 4.1 lists the complete set of countries according to the position of state, and religious pluralism.

In countries where state regulation of religious market is high, there is also a state religion in general. But Vietnam, China, Turkey, and Kazakhstan are the exceptions with no state religion but high levels of state regulation of religion. On the other hand, countries with more regulation tend to have less religious diversity. In Vietnam and China, again exceptionally, religious pluralism is roughly 70%, despite the fact that regulation is 55 and 47 out of 87 in 2020, respectively.

This study utilizes nine different religion variables from the WVS. Importance of Religion measures the importance of religion in one's life. Belief in Hell indicates whether the respondent believes in hell or not. Heaven indicates whether the respondent believes in heaven

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<sup>25</sup> Predominantly Muslim countries in the sample, i.e. countries with more than 70% of the population belonging to a religion, are Turkey, Azerbaijan, Bangladesh, Pakistan, Algeria, Egypt, Indonesia, Iran, Iraq, Jordan, Kyrgyzstan, Morocco, Saudi Arabia, Mali, Kuwait, Libya, Palestine, Qatar, Tunisia, Uzbekistan, Yemen, Maldives, Tajikistan. Predominantly Catholic countries are Argentina, Mexico, Brazil, Poland, Slovakia, Spain, Colombia, Croatia, Dominican Republic, El Salvador, Lithuania, Peru, Philippines, Puerto Rico, Slovenia, Venezuela, Andorra, Italy, Ecuador, Bolivia, Nicaragua, Northern Ireland. Predominantly Orthodox countries in the sample are Russia, Armenia, Bulgaria, Georgia, Moldova, Montenegro, Romania, Serbia, Ukraine, Greece. Finland and Norway are the countries Protestantism is predominantly practiced. Judaism in Israel, Hinduism in India, and Buddhism in Myanmar are the most common religions with the highest number of adherents. In addition to Buddhism and Hinduism, other countries with large numbers of people practicing other Eastern religions are Taiwan ROC, Thailand, and Macau SAR.

or not. Belief in After-Life indicates whether the respondent believes in an after-life or not. Belief in God refers to whether the respondent believes in God or not. Religious Person indicates the respondent's self-assessment of religiosity. Importance of God measures the importance of God in the respondent's life.<sup>26</sup> Weekly Participation indicates whether the respondent participates in religious services at least once a week. Monthly Participation indicates whether the respondent participates in religious services at least once a month. The country averages for the related questions were calculated by averaging the responses of the participants in each country. For how the variables are coded and more detailed information see Appendix-6.

For religious pluralism we utilized the widely used form of Herfindahl index<sup>27</sup>. One minus the Herfindahl index is widely used as a measure of religious pluralism by researchers (Finke & Stark, 1988; Finke & Stark, 1998; Finke et al., 1996; Olson, 1998; Olson, 1999). McCleary and Barro (2006) also utilizes the same index as a pluralism indicator<sup>28</sup>. Herfindahl index  $\sum s_i^2$  shows how the religions are concentrated in the religious market where  $s_i$  is the share or fraction of a specific religion group within a country. Religious pluralism index  $1 - \sum s_i^2$  however shows the level of religious diversity in a country.<sup>29</sup> The data on religious adherents within countries used in our study is from the World Religion Database, which was last updated

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<sup>26</sup> The importance of religion and the importance of God or belief in God or self-assessment of religiosity measure different aspects of religiosity, and they are not necessarily interchangeable. History shows that religion is a concept related to the spirit rather than solely to God. Even in ancient Greece there were both Goddesses and Gods as well as a divinity that Gauthier (2020, p. 289) calls the cosmic order or "an immanent transcendence". In this regard, we note that it is important to distinguish between belief in God and belief in religion when analyzing this issue.

<sup>27</sup> The Herfindahl index, also known as the Herfindahl-Hirschman Index (HHI), is basically a measure of concentration based on the works of Orris C. Herfindahl (1950) and Albert O. Hirschman (Hirschman, 1945). Although it has a wide range of applications, its popularity has increased due to its use as a measure of competition by taking into account market shares of the firms in any market by the Federal Trade Commission and the Department of Justice (U.S. Department of Justice Antitrust Division, 2024). It is the summation of the squares of market shares of the active firms in a market. It approaches zero as the number of firms with relatively equal market shares increases. So, competitiveness in the market increases. Conversely, when a single firm dominates the market with monopoly power, the HHI will converge to 10,000.

<sup>28</sup> To calculate the religious pluralism index, they use 1970 data on religion adherence fractions from Barrett et al. (2001). However, the same source provides adherence data for each country for 1990, 1995, 2000, and even the projections for 2025 as well. It is unclear why McCleary and Barro (2006) limit themselves to using data from 1970.

<sup>29</sup> The Herfindahl index can also be interpreted as a probability measure of the likelihood that two randomly selected individuals are affiliated with the same religion. Therefore, one minus the Herfindahl index can be interpreted as the probability of belonging to different religions and as a measure of religious pluralism. If there were infinitely many religious groups and they were very small in size. Then the Herfindahl index would converge to zero. Therefore, the index of religious pluralism would converge to 1. On the contrary, if there is only one dominant religion that all people within a country belong to, then Herfindahl index would be 1. Thus, the religious pluralism index would be zero, indicating no diversity.

in 2020 (Johnson & Grim, 2022).<sup>30</sup> When calculating the index we only used the major adherence groups. So, denominations or sects are not included as separate adherence groups.<sup>31</sup> The main religious groups considered for calculating the pluralism index are Bahai's, Buddhists, Chinese folk-religionists, Christians, Daoists, Confucianists, Ethnic religionists, Hindus, Jains, Jews, Muslims, New religionists, Shintoists, Sikhs, Spiritists, Zoroastrians, Non-Religious. Only the shares of these specific groups within the country are considered. We used the most recent data available on religious adherence because it reflects not only the situation at the time of data collection but also the cumulative trend leading up to that point. The 20<sup>th</sup> century was a transformative period for religion. In 1910, almost every individual adhered to some form of religious belief (Johnson & Grim, 2013). In 2020 however, the non-religious population accounted for 11.57% of the world's population, including 9.65% agnostics and 1.92% atheists (Johnson & Grim, 2022). This is the result of the secularization paradigm that went hand in hand with modernization throughout the 20<sup>th</sup> century (Barrett et al., 2001). Unlike McCleary and Barro (2006), we do not use the fractions of religious adherents in the country as separate variables. This is because the model already contains the necessary information in the religious pluralism index.<sup>32</sup>

For state-related variables, McCleary and Barro (2006) utilize data from country tables of Barrett et al. (2001, pp. 834-835).<sup>33</sup> Barrett et al. classify state religion or philosophy in 19 different categories.<sup>34</sup> If a state mentions a specific religion in its constitution and applies oppression and prohibition to those that do not practice that religion, it is considered a state

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<sup>30</sup> We accessed the dataset through the Association of Religion Data Archives (ARDA) (The ARDA, 2023), an open-source database that compiles various datasets on religion from different sources.

<sup>31</sup> For instance, analyzing the impact of diversity within a country by categorizing Christians into Catholics, Protestants, Orthodox denominations, unaffiliated and independent Christians, would provide valuable insights. Similarly, examining the impact of the diversity of Sunni and Shia populations in Muslim countries would be informative. Instead of focusing on diversity between religions, exploring intra-religious diversity within a single religion might lead to unexpected empirical results in future studies.

<sup>32</sup> The religious pluralism index already incorporates information on diversity within a country. These fractions of adherences are used to calculate the religious pluralism index, which might result in a severe potential multicollinearity problem in the analysis. However, we also conduct the analyses using the fractions of religious adherences. Inconclusive results can be provided upon request.

<sup>33</sup> McCleary and Barro (2006) use data on state religion only for 1970. Their work covers a period between 1981 and 2000. It makes no sense to use an old data set for state religion when the same data are available for 1990 and even 2000 in the same data source they use. Although state religion is a static rather than a dynamic variable, it could still be subject to small changes. This change is especially evident in the countries of the Eastern Bloc and the former Soviet Union. For instance, Czechia is classified as having an atheist state religion in 1970 and 1990 but is listed as Roman Catholic in 2000 (Barrett et al., 2001, p. 834). However, because McCleary and Barro (2006) use 1970 data, they classify Czechia as having no state religion. A similar situation is valid for Armenia which is classified as Atheistic in 1970 but have Orthodox state religion in 1990 and 2000. Studying social phenomena with outdated data might lead to contradictory empirical findings.

<sup>34</sup> These are Atheistic, Secular, Religious, Adventist, Anglican, Buddhist, Confucian, Hindu, Islamic, Jewish, Lutheran, Methodist, Orthodox, Reformed, Roman Catholic, Shinto, Ethnoreligionist, Christian (unspecified), Religious (unspecified) (Barrett et al., 2001, p. 46).

religion. Additionally, the state can provide preferential treatment to a particular religious group through subsidies, tax system privileges, and education system privileges, even if it does not have an official religion constitutionally. For example, Barrett et al. (2001) classify Italy, Portugal, and Spain as countries with a state religion, specifically Roman Catholicism from 1970 to 2000, the end year of their study. We retrieved the state religion data from the same source as well. But we prefer to use the 2000 data.<sup>35</sup> We coded the variable as 0 if the state religion is listed as atheist or secular, otherwise 1.

McCleary and Barro (2006) use a state regulation variable that considers whether the government appoints or approves the appointment of the religion leader. This variable has been extensively used in literature by many researchers (Chaves & Cann, 1992; Chaves & Gorski, 2001; Iannaccone, 1991) and by Barro and his colleagues (Barro, 2004; Barro & McCleary, 2003a; McCleary & Barro, 2019, p. 22). However, it is important to note that this measure for regulation might not encompass all aspects of regulation.<sup>36</sup> Therefore, we use the state regulation index of the RAS, which provides a more detailed indexation of state regulation beyond the appointment of religious officials (Fox, 2017). The variable “Regulation of and Restrictions on the Majority Religion or All Religions” from RAS is used for state regulation. It considers 29 different types of different restriction categories that a government might impose on the majority religion or all religions within the country.<sup>37</sup>

In addition, we not only excluded the use of religious adherence as separate variables but also chose not to include dummy variables for the presence or absence of Communist governance. The state religion variable and the extended scope of our state regulation variable provide sufficient information about the state's role in the religion market.<sup>38</sup>

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<sup>35</sup> Although there is a more recent dataset for state religion in the Religion and State Project (RAS) (Fox, 2017), covering the period between 1990 and 2014, the RAS variable includes information on whether the state has an official religion only by constitution, law, or any legal document. Thus, it does not account for preferential treatment of a particular religion even though it is not designated as an official religion. Therefore, we deemed it inappropriate to utilize this data.

<sup>36</sup> Additionally, McCleary and Barro's (2006) study only utilizes data from 1970 for state regulation, despite spanning a period between 1981 and 2000. Therefore, further explanation is required for the use of outdated data.

<sup>37</sup> These limitations are categorized into four main areas: “Restrictions on Religion's Political Role”, “Restrictions on Religious Institutions”, “Restrictions on Religious Practices”, and “Other Regulation of Religion”. Each restriction is measured on a 0-3 scale where 0 means no restrictions, and 3 means the activity is taken as illegal. So, index ranges from 0 to 87. See data Appendix-6 and (Fox, 2017) for further information. Wave 1 data from the WVS are not matched with data on state religion or regulation from the RAS. The second wave (1989-1993) is matched to 1990 RAS data. The third wave (1994-1998) is matched to 1994 RAS data. The fourth wave (1999-2004) is matched to 1999 RAS data. The fifth wave (2005-2009) is matched to 2005 RAS data. The sixth wave (2010-2014) is matched to 2010 RAS data. The seventh wave (2017-2022) is matched with 2017 RAS data.

<sup>38</sup> The objective of this work is to explore the relationship between modernization and religiosity, rather than the impact of regime structure on religiosity. Our focus is on economic development, globalization, and other institutional factors that accompany modernization or are brought about by it.

McCleary and Barro (2006) focus on the relationship between economic development and religious beliefs and participation. To measure economic development, they used data for the log of real per capita GDP. Similarly, we also used data for the log of real per capita GDP from the Penn World Table (PWT) (Feenstra et al., 2015).<sup>39</sup>

#### **4.4.2. Data for Different Aspects of Economic Development**

Economic development cannot be measured solely by GDP. It encompasses various dimensions that are closely related to secularization, such as education, urbanization, life expectancy, population aging, and fertility decline. There is no standard for this across societies, nor is there a standard for interpreting the existing phenomenon. For instance, Hume (1779/2007) criticizes the rationality of the existence of God, asserting that religious beliefs are human creations based on psychology and daily needs. According to Hume, any miracle would violate the laws of nature, which are supported by strong evidence. He posits that all religions originated as polytheistic, as an attempt to comprehend natural phenomena and the unknown, and that polytheism eventually gave way to monotheism, with fear being the primary motivation rather than rationality. The origins of enthusiasm and superstition within monotheism can be traced back to religious passion rather than rationality (Hume, 1757). Thus, a secular education system would be expected to lead to a decline in religious belief or participation in religious rituals, as Hume suggests. We would expect a decrease in religious orientation among those educated in a science-based education system that emphasizes the laws of nature and reasoning.

On the other hand, empirical evidence from 1972 to 2006 indicates that education does not have a uniform effect on religiosity in the U.S. (McFarland et al., 2011). While education is in a positive relationship with attending to church and believing Bible as a book of stories among Catholics, black Protestants, and evangelical Protestants, it is in negative association with the prayer frequency and viewing the Bible as a divine text among mainline Protestants. There is no association between education and prayer periodicity among Catholics and mainline Protestants. For Glaeser and Sacerdote (2008), religious attendance declines with education among denominations, but increases with education among individuals in the U.S. Religious

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<sup>39</sup> The variable from PWT utilized is “output-side real GDP at chained purchasing power parities (PPP) (in mil. 2017US\$) per capita” (University of Groningen, 2023). This indicator is useful for comparing the productive capacities of countries over time and assessing their economic development. Instead of using data for a specific year, we match GDP data to the starting year of the WVS wave periods. The first wave (1981-1984) is matched with GDP data for 1981. The second wave (1989-1993) is matched to 1989 GDP data. The third wave (1994-1998) is matched to 1994 GDP data. The fourth wave (1999-2004) is matched to 1999 GDP data. The fifth wave (2005-2009) is matched to 2005 GDP data. The sixth wave (2010-2014) is matched to 2010 GDP data. The seventh wave (2017-2022) is matched to 2017 GDP data.

attendance across individuals is itself increasing social interaction among individuals. Education has a similar effect as well. So, there is a parallel with individual's religious attendance and education. On the other hand, a conflicting secular education system erodes religious beliefs at individual level. In aggregate, the negative impact of education on religious beliefs dominates the increasing social returns of attendance to religious services by education. In other words, individuals benefit more from the social rewards of education when they receive more education and participate more in religious services, which provide opportunities for social interaction. However, it is possible that an education system that emphasizes secularism could weaken religious beliefs at the denominational level, resulting in decreased participation in religious rituals and services overall.

Like religious pluralism offers individuals a range of choices through diversity, urbanization provides individuals with diverse opportunities and activities, including access to various forms of education and alternative activities to religious rituals. Urbanization and increased development raise the opportunity cost of engaging in religious activities by offering alternative options. It is assumed that the opportunities offered by urbanization and development are perfect substitute goods for religious activities. Urban diversity and exposure to different cultures can lead to increased tolerance and a reduction in reflexive reactions commonly found in rural or insular societies. This can result in children feeling freer to choose a religion that differs from that of their parents. Consequently, the religious beliefs and participation in religious rituals of more urbanized generations might decline further over time. In contrast, rural areas may have a greater inclination to embrace supernatural agents due to the higher levels of uncertainty and exposure to nature. Religious beliefs can serve as a communal bond, which may explain the higher level of participation in religious services.

The situation is complex for other aspects of development. Issues such as life expectancy, population aging, and fertility decline are intricately intertwined dimensions of economic development. Azzi and Ehrenberg are pioneering economists who introduced economic modeling into the study of religion. In their study of the household production model of church attendance, they argue that individuals allocate their time and consumption between religious and secular commodities in order to maximize their lifetime and afterlife utility as rational agents (Azzi & Ehrenberg, 1975). According to the model of Azzi and Ehrenberg, religious activity tends to increase with age due to the opportunity cost of investing time and resources in secular goods that can produce interest during one's lifetime, whereas resources directed toward afterlife salvation cannot (Iannaccone, 1998). Over the life cycle, as individuals

age and real wages increase, they might turn to religious activities or denominations that require less time (Azzi & Ehrenberg, 1975). It is worth noting that this behavior might not be solely driven by earnings. And, attending less time-intensive religious activities might not necessarily lower individuals' religiosity as they age. Physical limitations might prevent individuals from attending public meetings and ceremonies more frequently as they age. Hence, there might be a correlation between an aging population and a decrease in attendance at religious services, but this does not necessarily indicate a decline in religious beliefs. The main purpose of religious participation and belief is to increase afterlife welfare, according to the individual's lifetime utility function and budget constraint. Therefore, for the household production model, a disruption in the belief in the afterlife can lead to a decline in religious belief.

Regardless of physical decline, religious attendance and religious belief tend to be at their highest level toward the end of life in this lifetime utility model. So, an increase in life expectancy results in a decline in religiosity in this framework. As life expectancy increases at a certain age, individuals may reduce their religious participation per time in their remaining life. This is because the rewards promised, and the duration of the afterlife do not increase in direct proportion to the increase in life expectancy. Alternatively, individuals might choose to delay their participation in religious activities and the intensity of their religious beliefs that will save their afterlife toward the end of their life.

In both Hinduism and Buddhism, the cycle of life continues through reincarnation, also called metempsychosis or transmigration of soul.<sup>40</sup> Both religions propose a dynamic life cycle in which each life depends on the performance in the previous lives. This encourages religious belief and participation in religious services for the sake of the quality of new life after rebirth although there is not any afterlife belief like Christianity, Islam, and Judaism. In Hinduism and Buddhism, good deeds are not postponed as there is a constant search for enlightenment and salvation. In contrast, in the other three religions, individuals might believe that absolute, true, and real faith has already been attained, and all that remains is to reap the rewards of this faith. One can reach paradise in the afterlife even if he/she commits sins, as redemption and

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<sup>40</sup> Life does not begin with birth, nor does it end with death in Hinduism and Buddhism. Each new life is the result of the mistakes and righteous deeds of the previous existence called karma. If a person has lived righteously in past lives, they may be rewarded with liberation from rebirth cycles and attain heaven. Conversely, if they have not lived righteously, they may be cast down and have to start a new life cycle. However, it is important to note that neither heaven nor starting a new life cycle leads to ultimate happiness. In Hinduism, the goal is to merge one's existence with that of Brahman, the ultimate reality and eternal spirit, through consistent practice of goodness and righteousness with dedicated devotion in each cycle of life (Eliot, 2020). Similarly, the goal of Buddhism is to achieve liberation from the cycles of death and rebirth and attain Nirvana, the ultimate state of no-self.

forgiveness are enough to absolve sins. It is commonly expected that religious orientation will increase later in life, even if there was no religious involvement in earlier years.

For example, Ehrenberg's analysis of a Jewish sample shows that attendance at religious activities follows a U-shaped pattern with age (Ehrenberg, 1977). That is, it starts at a higher rate, then decreases, and then increases with age. The slope of this curve is even steeper for women than for men. An increase in either the fertility rate or the proportion of young people in the total population is expected to correlate with higher levels of religious participation (McCleary & Barro, 2006). The cost of participating in religious ceremonies can be a challenge for the elderly due to health issues. However, younger individuals, particularly children, tend to have lower costs associated with participating in religious activities. Additionally, those with children tend to increase their participation in religious services. Collective activities can have a significant impact on cultural transmission, particularly in educating and shaping younger generations according to the desires of elders. This could lead to greater involvement of parents and elderly relatives in religious ceremonies and gatherings held in houses of worship or in institutional settings.

Focusing on various dimensions of economic development, or human development, and elaborating on them reveals the dynamics of the relationship between different aspects of development and religious beliefs. The components of United Nations Development Programme's (UNDP) HDI include income, life expectancy, and education-related information (UNDP, 2023). We measure development using criteria such as years of education, urbanization, life expectancy, and the percentage of young and old populations, in addition to the income variable of GDP per capita, as McCleary and Barro (2006) did. To this end, average years of total schooling variable is used to measure education level within country. For this variable, we used Barro and Lee's (2021) "Education Attainment for Population Aged 25-64" tables from their educational attainment dataset covering the period between 1950 and 2015, which is an updated version of Barro and Lee (2013). They gather data from sources such as UNESCO, UN Demographic yearbooks, Eurostat, census bureaus or statistics departments of the countries.<sup>41</sup> For life expectancy, urbanization rate, percentage of population aged over 65,

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<sup>41</sup> Instead of using data for a specific year, we match the available education data to the starting year of the WVS wave periods. The first wave (1981-1984) is matched with education data for 1980. The second wave (1989-1993) is matched to 1990 education data. The third wave (1994-1998) is matched to 1995 education data. The fourth wave (1999-2004) is matched to 2000 education data. The fifth wave (2005-2009) is matched to 2005 education data. The sixth wave (2010-2014) is matched to 2010 education data. The seventh wave (2017-2022) is matched to 2015 education data.

and percentage of population aged under 15, we used the World Bank (WB) World Development Indicators (WDI) DataBank (The World Bank, 2023d).<sup>42</sup>

#### 4.4.3. Method

The SUR model was first proposed by Zellner (1962). The system of equations is called “seemingly unrelated” because the equations are related by possible correlations of unobserved disturbances (Greene, 2018). It is a generalized form of linear regression involving more than one equation with its own dependent and independent variables. Each regression equation in the system can be estimated separately. However, because the error terms of the equations are assumed to be correlated, they are estimated simultaneously. For Zellner, the estimators of the SUR method are asymptotically more efficient than the estimators computed in an equation-by-equation setting. The efficiency is large when the error terms of the equations are highly correlated. When the error terms are uncorrelated, the estimates are equivalent to OLS estimates. Another situation in which OLS and SUR estimates are equivalent is when the independent variables are the same across equations.<sup>43</sup>

$$y_{ip} = X_i\beta_i + \varepsilon_{ip}, \quad i = 1, \dots, N; p = 1, \dots, P \quad (4.1)$$

where  $i$  is for the equation number, and  $p$  is for the observation.

$$\begin{pmatrix} y_1 \\ y_2 \\ \vdots \\ y_N \end{pmatrix} = \begin{pmatrix} X_1 & 0 & \cdots & 0 \\ 0 & X_2 & \vdots & 0 \\ \vdots & \vdots & \ddots & \vdots \\ 0 & 0 & \cdots & X_N \end{pmatrix} \begin{pmatrix} \beta_1 \\ \beta_2 \\ \vdots \\ \beta_N \end{pmatrix} + \begin{pmatrix} \varepsilon_1 \\ \varepsilon_2 \\ \vdots \\ \varepsilon_N \end{pmatrix} = X\beta + \varepsilon \quad (4.2)$$

Assumption here is that the  $\varepsilon_{ip}$  are independent between observations within an equation, and there is a potential for correlation between observations cross the equations, so there is cross-section dependence. That is  $E[\varepsilon_{ip}\varepsilon_{ir}|X] = 0$  if  $p \neq r$ , and  $E[\varepsilon_{ip}\varepsilon_{jp}|X] = \sigma_{ij}$ .

Zellner uses Aitken’s (1936) generalized least squares method, which is used in the presence of heteroscedastic variances. We utilize Biørn’s (2004) multistep method which uses generalized least squares and maximum likelihood procedure which produces random effect estimators in unbalanced panel. By using this panel estimation method, we can analyze a

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<sup>42</sup> As with other development indicators, we have matched data from 1981, 1989, 1994, 1999, 2005, 2010, and 2017 for life expectancy, urbanization, percentage of population aged over 65, and percentage of population aged under 15 with the first wave (1981-1984), second wave (1989-1993), third wave (1994-1998), fourth wave (1999-2004), fifth wave (2005-2009), sixth wave (2010-2014), and seventh wave (2017-2022) of the WVS, respectively.

<sup>43</sup> Even for cases where identical regressors have the same numerical values but not the same variable names, SUR estimation can be used because SUR allows cross-equation constraint tests. However, in this case, the use of OLS is sufficient for efficiency as well (Baum, 2006, pp. 237-242).

country's observations from different time periods. On the other hand, observations of the same country in different time periods are interdependent. However, the SUR technique allows for correlation of disturbance terms between equations.

## **4.5. Empirical Findings**

### **4.5.1. Base Model**

Table 4.2 is for the results of the panel regressions in which religiosity variables are included as dependent variables and the main explanatory variable is log of per capita GDP as indicating economic development level. Other independent variables are state religion, state regulation and religious pluralism for our base model. There are nine systems, each with its own measure of religiosity. This enables us to analyze various aspects of religiosity simultaneously. The SUR method is utilized to estimate each system. Countries are not differentiated based on their impact on the world population or economy. They are treated equally, and the country averages for corresponding religiosity variables are taken as the dependent variable. Although the variables used to measure religiosity are based on country averages, they typically consist of binary or categorical information collected at the individual level. This allows for a clear expression of the presence or absence of religiosity by respondents, despite the subjective nature of the job of assessing one's own religiosity through survey questions. For this reason, we believe that the direction of the sign is more explanatory than the exact value of the coefficients. This approach is sufficient to explain the nature of the relationships without regard to statistical magnitude, and we therefore chose to interpret the signs rather than the exact coefficient values in the study.

Our base model in Table 4.2 is a replication of the base model of McCleary and Barro (2006) with the modifications noted above. Their study covers the period between 1981 and 2000, while our base model covers the period between 1989 and 2004. In contrast to the original study, we did not include data on religious adherence because of multicollinearity. Since our study focuses mainly on the period after the dissolution of the Soviet Union, we also did not include a communism dummy. However, as mentioned above, the state religion data used in

**Table 4.2.** Determinants of Religiosity-SUR Estimates (Based on the 2nd-4th Waves of the WVS)

Explanatory Variable	(1) Belief in Hell	(2) Belief in Heaven	(3) Belief in After-Life	(4) Belief in God	(5) Religious Person	(6) Importance of God	(7) Weekly Participation	(8) Monthly Participation	(9) Importance of Religion
Log of per capita GDP	-20.236*** (0.000)	-10.130*** (0.000)	-9.131*** (0.000)	-11.901*** (0.003)	1.138 (0.799)	-21.386*** (0.000)	-12.745*** (0.000)	-10.247*** (0.000)	-7.205*** (0.000)
State religion	-59.196*** (0.000)	-76.782*** (0.000)	-75.705*** (0.000)	-56.615*** (0.000)	-62.979*** (0.000)	-25.018*** (0.000)	-47.451*** (0.000)	-55.551*** (0.000)	-41.913*** (0.000)
State regulation	0.949*** (0.000)	0.742*** (0.000)	0.799*** (0.000)	0.529* (0.089)	0.809** (0.021)	0.517*** (0.000)	-0.259** (0.016)	0.108* (0.060)	-0.145* (0.060)
Religious pluralism	-147.792*** (0.000)	-143.212*** (0.000)	-133.228*** (0.000)	-203.408*** (0.000)	-234.063*** (0.000)	-208.335*** (0.000)	-221.037*** (0.000)	-194.916*** (0.000)	-273.117*** (0.000)
Observations	117	117	117	117	117	117	117	117	117

p-values in parentheses

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

**Source:** PWT (Feenstra et al., 2015), World Christian Encyclopedia (Barrett et al., 2001), RAS (Fox, 2017), WVS (Inglehart, et al., 2022)

this study is more up to date. State regulation is more complex and covers different aspects of regulation. State regulation is also a more recent version. In each system we have data from the second (1989-1993), third (1994-1998) and fourth (1999-2004) waves of the WVS.

Table 4.2 shows that from 1989 to 2004, economic development, as measured by the logarithm of per capita GDP, had a negative correlation with all aspects of religiosity except for self-assessment of religiosity in a sample consisting mostly of Christian and Muslim countries. As economic development increases, not only do religious beliefs about hell, heaven, and after-life erode, but also the importance of God and place of religion in people's lives declines. Participation in religious services decreases. We do not imply the existence of any causal relationship between economic development and religiosity. Rather a co-movement would be a more appropriate conceptualization for the changes in the variables.

Consistent with the religion market model, the presence of a state religion creates a religious monopoly in the market and reduces competition. That is, the presence of an official state religion is also negatively associated with all aspects of religiosity, as is economic development. Although there is a decline in religiosity across all dimensions, the decline in the importance of God or religion is less than the decline in afterlife, hell-heaven beliefs, or attendance at religious services.

On the other hand, contrary to expectations, a nearly complete set of positive relationships is found between state regulation of religion and religiosity, in contrast to state religion. The statistical significance of the negative coefficients on weekly participation and importance of religion is only valid at 5% and 10%, respectively. On the other hand, excessive regulation of the religious market could discourage people from participating in religious activities frequently, leading to a lack of religious fulfillment. Therefore, they might not consider themselves to be religious.

It is possible that the positive association is due to the use of a comprehensive list of criteria for state regulation. In particular, as in China or the post-Soviet countries, not only state regulation but also regulation of social life in general can be found high. It is unlikely that people's religious orientation will increase in these societies, some of which are already living in a dystopian future. However, in societies such as Iran, Egypt, Myanmar, Saudi Arabia, Yemen, where state regulation is high by many criteria, where the state not only appoints or approves the appointment of clergy, but also regulates religion in politics, institutions, education and daily life, people may want to hide themselves among the majority with high religious

orientation. Particularly in societies where one religion is favored over others and is highly regulated, people might respond to questions about religion in surveys by attributing more importance to them than they actually do. Norris and Inglehart (2004, pp. 230-231) argue, based on their WVS study, that in poor countries where religion is the foundation of social life, rulers often control or support religious institutions to maintain their authority and legitimacy. Religious participation and belief in God are most prevalent in societies with relatively homogeneous religious cultures and high levels of state regulation of religion.

Increasing religious pluralism escalates competition in the religion market because people have more choices. We expect it to lead to a decrease in religious belief and a decrease in participation in religious ceremonies. The results in the table confirm these expectations and suggest that religiosity is negatively associated with religious pluralism. The coefficients are large because religious pluralism, as measured by the 1-Herfindahl Index, ranges from 0 to 1 and has a smaller magnitude compared to the other variables, as presented in Table 4.1.

Table 4.3 displays the results of the extension part of the McCleary and Barro (2006) study.<sup>44</sup> The table excludes state-related control variables and religious pluralism, even though they are included in the regression. Instead, it focuses solely on estimates for additional development variables. It is important to note that attributing all the effects of economic development solely to GDP growth may overlook the contributions of education, urbanization, and population age structure. Given the close relationship between urbanization and modernization, and the increasing average age levels in countries with high economic prosperity, we have included five additional variables in addition to the GDP variable. These variables are years of education, mortality (measured by the reciprocal of life expectancy), urbanization rate, population share aged over 65, and population share aged under 15.

Except for the systems where weekly attendance at religious services and self-reported religiosity are the dependent variables, the education coefficients are positive and statistically significant. Therefore, the negative sign of the GDP variable cannot be attributed to education. Our findings support the positive association between religious belief and education reported in McCleary and Barro's (2006) study. Education can have a positive impact on religiosity,

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<sup>44</sup> The reciprocal nature of the relationship between economic development and religious beliefs is a complex and multidimensional issue. Barro and McCleary (2003a), in another study, aim to shed light on this complex relationship between religious beliefs and economic development. They emphasize how religious beliefs affect development indicators such as growth, education, urbanization, age structure and life expectancy, which are fundamental to economic development.

**Table 4.3.** Determinants of Religiosity: Additional Development Indicators-SUR Estimates (Based on the 2nd-4th Waves of the WVS)<sup>45</sup>

Explanatory Variable	(1) Belief in Hell	(2) Belief in Heaven	(3) Belief in After-Life	(4) Belief in God	(5) Religious Person	(6) Importance of God	(7) Weekly Participation	(8) Monthly Participation	(9) Importance of Religion
Log of per capita GDP	-19.486*** (0.000)	-12.054*** (0.000)	-8.603*** (0.000)	-13.167*** (0.005)	-8.421* (0.080)	-27.991*** (0.000)	-9.198*** (0.000)	-5.868*** (0.000)	-2.897** (0.029)
Years of education	0.243*** (0.000)	0.182*** (0.000)	0.186*** (0.000)	0.167** (0.021)	-0.024 (0.745)	0.204*** (0.000)	0.022 (0.447)	0.046*** (0.004)	0.051*** (0.001)
1/(life expectancy)	80.947*** (0.000)	57.845*** (0.001)	40.461*** (0.009)	61.538* (0.085)	157.495*** (0.000)	128.662*** (0.000)	118.211*** (0.000)	166.706*** (0.000)	106.538*** (0.000)
Urbanization rate	-0.358*** (0.000)	-0.128*** (0.002)	-0.123*** (0.000)	-0.193*** (0.007)	-0.198*** (0.008)	-0.134*** (0.000)	-0.134*** (0.000)	-0.052*** (0.008)	-0.131*** (0.000)
Population share > age 65	-0.466*** (0.000)	-0.312*** (0.000)	-0.343*** (0.000)	-0.303*** (0.000)	-0.444*** (0.000)	-0.064** (0.028)	-0.595*** (0.000)	-0.396*** (0.000)	-0.614*** (0.000)
Population share < age 15	0.560*** (0.000)	0.428*** (0.000)	0.436*** (0.000)	0.616*** (0.000)	0.960*** (0.000)	0.741*** (0.000)	0.960*** (0.000)	0.913*** (0.000)	0.821*** (0.000)
Observations	117	117	117	117	117	117	117	117	117

p-values in parentheses

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

**Source:** PWT (Feenstra et al., 2015), World Christian Encyclopedia (Barrett et al., 2001), RAS (Fox, 2017), WVS (Inglehart, et al., 2022), Education Attainment Dataset (Barro & Lee, 2021), World Development Indicators DataBank (The World Bank, 2023d)

<sup>45</sup> Table 4.3 excludes state-related control variables and religious pluralism, but they are included in the regression.

especially in authoritarian regimes or in societies where there is overregulation or where the only option is religious or religiously oriented education. However, it may not encourage participation in religious activities often enough to attend weekly. Individuals may or may not feel religious because they feel forced to or obliged to participate. We have already addressed the conflicting relationship structure mentioned in the previous literature in the data section.

Education stands out as one of the most important issues in the UN SDG. However, it is also the issue where the slowest progress is being made toward the goals. For example, the percentage of children and adolescents who do not achieve minimum proficiency in reading and math is still over 80% in sub-Saharan Africa. But it is less than 15% in Europe and the Northern America in 2021 (United Nations Department of Economic and Social Affairs, 2024). School completion rates are increasing, but at a slow pace. Moreover, the gender gap in education is still an issue, especially as education levels rise in poor regions of the world. Unlike Western societies, most developing countries struggle to establish effective education and welfare systems. Further education may not lead to additional modernization in high-income countries on the other hand. Additionally, education rates in these regions may not have a negative impact on religious beliefs or preferences, as the level of education required to affect these preferences may have already been reached. That may be one of the reasons why education is not negatively correlated with religiosity in modernized societies.

Urbanization rate, as an indicator of modernization, is negatively associated with all aspects of religiosity, including belief in the afterlife, belief in God, and the importance of God or religion in life. There is also a negative association with attendance at religious ceremonies. This suggests that the increasing availability of alternative activities in urban life may contribute to the decline in religious belief.

A higher percentage of children in population, which typically indicates a younger population, is associated with higher levels of religiosity and greater attendance at religious services. Additionally, a higher mortality rate is significantly and positively associated with religiosity and attendance at religious services. Or conversely, a higher life expectancy at birth is negatively associated with religiosity. In contrast to findings in attendance, McCleary and Barro (2006) found no clear relationship with beliefs. The percentage of population aged over 65 is negatively related to beliefs, attendance, and religiousness, as indicated by research of McCleary and Barro (2006). They find it difficult to explain this finding and only provide statistical analyses that contradict their expectations without any justification. But Norris and Inglehart's (2004) study suggests that secularization and human development have a negative

impact on fertility rates. They find that in highly industrialized countries where secularization is most intense, the fertility rate is far below the replacement fertility level.<sup>46</sup> In 2021, the average fertility rate for OECD countries was 1.58 children per woman (OECD, 2024). The rate was slightly lower for high-income countries at 1.55, and it dropped further to 1.52 children per woman in the European Union (The World Bank, 2024). In contrast, in societies where traditional religious tendencies are dominant, the fertility rate is two or even three times the replacement level. These societies constitute a significant proportion of the world's population. The average in the low-income countries in 2021 was 4.62 children per woman (The World Bank, 2024). Apart from the micro effects of the age structure of the population within a society, the rejuvenation or aging of societies at the macro level can be interpreted differently. Therefore, it is not surprising that an increase in the proportion of young people in the population is positively associated with religiosity, while an aging population is negatively correlated with religiosity overall.

Bruce (2011) claims that non-survey sources show that the church in Europe is in decline. And the population, especially in Western Europe, is aging. If there were a situation where people became more religious as they got older, then the power of the churches would not be declining. He also asserts that longitudinal studies of people over a lifetime show no evidence of becoming more religious. And the results of survey questions asking whether respondents' attendance at church meetings has changed compared to their routine show no evidence of change (Bruce, 2011, pp. 17-18), at least in societies where Christian adherence is high.

The relationship between economic growth and religiosity, specifically active participation in religious ceremonies, is negative. However, upon closer examination of the complex structure of development, it becomes apparent that the negative relationship is not homogeneous across all factors, such as education, urbanization, and age demographics. But our findings are largely supportive of Barro's findings, albeit with nuances. The driving forces in the secularization process is urbanization an aging population and life expectancy.<sup>47</sup>

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<sup>46</sup> The UN recognizes a fertility rate of 2.1 children per woman as the level that maintains a stable population, assuming no net migration and constant death rates (United Nations Population Division, 2022).

<sup>47</sup> To maintain the basic analysis of McCleary and Barro (2006), we have included additional indicators of development. It is important to note that GDP per capita, educational attainment, life expectancy, urbanization, and age demographics are interrelated. Therefore, we did not replicate this analysis with an expanded dataset in the remainder of the study to avoid potential multicollinearity issues. However, the results we have already obtained are available upon request.

Table 4.4 replicates the main model used in Table 4.2 with a larger dataset. Table 4.2 contains data from 1989 to 2004, while Table 4.4 extends the analysis to 1989 to 2022. The study's findings remain valid even over a longer period. The importance of God and religion, self-assessment of religiosity, and attendance at religious services are negatively correlated with per capita GDP. Additionally, the presence of a state religion or actions in favor of a particular religion is negatively associated with religiosity, while state regulation is positively related to it, as previously observed. The data indicates a positive correlation between state regulation of religion and religiosity, as well as weekly and monthly attendance at religious ceremonies. Furthermore, religious pluralism is negatively associated with all aspects of religiosity and attendance at services.

**Table 4.4.** Determinants of Religiosity-SUR Estimates (Based on the 2nd-7th Waves of the WVS)

Exp. Variable	(1) Religious Person	(2) Importance of God	(3) Weekly Participation	(4) Monthly Participation	(5) Importance of Religion
Log of per capita GDP	-10.969*** (0.000)	-13.088*** (0.000)	-15.337*** (0.000)	-18.465*** (0.000)	-15.525*** (0.000)
State religion	-45.310*** (0.000)	-34.823*** (0.000)	-37.649*** (0.000)	-40.074*** (0.000)	-33.919*** (0.000)
State regulation	0.959*** (0.000)	1.788*** (0.000)	1.570*** (0.000)	2.281*** (0.000)	2.697*** (0.000)
Religious pluralism	-90.035*** (0.000)	-174.300*** (0.000)	-131.309*** (0.000)	-131.328*** (0.000)	-226.126*** (0.000)
Observations	299	299	299	299	299

p-values in parentheses

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

**Source:** PWT (Feenstra et al., 2015), World Christian Encyclopedia (Barrett et al., 2001), RAS (Fox, 2017), WVS (Inglehart, et al., 2022)

**Note:** Table 4.2 presents the analysis results based on a replication of Barro's study, which measured religiosity using seven variables. The number of variables has been expanded to nine in Table 4.2. In addition to replication, data from later waves of the survey are included in our study, as previously mentioned. It is important to note that the 5<sup>th</sup> and 6<sup>th</sup> waves of the WVS do not include questions about belief in heaven, hell, after-life, and belief in God. And questions about heaven and after death are not included in the 6<sup>th</sup> wave either. In order to preserve the data from the 5<sup>th</sup> and 6<sup>th</sup> waves, a choice had to be made to eliminate certain variables. For this reason, in the expanded data set, we analyzed five main variables related to religiosity:

*Religious Person, Importance of God, Weekly Participation, Monthly Participation, and Importance of Religion listed in Table 4.4.*

#### **4.6. Globalization and Institutional Factors as Indicators of Modernization**

Globalization and institutional structure are interrelated concepts that are closely linked to modernization. Modernization is a transformation process that involves moving from a traditional, agrarian society to a more secular, industrial, and urbanized one. Industrialization has been a central factor in the transformation process for centuries and has also played a key role in the worldwide spread of interdependence, known as globalization. Globalization has facilitated the spread of modernization and its institutions further. According to Giddens (1994), traditional society was a social structure that accommodated a wide range of customs and traditions, resulting in a high level of cultural diversity. On the other hand, post-traditional society is characterized by intensified globalization, which makes it impossible for cultural diversity to exist in different centers. That is, traditional and collectivist rules are eroded in the post-traditional social order, which is a creation of late, globalized modernity (Mouzelis, 2012). In this context, religion, being the oldest and having a traditional and collectivist set of rules, might be the concepts most affected by globalization.

Technological advancements, increased communication, and transportation opportunities have made it easier to adopt not only institutions but also the freedom that comes with the modern industrial world. Foreign investment in developing or underdeveloped countries can accelerate economic development, just as trade liberalization can integrate local markets into the global market. Technological advancements and market integration can bring about migration, cultural and institutional transformations, which may lead to the homogenization of cultures into a global one. Hefner (1998) argues that the advance of mass societies, with their sprawling cities, large-scale migrations, and ubiquitous markets and media, makes local communities more susceptible to the influence of other cultures. McLuhan (1964) suggested the concept of a *global village*, to highlight the impact of media and communication technology on the elimination of distance and borders. Globalization unifies not only markets but also lifestyles, customs, and cultures through communication. Technological advancements have enhanced communication and provided unlimited access to information, resulting in greater diversity and freedom of choice. Such freedom also exists in choosing God.

According to Casanova (2007), the protection of the rights of any minority, whether distinguished by a religious or secular definition, and equal universal access should be the central normative principle of any structure that identifies itself as a liberal democratic system.

This principle does not require secularism or related legislation. Any liberal democratic system, as a product of modernization, should uphold these rights as a standard application without any emphasis or focus on secularism. However, it is possible that this principle may inadvertently promote secularism. Most importantly, advancements in human rights, an effective government that implements the law efficiently, an independent judiciary system, the integrity of the legal system, and all types of freedom, including freedom of assembly, association, and speech, contribute to people's freedom of choice. Richardson (2007) argues that as the judicial system becomes more autonomous, religious freedom is enhanced, particularly in societies where cultural values and legal structures support these freedoms. Finke and Martin (2014), identify an independent judiciary system, free elections, and constitutional guarantees of religious freedom, especially for minorities, as key indicators of religious freedom within a country. An independent judiciary is of utmost importance for safeguarding religious freedom. Constitutional guarantees of freedom become meaningless if the judiciary lacks independence or if state officials exert cultural or social pressure against a particular religion. Additionally, if the state perceives religious freedoms as a threat to its own sovereignty and seeks to restrict them, it undermines the very essence of these guarantees. Hence, free and fair elections, constitutional guarantees of freedom, and an independent judiciary are fundamental elements of democracy and are necessary for the preservation of religious freedom.

Democracy and religious freedom are distinct yet interdependent concepts that mutually benefit from and should respect each other. Stepan (2000) defines this mutual respect between religious individuals and democratic institutions as “twin tolerations.” This means that religious individuals and institutions should respect and tolerate the outcomes of democracy, including the sovereignty and law-making of democratic institutions. In turn, democratic institutions should respect the religious freedom of individuals. This structure does not explicitly address the concept of secularization. However, it does allow individuals to openly express their religious rituals and beliefs in public. Increased religious freedom can lead to a more secular society in practice over time, as it encourages religious diversity.

Casanova (2001) states that globalization has enabled world religions to become truly global and de-territorialized. Globalized does not necessarily imply the dissemination of the message. When a religion expands beyond its regional boundaries, it encounters different cultures and social structures, leading to increased competition in the market. It means compromising the teachings of religion that are not aligned with social values. This is particularly evident in Islam and Hinduism. The number of believers may increase, as has been

the case with Christianity in the US (Finke & Stark, 2005). However, it is important to consider the intensity with which these believers embrace religion, their level of religiosity, their religious beliefs, and their participation in religious ceremonies.

#### **4.6.1. Globalization, Governance Quality, Legal System, Freedom, and Human Rights**

Globalization related variables are from KOF Swiss Economic Institute (Gygli et al., 2019). Data are available for the period between 1970 and 2021 for over 200 countries. The overall globalization variable includes three main aspects, namely economic, social, and political globalization. Both the actual *de facto* examples of application and the *de jure* legal structure are equally weighted in the calculation. Financial, interpersonal, informational, social, and cultural globalization variables are utilized in addition to aggregate globalization indicator. KOF makes use of many data sources such as WB, the International Monetary Fund (IMF), UN, Freedom House, International Telecommunications Union, Central Intelligence Agency (CIA) World Factbook. This study utilizes KOF globalization data from 1989, 1994, 1999, 2005, 2010, and 2017, which the religiosity data from the 2<sup>nd</sup> through 7<sup>th</sup> waves of the WVS are matched with these data.

When all aspects of globalization are included, there is a negative association between globalization and religiosity in Table 4.5. Financial globalization, including information on foreign direct and portfolio investment and openness to international investment, is also negatively related to all aspects of religiosity. Social globalization consists of three sub-components of equal weight: interpersonal, informational, and cultural globalization. All three sub-components of social globalization, as well as the composite index, are negatively related to religiosity in a consistent way.

**Table 4.5.** Determinants of Religiosity: Dimensions of Globalization-SUR Estimates (Based on the 2nd-7th Waves of the WVS)<sup>48</sup>

Explanatory Variable	(1) Religious Person	(2) Importance of God	(3) Weekly Participation	(4) Monthly Participation	(5) Importance of Religion
<i>Panel A</i>					
Globalization	-1.476*** (0.000)	-2.100*** (0.000)	-1.620*** (0.000)	-1.614*** (0.000)	-1.492*** (0.000)
Observations	288	288	288	288	288
<i>Panel B</i>					
Financial globalization	-1.562*** (0.000)	-1.362*** (0.000)	-1.146*** (0.000)	-1.161*** (0.000)	-1.027*** (0.000)
Observations	287	287	287	287	287
<i>Panel C</i>					
Social globalization	-2.250*** (0.000)	-2.592*** (0.000)	-2.183*** (0.000)	-2.341*** (0.000)	-2.167*** (0.000)
Observations	291	291	291	291	291
<i>Panel D</i>					
Interpersonal globalization	-2.098*** (0.000)	-2.312*** (0.000)	-2.125*** (0.000)	-2.177*** (0.000)	-2.048*** (0.000)
Observations	291	291	291	291	291
<i>Panel E</i>					
Informational globalization	-1.681*** (0.000)	-1.677*** (0.000)	-1.399*** (0.000)	-1.551*** (0.000)	-1.198*** (0.000)
Observations	291	291	291	291	291
<i>Panel F</i>					
Cultural globalization	-1.875*** (0.000)	-2.619*** (0.000)	-2.317*** (0.000)	-2.328*** (0.000)	-2.235*** (0.000)
Observations	288	288	288	288	288

p-values in parentheses

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

**Source:** World Christian Encyclopedia (Barrett et al., 2001), RAS (Fox, 2017), WVS (Inglehart, et al., 2022), KOF (Gygli et al., 2019)

Voice and Accountability, control of corruption, government effectiveness, regulatory quality and rule of law variables are retrieved from Worldwide Governance Indicators (WGI) database (Kaufmann & Kraay, 2023). Data are available for more than 200 countries for the

<sup>48</sup> Table 4.5 excludes state-related control variables and religious pluralism, but they are included in the regression.

period 1996 to 2022. WGI constructs indices using more than 30 data sources, including data on perceptions of government (Kaufmann et al., 2010). In this study, we use governance quality

**Table 4.6.** Determinants of Religiosity: Dimensions of Governance Quality -SUR Estimates (Based on the 3rd-7th Waves of the WVS)<sup>49</sup>

Explanatory Variable	(1) Religious Person	(2) Importance of God	(3) Weekly Participation	(4) Monthly Participation	(5) Importance of Religion
<i>Panel A</i>					
Voice and accountability	-0.165*** (0.000)	-0.211*** (0.000)	-0.303*** (0.000)	-0.342*** (0.000)	-0.370*** (0.000)
Observations	278	278	278	278	278
<i>Panel B</i>					
Control of corruption	-0.288*** (0.000)	-0.432*** (0.000)	-0.406*** (0.000)	-0.476*** (0.000)	-0.488*** (0.000)
Observations	278	278	278	278	278
<i>Panel C</i>					
Government effectiveness	-0.281*** (0.000)	-0.248*** (0.000)	-0.279*** (0.000)	-0.322*** (0.000)	-0.334*** (0.000)
Observations	278	278	278	278	278
<i>Panel D</i>					
Regulatory quality	-0.297*** (0.000)	-0.362*** (0.000)	-0.313*** (0.000)	-0.358*** (0.000)	-0.362*** (0.000)
Observations	278	278	278	278	278
<i>Panel E</i>					
Rule of law	-0.447*** (0.000)	-0.465*** (0.000)	-0.392*** (0.000)	-0.444*** (0.000)	-0.435*** (0.000)
Observations	278	278	278	278	278

p-values in parentheses

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

**Source:** World Christian Encyclopedia (Barrett et al., 2001), RAS (Fox, 2017), WVS (Inglehart, et al., 2022), WGI (Kaufmann et al., 2010)

data from 1996, 2000, 2005, 2010, and 2017, which we match with religiosity data from the 3rd through 7th waves of the WVS. All five indicators of institutional governance quality are negatively related to all aspects of religiosity in Table 4.6. As quality of governance improves, religiosity declines.

In addition to the institutional variables from WGI, we also used three variables from the Fraser Institute (FI) (Fraser Institute, 2023a): judicial independence, impartial courts, and

<sup>49</sup> Table 4.6 excludes state-related control variables and religious pluralism, but they are included in the regression.

integrity of the legal system. The economic freedom variable is also from FI. FI constructs index measures for economic freedom and its 44 distinct variables under five major areas.<sup>50</sup>

**Table 4.7.** Determinants of Religiosity: Economic Freedom and Legal System -SUR Estimates (Based on the 2nd-7th Waves of the WVS)<sup>51</sup>

Explanatory Variable	(1) Religious Person	(2) Importance of God	(3) Weekly Participation	(4) Monthly Participation	(5) Importance of Religion
<i>Panel A</i>					
Judicial independence	-13.167*** (0.000)	-22.382*** (0.000)	-17.366*** (0.000)	-22.811*** (0.000)	-21.493*** (0.000)
Observations	290	290	290	290	290
<i>Panel B</i>					
Impartial courts	-13.829*** (0.000)	-22.081*** (0.000)	-18.496*** (0.000)	-23.791*** (0.000)	-22.572*** (0.000)
Observations	290	290	290	290	290
<i>Panel C</i>					
Legal integrity	-10.397*** (0.000)	-25.660*** (0.000)	-22.782*** (0.000)	-25.175*** (0.000)	-20.621*** (0.000)
Observations	290	290	290	290	290
<i>Panel D</i>					
Economic freedom	3.767*** (0.000)	-8.778*** (0.000)	-3.001* (0.067)	-2.882*** (0.002)	-18.275*** (0.000)
Observations	267	267	267	267	267

p-values in parentheses

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

**Source:** World Christian Encyclopedia (Barrett et al., 2001), RAS (Fox, 2017), WVS (Inglehart, et al., 2022), FI (Fraser Institute, 2023a)

To establish indices, the Fraser Institute (2023b) utilizes various sources, including the Doing Business Project of WB, the World Economic Forum, the Global Competitiveness Report, IMF, and the International Country Risk Guide. The indices are available for 165 countries on a 0-10 scale for every five-year period between 1970 and 2000, and for every year after 2000. The data lag behind two years, so the most recent available data is from 2021 (Fraser Institute, 2023b). We use data for economic freedom and legal system for the years 1990, 1995, 2000, 2005, 2010, and 2017, which we match with religiosity data from the 2<sup>nd</sup> through 7<sup>th</sup> waves of the WVS.

<sup>50</sup> These are “Size of Government”, “Legal System and Security of Property Rights”, “Sound Money”, “Freedom to Trade Internationally”, and “Regulation”.

<sup>51</sup> Table 4.7 excludes state-related control variables and religious pluralism, but they are included in the regression.

The estimates for the coefficients for judicial independence, impartial courts, and legal integrity are all negative in Table 4.7. It is accurate to state that there is an inverse relationship between religiosity and the effectiveness of the legal system in general.

The association between the composite index of Economic Freedom and religiosity is controversial. Self-assessment of religiosity is positively related to economic freedom. On the other hand, importance of God and religion are in negative association with economic freedom. The relationship between economic freedom and participation in religious services is also in a statistically significant negative association.

The variables on freedom of assembly and association, freedom of speech and press, freedom of religion, and electoral self-determination, and independence of the judiciary are from the CIRIGHTS data project (Mark et al., 2023). They follow the methodology of Cingranelli and Richards's (2010) study of the CIRI Human Rights Data Project, which includes annual indices on various aspects of human rights for more than 200 countries for the period between 1981 and 2011. CIRIGHTS database extends the coverage to the years after 2011 till 2021. They combine information from various data sources such as Country Reports on Human Rights Practices, and Country Reports of the US Department of State, as well as Annual Reports of Amnesty International. We use data for various dimensions of freedom and human rights for the years 1989, 1994, 1999, 2005, 2010, and 2017, which we match with religiosity data from the 2<sup>nd</sup> through 7<sup>th</sup> waves of the WVS.

Freedom of assembly and association is in negative association with religiosity overall except weekly attendance to religious ceremonies. Freedom of speech and press have a negative correlation with all aspects of religiosity as well including participation to religious ceremonies. Freedom of religion and electoral self-determination maintain the negative association with religiosity. However, weekly participation and monthly participation are positively correlated with freedom of religion and electoral self-determination. As the freedom of religion increases, attendance at services increases. This may be due to those who are already attending services. The more they are relieved, the more they participate in the ceremonies they have already been attending. The same is true of electoral self-determination, which can be considered as political freedom. But it does not only include the right to choose the leader or the political system. It also includes information about any kind of restriction on the exercise of this right. One of the restrictions is to limit the exercise of this right by blocking people from participating in politics because of their identity such as ethnicity, belonging to any group, race, gender, and religion.

As the electoral self-determination index increases, individuals may freely express their identity in public by attending religious services more often.

**Table 4.8.** Determinants of Religiosity: Dimensions of Freedom and Human Rights -SUR Estimates (Based on the 2nd-7th Waves of the WVS)<sup>52</sup>

Explanatory Variable	(1) Religious Person	(2) Imp. of God	(3) Weekly Participation	(4) Monthly Participation	(5) Imp. of Religion
<i>Panel A</i>					
Freedom of assembly and association	-28.933*** (0.000)	-45.203*** (0.000)	-1.756 (0.187)	-4.487* (0.051)	-38.353*** (0.000)
Observations	280	280	280	280	280
<i>Panel B</i>					
Freedom of speech and press	-42.190*** (0.000)	-56.768*** (0.000)	-19.739*** (0.000)	-17.917*** (0.000)	-48.779*** (0.000)
Observations	279	279	279	279	279
<i>Panel C</i>					
Freedom of religion	-11.316*** (0.000)	-21.059*** (0.000)	10.844*** (0.000)	10.921*** (0.000)	-12.142*** (0.000)
Observations	280	280	280	280	280
<i>Panel D</i>					
Electoral self-determination	-30.887*** (0.000)	-40.874*** (0.000)	7.200*** (0.000)	4.005* (0.056)	-28.481*** (0.000)
Observations	280	280	280	280	280
<i>Panel E</i>					
Independence of the Judiciary	-9.188*** (0.003)	-36.196*** (0.000)	-9.478** (0.014)	-8.838*** (0.002)	-42.790*** (0.000)
Observations	270	270	270	270	270

p-values in parentheses

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

**Source:** World Christian Encyclopedia (Barrett et al., 2001), RAS (Fox, 2017), WVS (Inglehart, et al., 2022), CIRIGHTS (Mark et al., 2023)

Both the independence of judiciary variable from CIRIGHTS and the judicial independence variable from Fraser Institute are used in this study. Although they measure similar concepts, the use of both variables from different sources adds robustness to the analysis. The independence of judiciary is negatively associated with religiosity, as found in the Fraser Institute variable.

<sup>52</sup> Table 4.8 excludes state-related control variables and religious pluralism, but they are included in the regression.

#### **4.7. Conclusion**

Secularization is a product of the historical process of Western modernization which has become synonymous with industrialization and economic development. The institutional and democratic structures that have arisen from modernization have influenced religious beliefs. Religion has adapted to meet the needs of individuals whose worldly sensitivities have increased with modernization and industrialization, transforming both the daily life of believers and the religion itself. The transformation has accelerated the evolution of religious beliefs, particularly in industrialized societies such as the U.S. and Western Europe. In Latin America, there is a shift from Catholicism to Protestantism as people search for a new religious identity. Another option is atheism. In sub-Saharan Africa, Pentecostalism is viewed as a means of integrating into the capitalist world system and as a factor that promotes entrepreneurship. It is important to note that the role of religion in society and in the lives of individuals is influenced by a complex interplay of various factors, rather than being solely determined by religion itself.

The role of religion in society and in the lives of individuals is influenced by social mechanisms, reflexes, ethnic, cultural, and social identities. For instance, in Eastern Europe, particularly in the post-communist era, church attendance has not decreased but rather increased despite integration into the capitalist world system. However, it is likely that this increase remains limited due to the negative impact of modernization on religious beliefs.

Religion in China has transformed from a theological doctrine into a cultural institution. This is true for Catholic doctrine as well as Eastern religions practiced in China. In Japan, where Shintoism, Buddhism, and Confucianism are widespread, modernization has reduced religious orientation, especially among the educated population.

In the Muslim-majority Middle East, secularization has not undergone a lengthy process of adaptation and filtering and has generally been implemented by authoritarian regimes. Secularization is often viewed as a cause of conflict by groups that do not equally benefit from policies implemented by regimes. However, there is also a significant group that desires secularization and integration with the global world.

Our base model analysis, which is a partly replication of McCleary and Barro (2006), based on the years between 1989 and 2004 shows that religiosity measured by various variables tends to decline with the improvement in economic affluence gauged by per capita GDP. Our results are robust even if the period of the study is chosen to cover the years between 1989 and 2022.

Unlike the findings of McCleary and Barro (2006), but consistent with the religion market model, we find a strong negative association between religiosity and presence of a state religion. Our findings show that not only religious beliefs but also attendance at religious ceremonies is in a negative relationship with state religion. State regulation on the other hand is positively correlated with religiosity unlike the findings of McCleary and Barro (2006). But self-assessment of religion and frequent participation in religious services are negatively correlated with state regulation of religion. We think the negative sign of self-consideration of religiosity is related to the negative sign of weekly attendance at services. On the other hand, the overall positive relationship between state regulation and religiosity might be attributed to the overregulation of the market by state in favor of attendance at religious services. Moreover, regulation and support of religious institutions are a way to establish authority and sovereignty particularly in the relatively poor countries where religion is an important institution in social relations. So excess regulation of the religion market might lead to an increase in the reported religiosity.

Religious pluralism, measured as the diversity of adherence to major religions, is negatively related to overall religiosity. With more options available, individuals might attend religious services less frequently, and God or religion might lose its central position in their lives. Additionally, their religious beliefs might erode. According to the religion market hypothesis, an increase in religious pluralism leads to increased competition in the religion market, which in turn causes a decline in religious beliefs and attendance at religious services. Diversity enables individuals and religious institutions to make comparisons and adjustments to meet the needs and demands of the religion market. Religious doctrines lose their social power gradually as they cannot maintain their original form. This results in a decrease in the benefits of religion compared to the costs and sacrifices it requires, leading to a decline in religiosity.

The study examines various aspects of economic development, including urbanization, education, life expectancy, population share under 15, and population share over 65, as McCleary and Barro did. Between 1989 and 2004, the measures of religiosity showed a negative correlation with urbanization, life expectancy, and aging population, while showing a positive correlation with education and young population.

In addition to economic development, we are also addressing other dimensions of modernization. Globalization, which accelerated with industrialization, is often associated with modernization. Concepts such as democracy, human rights, and the institutional structure that

are the byproducts of the modern nation-state are indicators of modernization as well. So, we prefer to use globalization, governance quality, legal system, freedom, and human rights as measures of modernization, rather than relying solely on economic development.

Although modernization in Western Europe began with religious roots, depending on the Protestant ethic (Weber, 1905/2012), it accelerated with industrialization and became secular by stripping away its religious elements. Industrialization, advances in technology, and the rapid spread of communication have spread further around the world through globalization. It is difficult to predict which causes the other or which develops before the other. As an example of modernization, cities have become the center of secularization, cultural and religious diversity, and communication. Urban areas are places where traditional agrarian societies develop into industrialized modern societies and even post-industrial societies. They are the symbols of modernization and points of contact with the outside world. In this respect, whether the society is economically developed or not, with globalization, societies have become familiar with each other's markets, lifestyles, traditions, cultures, and values, and have become integrated into the globe.

In this respect, it is not surprising that globalization, as measured by the Globalization Index, is negatively related to religiosity. Financial globalization, which evaluates domestic markets by factors such as foreign direct investment, portfolio investment, international debt, and income payments, also measures the extent to which a domestic market is integrated to the world economy. Interpersonal globalization measures how physically open societies are to the outside world by measuring the freedom of international travel, education, transportation, and visit. Informational globalization looks at things like the effectiveness of mass media and internet services, international patents, and high-tech exports as indicators of globalization. Cultural globalization measures issues such as trade in cultural goods, international branding, and cultural transfer. Taking all these into account, globalization and all its sub-components are in a negative relationship with religiosity, belief in God and religion, and attendance at religious services. In other words, while globalization brings about integration into modern and industrialized societies, it is also associated with the secularization of individuals and societies.

The estimates for governance quality indicators show a negative relationship between religiosity and institutional effectiveness of government. The quality of government institutions is reflected in their effectiveness in protecting citizens' freedom of expression, policymaking, implementing rules and legal structures to encourage the private sector, and fighting against

corruption. The decline in the institutional structure of government quality may lead citizens to seek alternatives, such as religion. However, effective governance can mitigate this tendency.

Although economic freedom is positively associated with self-assessment of religiosity, it is negatively associated with all other aspects of religiosity. Improvements in the legal system, including integrity, independence, and impartiality, are crucial for protecting minorities and promoting cultural and religious diversity. These relatively vulnerable groups require the most protection from others before the law. The religious market hypothesis posits that an increase in religious diversity has a negative impact on religiosity.

All types of freedom are negatively associated with religiosity. The CIRIGHTS data show how well the government is doing in maintaining freedom for citizens. Freedom of speech and press, assembly and association, religion, and electoral self-determination measure how effective the government performs as a guarantor of the continuity of freedom. Only freedom of religion and electoral self-determination have a positive correlation with attendance at religious services. They are negatively associated with self-expressed religiosity, beliefs in God, and religion. All other types of freedom are negatively correlated with religiosity overall.

Norris and Inglehart (2004, p. 71) argue that economic development alone is insufficient to ensure societal safety and secularization. In societies with high levels of economic development but also high levels of economic inequality, increased prosperity may not necessarily lead to secularization. However, once a society is lifted out of poverty and freed from external threats to life, it becomes less reliant on the metaphysical world as a savior. Instead, as individuals become more financially and socially secure, the allure of the world around them becomes increasingly prominent in society. This statement can be applied to other areas of modernization, including globalization, freedom, institutional quality, human rights, an efficient legal system, and an independent judiciary. However, there is no evidence to support Norris and Inglehart's claim. This mechanism behind the association between economic development and religiosity remains unclear. For, surveys do not inquire about the reasons behind an individual's increased or decreased religiosity. Even if they did, there is no guarantee that individuals would objectively assess and verbalize their behavior. It is certain that there is a negative correlation between economic prosperity and religiosity. This correlation holds true for other aspects of modernization as well.

As economic prosperity increases, human rights and freedoms are strengthened. Legislation protects citizens equally and works effectively, and the judiciary becomes more independent. Individuals living in these societies become more indifferent to religious belief

systems and more closed to supernatural beliefs that they cannot explain. In other words, as the quality of the institutional structure brought about by modernization increases, religiosity decreases. Individuals might become less willing to participate in religious ceremonies and institutions in this regard.

It is inaccurate to claim that modernization is universally perceived or embraced. Afghanistan, for instance, has not undergone modernization, and some uncontacted tribes in the Amazon have yet to experience it in the Western sense. Like the case of Polanyi's (1944/2001) Trobriand Islanders, people can still live according to socioeconomic structures called kula ring exchange. This trade system is based on the principle of prestige-oriented reciprocity rather than profit, in contrast to free market economy. Modernization, capitalism, and the free market, along with their accompanying institutional structures, affect different parts of the world unequally. In certain regions, these institutions may lead to cultural, social, and economic convergence, while in others they may result in divergence. When modernization threatens the authority of the sovereign, it can lead to internal conflicts. The Arab Spring of the early 2010s and religious or political conflicts in Africa, India, Indonesia and elsewhere demonstrate that efforts to open up or to integrate into the outside world, however limited, lead individuals to seek more freedom. This desire for greater freedom in societies with more authoritarian regimes and more homogeneous religious teachings is not a coincidence. It is an emulation of modernization and an attempt to integrate with the outside world because of the opportunities it brings. But this is considered as a challenge to political power and to the dominance of a particular religious institution, which is often supported by the political authority. During the centuries-long process of modernization in Western Europe, this tension between the church, particularly the lower classes, and the state resulted in secularization. The process of secularization is being experienced in other parts of the world in a new and accelerated way through technology and communication, which is further accelerated by globalization. In other words, modernization and the establishment of new institutions create a desire for convergence with the outside world, rather than divergence, even in societies going through conflicts. Secularization may be perceived as a threat to the state in authoritarian political structures, which could be the main cause of the conflict.

Modernization has introduced new institutions that improve governance quality and the legal system and provide new choices. Globalization has spread these outcomes of modernization. For Berger et al. (1973), there does not even exist a society called modern society because he sees modernization as an institutional evolution that accompanies an

economic growth catalyzed by technological development. While religious doctrines may sometimes fail to adapt to ongoing transformations, individuals often exhibit a reflex of declining religiosity. Bruce (2011) asserts that an increase in affluence may lead to a decline in traditionalism and religiosity. This is a common experience, especially among those with a holistic worldview that encompasses both the present life and the afterlife. As individuals become wealthier, their faith may transform, and religion may lose its significance in their lives.

In summary, modernization promotes self-reflection and enhances individual autonomy and freedom. While individuals may engage in civil society or join a community, their decisions are ultimately based on personal freedom. This individualization is reflected in the religious sphere through increased diversity and freedom of religion. The individual may begin to question the logic of religious institutions and beliefs due to the influence of economic, technological, and scientific advancements brought about by modernization.

In this study, we refrained from attaching any positive or negative connotations to modernization, secularization, or any other concept. We analyzed the situation objectively, considering it as if we were examining a section of tissue, while also taking into account as many external factors and variables as possible. We are not seeking a causal relationship between any of the variables, but rather aiming to shed light on the practical situation. However, literature suggests that the interaction between modernization and religiosity is unidirectional, with modernization leading to a decrease in religiosity (McCleary & Barro, 2006). However, there are studies that look at the relationship the other way around, and the effects of religiosity on institutional quality in particular, such as the rule of law and property rights (Berggren & Bjørnskov, 2013).<sup>53</sup> We have already conducted internal validation of our results by selecting different measures of religiosity as dependent variables and various aspects of modernization as explanatory variables in the analysis. For future research, it would be beneficial to examine causal relationships between variables. As new waves of WVS are conducted, we will have more information about the historical paths societies follow toward modernization. Therefore, data from the new waves would enhance the empirical findings.

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<sup>53</sup> In addition to this literature, there is a growing body of research on the relationship between economic development and institutions, such as the legal system and property rights, and the importance of the contribution of institutional quality to economic growth (Acemoglu et al., 2005; Acemoglu & Johnson, 2005; North D. C., 1981; North D. C., 1990; Rodrik et al., 2004). So, the association between religiosity and economic development as an indicator of modernization can be linked through institutional quality. Within the New Institutional Economics, North focuses on the effect of institutions on long-term economic performance. North (1990) argues that economic development requires technical improvements as well as social, economic, and legal institutions, such as property rights, private and public capital markets, and an impartial judicial system.

The effects of factors that produce different outcomes in different societies can be studied separately as well. Testing the external validity of our findings would be possible by doing so. Levy (1972), for example, sees technology and education as key elements of modernization. Indeed, he argues that this is the only way to close the gap between societies that are ahead in modernization, firstcomers, and those that are behind, the latecomers. To analyze the impact of modernization on religiosity in different groups, countries can be classified according to income and religious adherence. To maintain all variables within the survey framework and obtain rich individual-level information instead of aggregation, self-assessment of household income can serve as a proxy for economic affluence. Additionally, answers to questions regarding government quality and democracy can be used as indicators of institutional quality perception. Given the expansion of the subject as a spectrum, these extensions could serve as research questions for future studies.

## 5. CONCLUSION

Migration, environment-economy balance, and secularization are the factors that significantly impact socio-cultural, economic, and political composition of contemporary societies worldwide. Migration increases diversity in an increasingly interconnected and similar world, creating new identities that intermingle. While this new experience is sometimes welcomed by natives, it can also create social tensions. In both cases, societal attitudes toward immigrants are crucial in formulating policies to manage migration and integrate migrants into society. It is important to consider the individual preferences and social values that underlie these attitudes. This doctoral dissertation explores the perspective toward immigrants in Turkey, where there has been increased interaction and tension between immigrants and the host society due to its location on migration routes. That is why Turkey is an invaluable sample as a case study, given its unique position between modern and traditional societies. Nationalism and religiosity are the driving forces of the negative attitudes toward immigration in Turkey. Residing in urban areas and increasing socio-economic status are however in a negative relationship with anti-immigrant attitudes. But when the immigrants are seen as potential threats in the job market, urban residency or socio-economic level become factors that increase with anti-immigrant views as well. Thus, in the Turkish sample, the attitudes toward immigrants are associated more with values, social status (which depends on socio-economic factors such as employment and income), and the urban environment, rather than with demographic characteristics that are relatively difficult to change. While migration might appear to be a cumulative problem, it can also be an opportunity for Turkey if handled properly. However, while formulating social policy as a necessity for harmonious coexistence, it is important to consider how the citizens of the host country approach this social reality and to take into account the values that are important to them, in addition to the situation of immigrants.

Individuals might face a trade-off between environmental protection and economic growth, and their position on this trade-off might shape or influence national policies. The trade-off between development and sustainability can lead to a future that ensures intergenerational equity. The third chapter analyzes individual preferences and social values in the context of choices between the environment and the economy in Turkey in a post-industrial production frenzy that has reached unprecedented levels. Once individuals' basic needs for physical security and increased satisfaction with life are met, they tend to prioritize the environment over economic growth. This preference for the environment over the economy is directly related to income, postmaterialist values, and the value attributed to civil society and democracy. This

trend is observed globally and is not unique to Turkey. In Turkey, however, Islam's stewardship approach prioritizes environmental protection over the economy, albeit in rhetoric. Conversely, individuals with right-wing political views tend to prioritize the economy. However, nationalism overlaps with an understanding that prioritizes the environment over right-wing political views. So, in Turkey, nationalism, as measured by the pride of citizenship, has an integrative rather than a divisive social value between the right and left of the political spectrum.

There is no statistically significant relationship between education and prioritization of environmental protection in Turkey. However, education plays a significant role in the formation of environmental awareness and concern. This is particularly true in high-income countries with high institutional quality and human development. The same can be said for countries that have not yet developed in these areas. Therefore, it is important to include an effective environmental education in the curriculum starting from the lowest level of education as an essential public policy in Turkey. This approach will help raise environmental awareness and transform civil society into a proactive force rather than a follower.

The centrality of Protestant ethic and of religion in a broader sense, in driving modernization outside the Western world has diminished, with development and production now being the driving forces. However, industrialization and globalization, even indirectly, cause the rest of the world to become more like the West. Individualization transforms religion from a social phenomenon to one that concerns only the individual. In modern societies, religion as a social value and driving force is in decline. In societies that have retained their traditionality, it remains the main element of social conflict. Understanding the interaction between religious beliefs, individual preferences, and other social values is crucial for having a grasp of the transformation of societies. The fourth chapter examines the evolution of religiosity in the modern world, which has been a social value since the beginning of history.

The presence of a state religion or philosophy and religious pluralism are both negatively associated with religiosity, albeit for different reasons. Moreover, modernization, globalization, increased human rights and freedoms, and quality of governance are closely related to secularization and the erosion of religiosity.

Globalization, facilitated by increased communication opportunities, is spreading human rights and the institutional structure of modernization worldwide. Individualization and freedom unite people toward a common goal. As a result, lifestyles, traditions, cultures, and values - the sources of the world's diversity and cultural richness - are becoming more intertwined but are compromising rather than preserving their essence. These conflicts arise

when certain sections of society refuse to compromise on these issues or when regimes perceive them as an attack on their sovereign power, leading to social tensions. The process of secularization, which has been ongoing for centuries in the West along with modernization, has become one of the most essential elements of religion-based conflicts in these societies.

Basically, when the individuals, which modernization prioritizes, are equipped with freedoms, they become free not only in defending their social rights but also in choosing their God more than ever. This coincides with an increase in the diversity of religions available to them, similar to the way in which the supply of a commodity increases while its value decreases due to an increase in quantity. However, this can also lead to religion's becoming insufficient to meet people's spiritual needs and becoming world oriented. The decline in religiosity is further exacerbated by the inability to meet people's non-material needs.

This dissertation examines the complex nature of social values, with a focus on the human element, and explores the interdisciplinary factors that interact with these values. Although it is not possible to fully identify these relationships, this dissertation analyzes the social effects of migration, environment, and religion which can be considered prominent and influential in today's society, and their interactions with social values are examined from a holistic perspective through the individual.

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# **APPENDICES**

## APPENDIX-1: DATA DESCRIPTION FOR CHAPTER II

Variable	Question or Explanation	Answers, Coding & Details	Source
<i>neighimmig</i>	On this list are various groups of people. Could you please mention any that you would not like to have as neighbors?	=1 if the respondents mention "Immigrants/foreign workers", = 0 if it is not mentioned.	WVS
<i>religinlife</i>	For each of the following, indicate how important it is in your life. Would you say it is	=1 if not at all important, =2 if not very important, =3 if rather important, =4 if very important	WVS
<i>nationalism</i>	How proud are you to be [country's nationality]?	=1 if not at all proud, =2 if not very proud, =3 if quite proud, =4 if very proud	WVS
<i>socclass</i>	People sometimes describe themselves as belonging to the working class, the middle class, or the upper or lower class. Would you describe yourself as belonging to the	=1 if lower class, =2 if working class, =3 if lower middle class, =4 if upper middle class, =5 if upper class	WVS
<i>politicalscale</i>	In political matters, people talk of "the left" and "the right." How would you place your views on this scale, generally speaking?	Ranges from 1 to 10, 1 is left, 10 is right.	WVS
<i>male</i>	sex of the respondent	male=1, female=0	WVS
<i>education</i>	What is the highest educational level that you have attained?	=0 if Early childhood education (ISCED 0) / no education, =1 if Primary education (ISCED 1), =2 if Lower secondary education (ISCED 2), =3 if Upper secondary education (ISCED 3), =4 if Bachelor or equivalent (ISCED 6)	WVS
<i>age</i>	age of the respondent	range: 18-95	WVS
<i>married</i>	marital status	=1 if married, =0 if living together as married, divorced, separated, widowed or single.	WVS
<i>urban</i>	Settlement type where interview was conducted	=1 if urban (city, town), =0 if rural (village)	WVS
<i>jobpriority</i>	How would you feel about the following statements? Do you agree or disagree with them? When jobs are scarce, employers should give priority to people of this country over immigrants	=1 if "Agree strongly" and "agree" is the answer, =0 if answer is "neither agree nor disagree", "disagree", and "disagree strongly".	WVS
<i>crime</i>	From your point of view, what have been the effects of immigration on the development of [this country]? For each of the following statements about the effects of immigration, please, tell me whether you agree or disagree with it: Increases the crime rate.	=1 if the answer is "Agree", =0 if the answer is "Hard to say" or "Disagree".	WVS
<i>terrorism</i>	From your point of view, what have been the effects of immigration on the development of [this country]? For each of the following statements about the effects of immigration, please, tell me whether you agree or disagree with it: Increases the risks of terrorism.	=1 if the answer is "Agree", =0 if the answer is "Hard to say" or "Disagree".	WVS
<i>unemployment</i>	From your point of view, what have been the effects of immigration on the development of [this country]? For each of the following statements about the effects of immigration, please, tell me whether you agree or disagree with it: Increases unemployment.	=1 if the answer is "Agree", =0 if the answer is "Hard to say" or "Disagree".	WVS

(Continues)

**Table (Continued)**

Variable	Question or Explanation	Answers, Coding & Details	Source
<i>socconf</i>	From your point of view, what have been the effects of immigration on the development of [this country]? For each of the following statements about the effects of immigration, please, tell me whether you agree or disagree with it: Leads to social conflict.	=1 if the answer is “Agree”, =0 if the answer is “Hard to say” or “Disagree”.	WVS
<i>limitwork</i>	How about people from other countries coming here to work. Which one of the following do you think the government should do?	=1 if “Place strict limits on the number of foreigners who can come here” and “Prohibit people coming here from other countries”, =0 if “Let anyone come who wants to” and “Let people come as long as there are jobs available”	WVS

**Source:** (World Values Survey Association, 2018)

## **APPENDIX-2: LOGISTIC REGRESSION METHOD FOR CHAPTER II AND CHAPTER III**

In social sciences, most of the data regarding individuals' decision on any issue are organized in small number of categories. Especially survey data reflect this situation deeply. For instance, a hypothetical individual might be faced with a yes/no question that asks if he or she is in favor of military service. How important god in individual's life might be categorized from 1 to 10. Political preference, for instance, could be coded from 1 to 5, from extreme left to extreme right. Gender has two choices. Even the age of the respondent could be reduced to an age interval to avoid any extreme value problem. In fact, income could be categorized as income scale and participants could be asked to put themselves into proper category. Thus, the survey data is only a reflection of choices, or a categorized version of the real-life data. Decisions that a person faces in his/her daily life may not have to be chosen from among categorical options. Although the data on the salary received is continuous, this data can be recorded with the questions asked, while being confined to limited answers at certain intervals. This simplification of the attitudes, preferences, and real-life data might cause problems in the analysis.

Although OLS regression estimates give intuitive idea on the relationship between independent variables and a dependent variable in almost any case, those regression estimates might be poor in the presence of a qualitative dependent variable. Aldrich and Nelson (1984) state that there is a potential for serious error in inference. That is, hypothesis tests and confidence intervals are unjustified. In the case of a qualitative dependent variable, OLS regression estimates may not reflect the size of the effect of regressors on dependent variable properly. And regression estimates may be more sensitive to the ranges in which certain observation values are placed. The OLS estimates of coefficients in a linear probability model in which the dependent variable is dichotomous are unbiased (Aldrich & Nelson, 1984; Hanushek & Jackson, 1977, p. 186). But constant variance assumption cannot be achieved because variance of the error term is subject to change with the values of the regressors. Hence, although OLS estimates of the linear probability model coefficients are unbiased, they are not best. Even in large samples, t or F tests, or confidence intervals cannot be valid (Aldrich & Nelson, 1984, p. 14). In a linear probability model, predicted values of the binomial dependent variable actually show the predicted probability of y being equal to 1. And probability can take values only between 0 and 1. But in OLS estimation there is no limit for predictions of dependent variable. So, it is strongly possible for  $\hat{y}$  to have a value out of this 0-1 range.

$$P(Y_i = 1) = P_i = \beta_0 + \beta_1 x_{i1} + \dots + \beta_k x_{ik} = \beta_0 + \sum_{j=1}^k \beta_j x_{ij} \quad (\text{LPM}) \quad (1)$$

$i$  subscript is used for  $i$ th observation where  $j$  denotes the  $j$ th exogenous/independent variable. To get rid of the  $[0,1]$  probability range limitation, there needs to be a transformation in the model. Although the actual, observed probabilities lie in this range, predicted probability may not be in this range. So, to eliminate the discrepancy between observed and predicted probabilities, a proper transformation would be from probabilities to log odds. Because the latter could take values from  $-\infty$  to  $+\infty$ , values in both left-hand side of the equation and right-hand side would be subject to same range. First, a transformation from probabilities to odds is needed:

$$\text{Odds}_i = \frac{P_i}{1-P_i} \quad (2)$$

Odds of an event occurring is still subject to a limit, from 0 to  $+\infty$ . By taking the natural logarithm of the odds, the lower bound of 0 is eliminated as well:

$$\text{LogOdds}_i = \ln\left(\frac{P_i}{1-P_i}\right) \quad (3)$$

By doing so, any change in the log odds with extreme values will cause a small change in the probability of success, while change in the log odds in the middle ranges would result in a big change in the probability. After the transformation linear probability model evolved into logistic regression model:

$$\ln\left(\frac{P_i}{1-P_i}\right) = \ln(\text{Odds}_i) = \beta_0 + \sum_{j=1}^k \beta_j x_{ij} = Z_i \quad (4)$$

$$\exp\left(\ln\left(\frac{P_i}{1-P_i}\right)\right) = \exp(\beta_0 + \sum_{j=1}^k \beta_j x_{ij}) \quad (5)$$

$$\frac{P_i}{1-P_i} = e^{\beta_0} e^{\beta_1 x_{i1}} \dots e^{\beta_k x_{ik}} \quad (6)$$

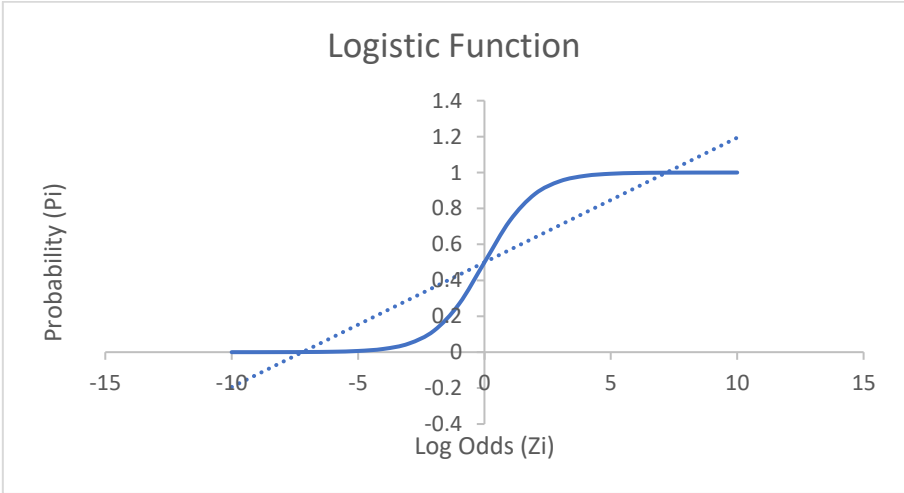
While the log odds are additive, odds are multiplicative. It is critical for the interpretation of the coefficients. Odds, log odds and probability are the same thing, reflecting the same information in the data in different ways (Menard, 2002, p. 57). However, the first two dominate the third in terms of their statistical superiority. But, rather than odds or log odds, probability is more intuitive in terms of interpretation of an estimation. However, while some favor reporting odds rather than probabilities, others are in favor of probabilities over odds conditional on the features of the slope coefficients (Aldrich & Nelson, 1984; Demaris, 1992; Menard, 2002; Pampel, 2000). What matters is the direction of the researcher's assessment. It

is a question of whether the researcher attaches more importance to “simplicity and clarity” on the one hand or “specificity and accuracy “on the other (Liao, 1994, p. 17). Each option may have advantages or shortcomings compared to the other. The characteristics of the variables on the right-hand side of the model can influence the decision. Depending on whether the explanatory variables are dichotomous, partially dichotomous, partially continuous, or fully continuous, this might affect the decision of which method to utilize.

$e^{\beta_j}$  is the partial effect of one of the variables on the odds of the event of interest when the other variables are controlled. Because of nonlinearity, the partial effect of one of the explanatory variables on the probability of the dependent variable is not constant but depends on the point effect is calculated on the s-shaped curve. That is, the probability is linear in independent variables in OLS, but not in logistic regression. Transition between odds, log odds to probability are straightly backwards:

$$\exp(Z_i) = Odds_i, Odds_i = \frac{P_i}{1-P_i} \rightarrow P_i = \frac{Odds_i}{1+Odds_i} = \frac{\exp(Z_i)}{1+\exp(Z_i)} = \frac{1}{1+\exp(-Z_i)} \tag{7}$$

The expression above for  $P_i$  is called logistic function. As it is shown in the graph below, logistic function is an s-shaped curve that is symmetric at point  $Z_i = 0$ . Although log odds can take values from negative infinity to positive infinity, graph visualizes that the extreme values of log odds do not remarkably change the probability of success. So, if  $Z_i$  is a very small number near  $-\infty$  or a very large number near  $+\infty$ , the effect of a change in the independent variable will not be huge on the  $P_i$ .



However, when the  $Z_i$  is around zero, the effect of any change in independent variables on  $P_i$  will be at its peak because the slope of the curve is at maximum. OLS linearizes a non-linear relationship, such as it does when the dependent variable is binary. Thus, there is a risk

of overestimating this relationship, especially at the extremes where the s-shaped curve is at the ceiling or floor. Similarly, there is a risk of underestimation in the middle parts of the curve.

The impact of an exogenous variable on  $P_i$  can only be observed through  $Z_i$ . And the relationship between the latter two is not linear. For each point on the curve of logistic function, the rate of change differs. Moreover, marginal effects are handy tools for observing the impact of those variations in the independent variables on the probability of success, especially at specific values of the independent variables. Nailing all independent variables at certain values, then changing the value of the interested variable at small amounts and observing the impact of this change on the  $P_i$  is the logic behind marginal effects. When the independent variable is a categorical variable, then this impact can be calculated by a simple subtraction. But if the variable is not categorical, then taking derivative of  $P_i$  with respect to  $x_{ij}$  will be the proper way to calculate impact of the change on the probability. In logit case the formula is as follows (Aldrich & Nelson, 1984, p. 43):

$$\frac{dP_i}{dx_{ij}} = \frac{\exp(Z_i)}{1+\exp(Z_i)} * \frac{1}{1+\exp(Z_i)} \beta_j = P_i - (1 - P_i) \beta_j \quad (8)$$

### Assumptions of the Logit Model

i. Although dependent variable can be polytomous, Y is assumed to have two values here, so the dependent variable is dichotomous in the model that is put into use in this study:

$$Y_i \in \{0,1\}, i = 1,2, \dots, N$$

ii. OLS regression assumes that dependent variable and independent variables have a linear relationship, but in the logit model this relationship is not linear:

$$P(Y = 1|X) = \frac{\exp(Z_i)}{1+\exp(Z_i)} = \frac{\exp(\beta_0 + \sum_{j=1}^k \beta_j x_{ij})}{1+\exp(\beta_0 + \sum_{j=1}^k \beta_j x_{ij})} \quad (9)$$

where  $X$  denotes  $K+1$  independent variables including the constant term.

iii. The sample is random and composed of  $N$  observations:  $i = 1,2, \dots, N$ , where the observations are statistically independent. That is, there is no serial correlation. There is no homoscedasticity or a constant variance assumption unlike OLS regression because these are implicit in the odds ratio equation above (Aldrich & Nelson, 1984, p. 49).

iv. There is no linear dependency between exogenous variables  $x_{ij}$ . And implicitly:  $N > K$ . Excluding the constant term, each exogenous variable has a variation between observations.

And there should not be perfect pairwise correlations among  $x_{ij}$ 's. Otherwise, multicollinearity problem arises in cases where the dependency is not even close to exactly linear.

### **Properties of Maximum Likelihood Estimates of Logit Model**

i. Large sample properties, such as unbiasedness, efficiency, and normality, are held in MLE. Even in the samples where  $N - K > 100$ . But properties hold better as the sample size increases.

ii. The likelihood equations are nonlinear in the parameters estimated, so computational method is not algebraic unlike OLS estimation, but iterative.

### **Inference in the MLE**

i. As usual in the OLS, z-test is used for the individual significance of the coefficients, and confidence intervals are constructed similarly.

ii. Goodness of fit measure used in case of joint hypothesis is likelihood ratios (LR):

$$LR = -2(\log \left[ \frac{L_0}{L_1} \right]) \quad (10)$$

where  $L_0$  denotes the maximum value of the likelihood function if there is a restriction on the coefficients in the null hypothesis, and  $L_1$  is for the value of the likelihood function for the unrestricted, full model in the alternative hypothesis. LR follows a chi-square distribution with degrees of freedom equal to the number of constraints in the null hypothesis. A special case would be the  $L_0$  is the maximum value of the likelihood function for the model in which all the coefficients but the constant term are zero.  $L_1$  is the maximum value of the likelihood function of the unrestricted model.

Analogous to the global F test of OLS, LR test is used in logistic regression. This is a test to decide if any of the variables are in a linear relationship with the log odds of the event under study (Demaris, 1992, p. 47). Under  $H_0$ , all the coefficients except constant term are zero. Under  $H_1$ , on the other hand, all the parameters are included in the model. LR, which is a chi-square test statistic has degrees of freedom equal to the number of variables tested, that is, the number of variables except constant term (Hosmer et al., 2013, p. 39). Rejecting the null hypothesis means that at least one of the coefficients is nonzero. High number of significant explanatory variables do not necessarily mean a better fit of the data because as the number of variables rise, interactions may rise beyond the level a researcher can handle. There are two extreme points of the fan. First, the model of interest has to be sufficiently complicated to fit

the data perfectly. Second, the model has to be very simple for interpretation purposes (Agresti, 2012, p. 207).

iii. The likelihood ratio index, better known as R-squared, was introduced by McFadden (1974) for use in discrete choice models (McFadden, 1974). It is widely used as a measure of fit for logit model. It is based on the log likelihood of two different models:

$$Pseudo R^2 = 1 - (\ln L_{ur})/(\ln L_0) \quad (11)$$

where  $L_{ur}$  is for the log likelihood of the unrestricted model interested, and  $L_0$  is the log likelihood of the same model but with only the intercept. Pseudo  $R^2$  is utilized to compare and choose between different models (Aldrich & Nelson, 1984, pp. 57-59; Greene, 2018, p. 561; Wooldridge, 2010, p. 574;)

iv. Akaike information criterion (AIC) and Schwartz criteria are used as alternative goodness of fit measures to LR. These two are similar tests for the statistical significance of independent variables as combinations. Information criteria are not sufficient to assess whether a model is adequate or not in terms of fit, but they are good for inter model comparisons (Menard, 2002, pp. 23-24). AIC or Schwartz's Bayesian Information Criterion can be utilized instead of pseudo  $R^2$  to overcome overfitting or underfitting risks. They are utilized as model selection criteria as well.

$$AIC = -2 \ln L + 2 q \quad (12)$$

$$BIC = -2 \ln L + q \ln n \quad (13)$$

where  $q$  is the number of parameters estimated. They both use number of parameters as a penalty term. BIC has a larger penalty term (Cameron & Trivedi, 2005, p. 278). As the sample size grows, BIC increases. So, lower information criterion means a better model (Greene, 2018, p. 758). To make a comparison between different samples based on information criteria, both AIC and BIC can be divided by the sample size,  $n$ , and these modified statistics can be used to make decisions.

### APPENDIX-3: DATA DESCRIPTION FOR CHAPTER III

Variable	Question or Explanation	Answers, Coding & Details	Source
<i>environment</i>	Q 111: Here are two statements people sometimes make when discussing the environment and economic growth. Which of them comes closer to your own point of view?	=1 if "Protecting the environment should be given priority, even if it causes slower economic growth and some loss of jobs.", =0 if "Economic growth and creating jobs should be the top priority, even if the environment suffers to some extent."	WVS
<i>age</i>	Q 262: Age of the respondent	Range from 18 to 95	WVS
<i>incscale</i>	Q 288: On this card is an income scale on which 1 indicates the lowest income group and 10 the highest income group in your country. We would like to know in what group your household is. Please, specify the appropriate number, counting all wages, salaries, pensions and other incomes that come in	Ranges from 1 to 10, =1 if "Lowest group", =10 if "Highest group."	WVS
<i>educrec</i>	Q 275: (Recreated based on the question:) What is the highest educational level that you have attained?	=1 if lower, =2 if middle, =3 if upper	WVS
<i>married</i>	Q 273: marital status	=1 if married, =0 if living together as married, divorced, separated, widowed or single.	WVS
<i>male</i>	Q 260: sex of the respondent	=1 if male, =0 if female	WVS
<i>townsize</i>	Size of town where interview was conducted	=1 if under 2000, =2 if 2-5000, =3 if 5-10000, =4 if 10-20000, =5 if 20-50000, =6 if 50-100000, =7 if 100-500000, =8 if 500000 and more.	WVS
<i>incomeeq</i>	Q 106: How would you place your views on this scale?	Ranges from 1 to 10, =1 if "Incomes should be made more equal", =10 if "There should be greater incentives for individual effort."	WVS
<i>businessown</i>	Q 107: How would you place your views on this scale?	Ranges from 1 to 10, =1 if "Private ownership of business and industry should be increased", =10 if "Government ownership of business and industry should be increased."	WVS
<i>governmentresp</i>	Q 108: How would you place your views on this scale?	Ranges from 1 to 10, =1 if "Government should take more responsibility to ensure that everyone is provided for", =10 if "People should take more responsibility to provide for themselves."	WVS
<i>lifesat</i>	Q 49: All things considered, how satisfied are you with your life as a whole these days?	Ranges from 1 to 10, =1 if "Completely dissatisfied", =10 if "Completely satisfied."	WVS
<i>godinlife</i>	Q 164: How important is God in your life?	Ranges from 1 to 10, =1 if "Not at all important", =10 if "Very important."	WVS
<i>nationalism</i>	Q 254: How proud are you to be [country's nationality]?	=1 if not Turkish, =2 if not at all proud, =3 if not very proud, =4 if quite proud, =5 if very proud	WVS
<i>polyscale</i>	Q 240: In political matters, people talk of "the left" and "the right." How would you place your views on this scale, generally speaking?	Ranges from 1 to 10, =1 if left, =10 if right.	WVS
<i>impdemocracy</i>	Q 250: How important is it for you to live in a country that is governed democratically?	Ranges from 1 to 10, =1 if "Not at all important", =10 if "Absolutely important."	WVS

(Continues)

**Table (Continued)**

Variable	Question or Explanation	Answers, Coding & Details	Source
<i>democraticgov</i>	Q 251: And how democratically is this country being governed today?	Ranges from 1 to 10, =1 if “Not at all democratic”, =10 if “Completely democratic.”	WVS
<i>confenv</i>	Q 79: I am going to name a number of organizations. For each one, could you tell me how much confidence you have in environmental organizations?	=1 if “None at all”, =2 if “Not very much”, =3 if “Quite a lot”, =4 if “A great deal”	WVS
<i>postmat4</i>	<p>Aims of respondent: first choice: Q 154. If you had to choose which one of the things on this card, would you say is most important? (Code one answer only under “first choice”):</p> <ol style="list-style-type: none"> <li>1.Maintaining order in the nation</li> <li>2.Giving people more say in important government decisions</li> <li>3.Fighting rising prices</li> <li>4.Protecting freedom of speech</li> </ol> <p>Aims of respondent: second choice: Q155. And which would be the next most important? (Code one answer only under “second choice”):</p> <ol style="list-style-type: none"> <li>1.Maintaining order in the nation</li> <li>2.Giving people more say in important government decisions</li> <li>3.Fighting rising prices</li> <li>4.Protecting freedom of speech</li> </ol>	<p>Postmaterialist index 4-item (created from questions from 154 and 155). Among the 4 aims, the ones selecting aims 1 and 3 are coded as materialist. The ones selecting aims 2 and 4 are coded as postmaterialist, and the ones choosing aims 1 or 3 and aims 2 or 4 are coded as mixed.</p> <p>=1 (Materialist) if (Q154=1 and Q155=3) or (Q154=3 and Q155=1),            =2 (Mixed) if (Q154=1 or 3 and Q155=2 or 4) or (Q154=2 or 4 and Q155=1 or 3),            =3 (Postmaterialist) if (Q154=2 and Q155=4) or (Q154=4 and Q155=2).</p>	WVS

**Source:** WVS (Inglehart, et al., 2022)

#### **APPENDIX-4: COUNTRY CLASSIFICATION FOR CHAPTER III**

In addition to the importance of religion in an individual's life, we use religion adherence as a criterion to classify countries. We have listed only the most widely accepted religions, doctrines or sects according to the percentage of the population they represent in that country. However, for the purposes of analysis, we use a threshold of 70% to include the country in the discussion section of the study. If 70% of the population of a country belongs to a particular religion or cultural belief, then the country is considered to be predominantly of that religious understanding. For example, if the 70% threshold was exceeded for a denomination listed under Christianity, the country was considered to have adopted that denomination. If the denominations individually did not exceed the threshold, but met the 70% criterion in aggregate, the country was considered Christian. 2020 adherence data of religion by country are retrieved from World Religion Database (2023) through ARDA (2023). The religious groups exceeding the 70% threshold are Christian, Catholic, Orthodox, Muslim, Sunni, Shia, Buddhist, Mahayanists (Buddhists), Lamaists (Buddhists), Theravadins (Buddhists), Chinese folk-religionists, Non-religious.

We also classified countries according to per capita gross national income (GNI). The data are retrieved from DataBank of WB (2023e). We used GNI per capita because WB also classifies countries by income level using GNI per capita. Low income, lower-middle income, upper-middle income, and high-income economies are defined by WB. WB changes the classification thresholds every fiscal year (The World Bank, 2023f). Therefore, a given income level may not put a country among the same economies the following year. Or the income of the country changes over time, and this changes the income class to which a country belongs. For example, Argentina's income of \$13,140 (The World Bank, 2023e) puts it in the high-income group in 2017, when the questionnaire was administered in Argentina. But in the following years, Argentina belongs to upper-middle income group due to the decrease of its income and the change of thresholds. Therefore, when using WB's categorization, we used WB's data for the year in which the WVS was conducted in the country to ensure a reliable comparison. For this reason, we also took into account the thresholds set by WB for the year in which the data were collected.

Another classification criteria we used is the level of democracy. For this aim, Democracy Index 2022 of Economist Intelligence Unit (EIU) is used (2023). It captures 60 indicators from 5 categories, namely "civil liberties", "political culture", "political participation", "functioning of government", and "electoral process and pluralism". By

averaging the 0-10 ratings from each category, democracy index is formed for each country. Then EIU classifies countries by their democracy index as “authoritarian regime”, “hybrid regime”, “flawed democracy” or “full democracy”. Although there are changes in the democracy index and country rankings, the change is not dramatic, except Russia. Russia dropped 22 places in the ranking from 2021 to 2022, mainly because of the war in Ukraine. But it is still classified as an authoritarian regime.

As with other classification criteria, the democracy index for the year of the WVS survey could have been evaluated separately for each country. WVS data were collected between 2017 and 2022. However, in some of the countries in our sample, the survey was conducted before the COVID-19 pandemic in 2020. In other countries, it was conducted during the period when the pandemic was at its most intense. As a result, restrictions that could fundamentally affect the Democracy Index were more prevalent in these countries. In order to prevent this imbalance in restrictions from causing a classification error, we preferred to use the 2022 Democracy Index as a benchmark, as it is less problematic. While there has not been a full recovery from the pandemic, the lifting of restrictions by governments in many parts of the world has resulted in an improvement in the indicators of the Democracy Index (Economist Intelligence Unit, 2023). So, we do not see any disadvantages of using the 2022 index.

2023 Freedom Scores of Freedom House (2023a) are used as another classification criterion. The Freedom Score shows how well the country's institutional structure functions. There are 10 indicators in the area of political rights and 15 indicators in the area of civil liberties, each of which is awarded up to 4 points. Countries are then ranked on a scale of 0-100 based on their total score. The status of countries is then determined as not free, partly free, or free. As with the Democracy Index, we prefer to use the most recent data to overcome any possible effect of restrictions during the COVID-19 pandemic in 2020. Compared to the democracy index, freedom scores are more inclusive and have a broader institutional scope, as they take into account civil liberties as well as political rights.

As an additional criterion for country classification, we used the Fraser Institute's Economic Freedom of the World (EFW) index (Gwartney et al., 2021). Because the EFW index is published with a two-year lag, the most recent data are from 2021. Economic freedom data for 2023 are also available from various sources, such as the Heritage Foundation (Kim, 2023). However, we prefer to use 2019 data to measure the economic freedom of the countries in our sample rather than the most recent data. International trade freedom, regulation in a broad sense, but especially credit market, labor market, and business regulations, free market entry, and free

competition make up a substantial part of the index. An important part of the impact of the pandemic in 2020 was on international trade and increasing global regulations. While the world rankings according to the EFW index did not change much between 2019 and 2021, we do not want to include the impact of asymmetric restrictions imposed due to the pandemic in different parts of the world.

EFW index incorporates 44 different variables in five major areas namely regulation, freedom to trade internationally, sound money, legal system and security of property rights and size of government which are scored out of ten. Thus, the EFW index is not only a measure of economic freedom, but also of the performance of governments in economic policy and institutional structure, as well as the country's efforts to protect the property rights of its citizens. This is why economies with higher income levels also have higher levels of economic freedom. The average GDP per capita of the economies in the most free quartile to the least free quartile in 2021 was \$50,619, \$25,416, \$13,876, and \$5,911, respectively (Gwartney et al., 2021, p. 18). In our study, we report in which quartile the countries in our sample fall in the Fraser Institute's full sample. While the first quartile represents the most free economies, the level of freedom decreases toward the fourth quartile.

Countries with large populations, or large economy tend to have large GHG emissions (Baumert et al., 2005). However, emissions do not necessarily increase in proportion to the size of the population or economy. For example, the three highest per capita emitters among the WVS 7<sup>th</sup> wave countries are Australia, Canada, and Mongolia in 2022. But they rank 13<sup>th</sup>, 10<sup>th</sup>, and 42<sup>nd</sup>, respectively, in terms of total GHG emissions. Although total GHG emissions as Mt<sup>54</sup> CO<sub>2</sub>eq/yr do not include how densely an economy is polluting, it captures how much a country pollutes and how much it contributes to environmental pollution. For a more comprehensive analysis and to add an environmental dimension to the classification of countries, we prefer countries' share of global GHG emissions as a further classification principle. Doing so allows us to consider not only how much a country pollutes, but also how densely its economy is polluting. Data come from European Commission's Emissions Database for Global Atmospheric Research (EDGAR) (Crippa, et al., 2023). We set three threshold levels. We prefer to classify those with a share between 5% and 10% of total global GHG as high emitters, those with a share between 1% and 5% as medium emitters, and those with a share below 1% as low emitters.

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<sup>54</sup> Megatons (million tons or 1 tera gramme) mass of a given substance which is GHG in this case.

We also use HDI of the UNDP as another country classification criterion. There are three main dimensions that index gauges namely health, education, and standard of living. Life expectancy at birth, average years of schooling for age 25+, expected years of schooling, per capita GNI are the measures that form the index. These are the areas in which SDG target improvement by 2030 globally. To classify countries as very high, high, medium, and low human development, we utilized UNDP's cutoff points of HDI. The development classes correspond to an HDI of 0.800 and above, 0.700-0.799, 0.550-0.699, and less than 0.550, respectively (UNDP, 2022).

**Table: Country Classification**

Countries		Survey Year	GNI per capita (Income level)*	2023 Freedom**	2022 Democracy	2019 Economic Freedom		2020 Religion Adherence		2021 HDI	2022 GHG Emission					
(1)	Andorra	2018	46530	HI	93	F	.	.	Catholic	85.50%	VH	0.858	.	.		
(2)	Argentina	2017	13140	HI	85	F	6.85	FID	5.45	4	Catholic	78.55%	VH	0.842	L	0.71%
(3)	Armenia	2021	4850	UMI	54	PF	5.63	HR	7.69	1	Orthodox	83.59%	H	0.759	L	0.02%
(4)	Australia	2018	53100	HI	95	F	8.71	FD	8.2	1	Christian	57.33%	VH	0.951	M	1.06%
(5)	Bangladesh	2018	2020	LMI	40	PF	5.99	HR	5.89	4	Sunni	88.81%	M	0.661	L	0.52%
(6)	Bolivia	2017	3020	LMI	66	PF	4.51	HR	6.17	3	Catholic	81.38%	M	0.692	L	0.11%
(7)	Brazil	2018	9140	UMI	72	F	6.78	FID	6.73	3	Catholic	70.57%	H	0.754	M	2.44%
(8)	Canada	2020	43540	HI	98	F	8.88	FD	8.09	1	Christian	63.46%	VH	0.936	M	1.41%
(9)	Chile	2018	14600	HI	94	F	8.22	FD	8.05	1	Christian	88.25%	VH	0.855	L	0.25%
(10)	China	2018	9540	UMI	9	NF	1.94	A	6.23	3	Non-Religious	39.91%	H	0.768	H	29.16%
(11)	Colombia	2018	6320	UMI	70	F	6.72	FID	6.77	3	Catholic	86.08%	H	0.752	L	0.40%
(12)	Cyprus	2019	28560	HI	92	F	7.38	FID	7.86	1	Christian	70.51%	VH	0.896	L	0.02%
(13)	Czechia	2022	26590	HI	91	F	7.97	FID	7.98	1	Non-Religious	64.28%	VH	0.889	L	0.23%
(14)	Ecuador	2018	6110	UMI	70	F	5.69	HR	6.56	3	Catholic	84.45%	H	0.74	L	0.14%
(15)	Egypt	2018	2650	LMI	18	NF	2.93	A	5.48	4	Sunni	89.91%	H	0.731	L	0.70%
(16)	Ethiopia	2020	880	LI	21	NF	3.17	A	5.7	4	Christian	59.06%	M	0.498	L	0.36%
(17)	Germany	2018	47490	HI	94	F	8.8	FD	8	1	Christian	67.29%	VH	0.942	M	1.46%
(18)	Great Britain	2022	48890	HI	93	F	8.28	FD	8.2	1	Christian	67.38%	VH	0.929	L	0.79%
(19)	Greece	2017	17960	HI	86	F	7.97	FID	7.09	2	Orthodox	87.98%	VH	0.887	L	0.14%
(20)	Guatemala	2020	4490	UMI	49	PF	4.68	HR	7.71	1	Christian	97.35%	M	0.627	L	0.08%
(21)	Hong Kong SAR	2018	50050	HI	42	PF	5.28	HR	8.95	1	Chinese folk	42.50%	VH	0.952	L	0.07%
(22)	Indonesia	2018	3850	LMI	58	PF	6.71	FID	7.1	2	Sunni	79.12%	H	0.705	M	2.31%
(23)	Iran	2020	3290	LMI	12	NF	1.96	A	4.86	4	Shia	80.71%	H	0.774	M	1.77%
(24)	Iraq	2018	4780	UMI	29	NF	3.13	A	5.46	4	Muslim	97.41%	M	0.686	L	0.68%

(Continues)

**Table (Continued)**

Countries	Survey Year	GNI per capita (Income level)*	2023 Freedom**	2022 Democracy	2019 Economic Freedom	2020 Religion Adherence	2021 HDI	2022 GHG Emission
(25) Japan	2019	42010 HI	96 F	8.33 FD	7.96 1	Mahayanists 55.75%	VH 0.925	M 2.20%
(26) Jordan	2018	4090 UMI	33 NF	3.17 A	7.36 2	Sunni 92.90%	H 0.72	L 0.06%
(27) Kazakhstan	2018	8070 UMI	23 NF	3.08 A	7.35 2	Muslim 68.84%	VH 0.811	L 0.62%
(28) Kenya	2021	2080 LMI	52 PF	5.05 HR	6.71 3	Christian 81.00%	M 0.575	L 0.22%
(29) Kyrgyzstan	2020	1180 LMI	27 NF	3.62 A	7.06 2	Sunni 86.61%	M 0.692	L 0.04%
(30) Lebanon	2018	8760 UMI	43 PF	3.64 A	6.44 3	Muslim 59.82%	H 0.706	L 0.06%
(31) Libya	2022	8700 UMI	10 NF	2.06 A	4.07 4	Sunni 94.21%	H 0.718	L 0.19%
(32) Macau SAR	2020	44690 HI	. PF	. .	. .	Chinese folk 58.70%	. .	L 0.00%
(33) Malaysia	2018	10370 UMI	53 PF	7.3 FID	7.4 2	Sunni 56.42%	VH 0.803	L 0.66%
(34) Maldives	2021	9590 UMI	40 PF	. .	. .	Sunni 98.58%	H 0.747	L 0.00%
(35) Mexico	2018	9350 UMI	60 PF	5.25 HR	7.15 2	Catholic 89.64%	H 0.758	M 1.52%
(36) Mongolia	2020	3720 LMI	84 F	6.35 FID	7.28 2	Lamaists 58.13%	H 0.739	L 0.12%
(37) Morocco	2021	3620 LMI	37 PF	5.04 HR	6.63 3	Sunni 99.23%	M 0.683	L 0.21%
(38) Myanmar	2020	1370 LMI	9 NF	0.74 A	5.6 4	Theravadins 73.71%	M 0.585	L 0.31%
(39) Netherlands	2022	57430 HI	97 F	9 FD	8 1	Christian 55.53%	VH 0.941	L 0.31%
(40) New Zealand	2020	41480 HI	99 F	9.61 FD	8.72 1	Christian 54.42%	VH 0.937	L 0.15%
(41) Nicaragua	2020	1740 LMI	19 NF	2.5 A	6.76 3	Catholic 77.74%	M 0.667	L 0.04%
(42) Nigeria	2018	1980 LMI	43 PF	4.23 HR	6.73 3	Christian 46.18%	M 0.535	L 0.76%
(43) Northern Ireland	2022	81070 HI	97 F	9.13 FD	8.24 1	Catholic 75.52%	VH 0.945	L 0.12%
(44) Pakistan	2018	1610 LMI	37 PF	4.13 HR	6 4	Sunni 84.10%	M 0.544	M 1.02%
(45) Peru	2018	6430 UMI	70 PF	5.92 HR	7.81 1	Catholic 85.53%	H 0.762	L 0.20%
(46) Philippines	2019	3770 LMI	58 PF	6.73 FID	7.2 2	Catholic 75.74%	M 0.699	L 0.49%
(47) Puerto Rico	2017	20000 HI	90 F	. .	. .	Catholic 72.71%	. .	L 0.03%
(48) Romania	2018	11520 UMI	83 F	6.45 FID	7.79 1	Orthodox 88.89%	VH 0.821	L 0.22%
(49) Russia	2017	9210 LMI	16 NF	2.28 A	6.64 3	Orthodox 79.28%	VH 0.822	M 4.80%
(50) Serbia	2017	5570 UMI	60 PF	6.33 FID	7.11 2	Orthodox 83.49%	VH 0.802	L 0.13%
(51) Singapore	2020	55010 HI	47 PF	6.22 FID	8.8 1	Christian 37.50%	VH 0.939	L 0.13%
(52) Slovakia	2022	22060 HI	90 F	7.07 FID	7.67 1	Catholic 72.35%	VH 0.848	L 0.08%

(Continues)

**Table (Continued)**

	Countries	Survey Year	GNI per capita (Income level)*	2023 Freedom**		2022 Democracy		2019 Economic Freedom		2020 Religion Adherence		2021 HDI		2022 GHG Emission		
(53)	South Korea	2018	32750	HI	83	F	8.03	FD	7.62	2	Christian	33.18%	VH	0.925	M	1.35%
(54)	Taiwan ROC	2019	26561	HI	94	F	8.99	FD	8.14	1	Chinese folk	42.93%	.	.	L	0.57%
(55)	Tajikistan	2020	1050	LMI	7	NF	1.94	A	6.4	3	Sunni	87.55%	M	0.685	L	0.04%
(56)	Thailand	2018	6450	UMI	30	NF	6.67	FID	6.99	2	Buddhist	87.17%	VH	0.8	L	0.86%
(57)	Tunisia	2019	3540	LMI	56	PF	5.51	HR	5.81	4	Sunni	97.51%	H	0.731	L	0.09%
(58)	Turkey	2018	10450	LMI	32	NF	4.35	HR	6.51	3	Sunni	83.32%	VH	0.838	M	1.28%
(59)	Ukraine	2020	3570	LMI	50	PF	5.42	HR	6.24	3	Orthodox	70.88%	H	0.773	L	0.39%
(61)	United States	2017	59220	HI	83	F	7.85	FID	8.35	1	Christian	74.16%	VH	0.921	H	11.19%
(60)	Uruguay	2022	18030	HI	97	F	8.91	FD	7.31	2	Christian	63.59%	VH	0.809	L	0.08%
(62)	Venezuela	2021	13010	UMI	15	NF	2.23	A	2.47	4	Catholic	80.53%	M	0.691	L	0.32%
(63)	Vietnam	2020	3450	LMI	19	NF	2.73	A	6.15	4	Buddhist	48.63%	H	0.703	L	0.91%
(64)	Zimbabwe	2020	1460	LMI	28	NF	2.92	A	5.09	4	Christian	81.74%	M	0.593	L	0.06%

**Source:** (The World Bank, 2023e), (Freedom House, 2023a), (Economist Intelligence Unit, 2023), (Gwartney et al., 2021), (The ARDA, 2023), (UNDP, 2022), (Crippa, et al., 2023)

**Note:** Income level categories are as follows: High-income (HI), Upper-middle income (UMI), Middle-income (MI), Low income (LI). Freedom level categories are Free (F), Partly Free (PF), and Not Free (NF). Democracy categories are Full Democracy (FD), Flawed Democracy (FID), Hybrid Regime (HR), and Authoritarian (A). HDI has three categories as Very High (VH), High (H), and Medium (M). GHG emissions are categorized in three groups as well: High (H), Medium (M), Low (L).

\*The most recent GNI per capita data for Libya is available from WB in 2021. So, we used 2021 data instead of 2022. Venezuela was classified as a high-income economy by WB in 2014. However, due to a lack of official economic data, WB has not updated the income class of the economy. Maldonado and Olivo (2022) calculate Venezuela's GNI per capita as \$1,826 for 2021, which puts Venezuela in the lower-middle-income class.

*Note (Continues): WB does not list Taiwan as a separate country in WDI. Its data are included in the world aggregates but not in Chinese data (The World Bank, 2023g). 2019 GNI per capita data for Taiwan at current prices are retrieved from Directorate-General of Budget, Accounting, and Statistics of Taiwan (Directorate-General of Budget, Accounting, and Statistics of Taiwan, 2023). With a GNI of \$26,561, Taiwan is classified as a high-income country as it exceeds WB's high-income country threshold of \$12,535 for 2019.*

*\*\*Freedom house adds territories and eliminates them from the survey from time to time. The most recent data of Macao is listed in 2004. Although, the score is not reported, it is classified as a partly free territory in the "Aggregate Category and Subcategory Scores" (Freedom House, 2023b). The data for Puerto Rico is for 2016 as well.*

**APPENDIX-5: LOG ODDS OF LOGISTIC REGRESSION, BY COUNTRY FOR CHAPTER III**

	Country	<i>age</i>	<i>age square</i>	<i>incscale</i>	<i>educrec</i>	<i>married</i>	<i>male</i>	<i>townsize</i>	Constant	Observations	Pseudo R-squared
(1)	Andorra	-0.0353 (0.3309)	0.0006 (0.1351)	0.0165 (0.7883)	0.4856*** (0.0001)	-0.2734 (0.2106)	-0.0541 (0.7746)	-0.1815** (0.0307)	1.5844* (0.0996)	797	0.0380
(2)	Argentina	-0.0213 (0.4053)	0.0003 (0.3512)	0.0252 (0.5881)	0.2642** (0.0173)	0.1821 (0.2628)	-0.0863 (0.5470)	-0.0013 (0.9663)	-0.2369 (0.6900)	794	0.00801
(3)	Armenia	-0.0054 (0.8053)	-0.0001 (0.8050)	0.0122 (0.6908)	0.2716*** (0.0035)	0.1086 (0.4111)	-0.0246 (0.8507)	-0.0096 (0.6676)	-0.2756 (0.6299)	1,129	0.0129
(4)	Australia	0.0135 (0.4961)	-0.0003 (0.1610)	-0.0108 (0.7218)	0.5579*** (0.0000)	-0.4595*** (0.0001)	-0.1665 (0.1486)	0.0620** (0.0129)	-0.4143 (0.4571)	1,592	0.0548
(5)	Bangladesh	-0.0180 (0.5592)	0.0002 (0.6780)	-0.0568* (0.0583)	0.1095 (0.2785)	-0.0464 (0.8213)	-0.0862 (0.4960)	-0.1190*** (0.0069)	0.9467 (0.1050)	1,130	0.00907
(6)	Bolivia	0.0015 (0.9365)	-0.0001 (0.5102)	0.0126 (0.6525)	0.3448*** (0.0000)	-0.0549 (0.6506)	0.0961 (0.3733)	-0.1242*** (0.0000)	1.2024*** (0.0078)	1,927	0.0354
(7)	Brazil	0.0131 (0.4838)	-0.0002 (0.2991)	-0.0305 (0.2749)	0.1365 (0.1168)	-0.0574 (0.6474)	-0.1141 (0.3269)	0.0681** (0.0462)	0.0618 (0.8991)	1,351	0.00840
(8)	Canada	-0.0558*** (0.0000)	0.0005*** (0.0001)	-0.0499*** (0.0081)	0.3051*** (0.0000)	-0.1883*** (0.0087)	-0.3362*** (0.0000)	0.0183 (0.2118)	1.5797*** (0.0000)	3,997	0.0255
(9)	Chile	-0.0425 (0.1371)	0.0003 (0.3016)	-0.0894* (0.0627)	0.2154 (0.1193)	0.2261 (0.1410)	-0.2383* (0.0956)	0.0409 (0.2092)	1.2955* (0.0755)	832	0.0158
(10)	China	-0.0392* (0.0785)	0.0005* (0.0595)	0.0164 (0.4910)	0.3167*** (0.0000)	0.1163 (0.3819)	0.1676* (0.0532)	-0.0616 (0.2626)	1.3483** (0.0214)	2,796	0.0138
(11)	Colombia	-0.0280 (0.1757)	0.0002 (0.3258)	-0.0325 (0.1811)	0.5927*** (0.0000)	0.1312 (0.3946)	0.0249 (0.8305)	-0.0280 (0.3874)	0.7815 (0.1106)	1,479	0.0369
(12)	Cyprus	0.0237 (0.4178)	-0.0002 (0.4844)	-0.0718 (0.1069)	-0.0306 (0.7813)	-0.0389 (0.8196)	0.0478 (0.7414)	0.0655** (0.0354)	-0.1231 (0.8658)	800	0.00949
(13)	Czechia	-0.0113 (0.5996)	0.0001 (0.6647)	0.0114 (0.7835)	0.0734 (0.4219)	-0.2774** (0.0359)	-0.3429*** (0.0049)	0.0087 (0.7226)	0.3163 (0.5587)	1,112	0.0105

(Continues)

**Table (Continued)**

	Country	<i>age</i>	<i>age square</i>	<i>incscale</i>	<i>educrec</i>	<i>married</i>	<i>male</i>	<i>townsize</i>	constant	Observations	Pseudo R-squared
(14)	Ecuador	-0.0237 (0.2914)	0.0002 (0.4682)	0.0384 (0.1777)	0.1394* (0.0968)	0.0530 (0.7037)	-0.0219 (0.8562)	0.0149 (0.5822)	0.3763 (0.4821)	1,143	0.00894
(15)	Egypt	-0.0255 (0.4232)	0.0002 (0.5148)	0.0964* (0.0772)	0.0502 (0.6031)	-0.1317 (0.4214)	-0.2069 (0.1296)	0.1268*** (0.0006)	-0.9990 (0.1338)	972	0.0210
(16)	Ethiopia	0.0409 (0.1453)	-0.0004 (0.2545)	-0.0086 (0.7492)	0.0806 (0.3456)	-0.2236* (0.0929)	-0.0768 (0.5222)	-0.0838** (0.0375)	-0.5549 (0.2896)	1,197	0.00546
(17)	Germany	-0.0163 (0.4185)	0.0000 (0.7918)	0.0112 (0.7646)	0.5332*** (0.0000)	-0.1169 (0.3833)	-0.2365* (0.0540)	0.0177 (0.5703)	0.3788 (0.4914)	1,338	0.0283
(18)	Great Britain	0.0179 (0.3068)	-0.0002 (0.1845)	0.0251 (0.3574)	0.4337*** (0.0000)	-0.2124* (0.0597)	-0.1003 (0.3413)	0.0293 (0.3665)	-0.5574 (0.2660)	1,837	0.0356
(19)	Greece	-0.0063 (0.7703)	-0.0000 (0.8906)	-0.0662* (0.0869)	0.4065*** (0.0001)	0.1614 (0.2452)	-0.1732 (0.1827)	-0.0396 (0.1048)	0.4983 (0.3978)	1,025	0.0252
(20)	Guatemala	0.0000 (0.9997)	-0.0000 (0.8994)	-0.0430 (0.2080)	0.3181*** (0.0007)	0.2177 (0.2188)	-0.1748 (0.2136)	-0.0596 (0.2754)	0.8112 (0.2298)	988	0.0136
(21)	Hong Kong SAR	-0.0272 (0.1181)	0.0001 (0.4356)	-0.0204 (0.4805)	0.3157*** (0.0001)	-0.0208 (0.8436)	-0.3077*** (0.0013)	.	0.7803* (0.0754)	1,941	0.0294
(22)	Indonesia	0.0141 (0.4544)	-0.0002 (0.4449)	0.0014 (0.9404)	0.1065 (0.1411)	0.0555 (0.6253)	-0.0350 (0.6975)	-0.0217 (0.4479)	0.8534** (0.0327)	2,971	0.00126
(23)	Iran	-0.0056 (0.7934)	-0.0000 (0.9819)	0.0552** (0.0491)	0.3554*** (0.0000)	0.2920* (0.0597)	0.0639 (0.5923)	0.0268 (0.3457)	-0.3121 (0.5161)	1,394	0.0224
(24)	Iraq	0.0494 (0.1288)	-0.0007* (0.0977)	-0.0172 (0.6013)	0.0025 (0.9733)	-0.2498 (0.1015)	0.0204 (0.8642)	0.0376 (0.2019)	-1.0351 (0.1044)	1,156	0.00467
(25)	Japan	0.0642** (0.0452)	-0.0006** (0.0473)	-0.0684** (0.0303)	0.4928*** (0.0002)	0.2829 (0.1666)	-0.0227 (0.8871)	-0.0155 (0.8202)	-2.2692** (0.0232)	691	0.0272
(26)	Jordan	-0.0045 (0.8730)	0.0001 (0.8191)	-0.0143 (0.6425)	0.0473 (0.5686)	0.0325 (0.8280)	-0.1536 (0.2145)	-0.0018 (0.9404)	0.1138 (0.8544)	1,113	0.00141

(Continues)

**Table (Continued)**

	Country	<i>age</i>	<i>age square</i>	<i>incscale</i>	<i>educrec</i>	<i>married</i>	<i>male</i>	<i>townsize</i>	constant	Observations	Pseudo R-squared
(27)	Kazakhstan	-0.0722** (0.0116)	0.0009*** (0.0041)	0.0033 (0.9345)	0.2569** (0.0226)	0.0510 (0.7173)	-0.2601** (0.0441)	-0.0835*** (0.0021)	1.1892* (0.0792)	1,011	0.0205
(28)	Kenya	-0.0810** (0.0203)	0.0010** (0.0293)	0.0610* (0.0709)	0.2457*** (0.0082)	0.1515 (0.2962)	0.0567 (0.6692)	0.0706** (0.0117)	0.1064 (0.8669)	973	0.0198
(29)	Kyrgyzstan	0.0644** (0.0115)	-0.0007*** (0.0093)	-0.0445 (0.1447)	0.0197 (0.8564)	-0.1439 (0.3417)	-0.2138 (0.1072)	0.0059 (0.8373)	-0.1952 (0.7462)	1,105	0.00924
(30)	Lebanon	0.0391 (0.1155)	-0.0003 (0.2543)	-0.1079*** (0.0027)	-0.0656 (0.4191)	-0.1285 (0.3942)	-0.1443 (0.2404)	0.0827** (0.0187)	-1.0573* (0.0752)	1,174	0.0191
(31)	Libya	0.0079 (0.8074)	-0.0000 (0.9686)	-0.0331 (0.3306)	0.1248 (0.2170)	0.0800 (0.6109)	0.2792** (0.0324)	-0.0732** (0.0126)	-0.2450 (0.7169)	1,017	0.0128
(32)	Macau SAR	-0.0852** (0.0115)	0.0007** (0.0498)	-0.0121 (0.8212)	-0.0193 (0.8790)	0.3753* (0.0820)	-0.4777*** (0.0026)	.	2.9893*** (0.0004)	780	0.0245
(33)	Malaysia	-0.0572* (0.0656)	0.0006* (0.0990)	0.0195 (0.5592)	0.1108 (0.1282)	-0.1079 (0.4473)	-0.0295 (0.8054)	0.0993*** (0.0012)	1.1639* (0.0515)	1,250	0.0159
(34)	Maldives	-0.0198 (0.4733)	0.0001 (0.6749)	-0.0248 (0.4682)	0.0802 (0.3058)	0.2008 (0.1932)	-0.2118* (0.0986)	0.0654** (0.0160)	0.0967 (0.8698)	1,013	0.0114
(35)	Mexico	0.0103 (0.5536)	-0.0001 (0.5722)	-0.0609*** (0.0053)	0.0906 (0.2841)	-0.2309** (0.0307)	-0.0075 (0.9414)	-0.0162 (0.3960)	0.3328 (0.4340)	1,636	0.00656
(36)	Mongolia	0.0037 (0.8574)	0.0000 (0.8793)	0.0072 (0.8053)	0.3238*** (0.0001)	-0.1717 (0.1214)	-0.0213 (0.8404)	-0.1683*** (0.0000)	0.4039 (0.3898)	1,543	0.0354
(37)	Morocco	0.0157 (0.5691)	0.0001 (0.8551)	-0.0439 (0.2470)	0.4081*** (0.0000)	-0.1516 (0.3215)	0.0504 (0.6840)	-0.1357*** (0.0000)	-0.0887 (0.8792)	1,115	0.0344
(38)	Myanmar	0.0009 (0.9722)	0.0001 (0.8638)	-0.0279 (0.3439)	0.2960*** (0.0011)	-0.1884 (0.1958)	0.2290* (0.0555)	-0.0749 (0.1408)	-0.1574 (0.7870)	1,197	0.0135
(39)	Netherlands	0.0124 (0.6054)	-0.0001 (0.7747)	-0.0196 (0.4716)	0.6789*** (0.0000)	-0.0288 (0.8342)	-0.2709** (0.0287)	0.0017 (0.9755)	-0.7809 (0.2858)	1,451	0.0421

(Continues)

**Table (Continued)**

	Country	<i>age</i>	<i>age square</i>	<i>incscale</i>	<i>educrec</i>	<i>married</i>	<i>male</i>	<i>townsize</i>	constant	Observations	Pseudo R-squared
(40)	New Zealand	0.0389 (0.2567)	-0.0005 (0.1037)	-0.0146 (0.6954)	0.4288*** (0.0006)	-0.5663*** (0.0043)	-0.3143* (0.0670)	-0.0283 (0.4329)	0.1633 (0.8666)	711	0.0529
(41)	Nicaragua	-0.0577** (0.0234)	0.0005* (0.0836)	-0.0171 (0.5001)	0.1793** (0.0271)	0.1982 (0.1803)	0.1906 (0.1314)	0.0133 (0.7448)	1.4988*** (0.0064)	1,147	0.0151
(42)	Nigeria	-0.0339 (0.1782)	0.0005* (0.0984)	0.0430 (0.1519)	0.1443 (0.1513)	-0.2664* (0.0645)	-0.0130 (0.9155)	0.0051 (0.8711)	-0.1180 (0.8099)	1,186	0.00962
(43)	Northern Ireland	-0.0498 (0.2694)	0.0007 (0.1143)	0.2347*** (0.0028)	0.3542** (0.0251)	-0.4820* (0.0737)	-0.0169 (0.9456)	0.0475 (0.6386)	-0.8250 (0.5012)	320	0.0635
(44)	Pakistan	-0.0542** (0.0265)	0.0006* (0.0519)	-0.0164 (0.4493)	0.2333*** (0.0017)	0.0974 (0.5160)	0.3694*** (0.0002)	0.0331* (0.0651)	0.1935 (0.6777)	1,760	0.0161
(45)	Peru	0.0090 (0.6565)	-0.0002 (0.4322)	-0.0982*** (0.0028)	0.4170*** (0.0000)	-0.0719 (0.5945)	-0.1306 (0.2558)	-0.0560** (0.0302)	0.4297 (0.3806)	1,322	0.0203
(46)	Philippines	-0.0153 (0.4968)	0.0001 (0.6189)	-0.0165 (0.5967)	0.3541*** (0.0001)	0.0610 (0.6580)	0.0775 (0.5366)	-0.0017 (0.9665)	0.6813 (0.1976)	1,192	0.0124
(47)	Puerto Rico	-0.0150 (0.5167)	-0.0000 (0.9236)	0.0251 (0.4442)	0.3148*** (0.0012)	0.1181 (0.4515)	0.1640 (0.2763)	0.1057 (0.2624)	0.2373 (0.7777)	1,008	0.0343
(48)	Romania	-0.0170 (0.4646)	0.0001 (0.6664)	-0.0667* (0.0579)	0.5829*** (0.0000)	0.0397 (0.7933)	-0.0132 (0.9213)	-0.0070 (0.8144)	-0.5088 (0.3518)	998	0.0273
(49)	Russia	-0.0075 (0.6866)	0.0001 (0.5465)	-0.0905*** (0.0018)	0.0810 (0.3299)	-0.0634 (0.5725)	-0.0996 (0.3629)	-0.0189 (0.3617)	0.5100 (0.2573)	1,498	0.00876
(50)	Serbia	-0.0011 (0.9673)	0.0000 (0.9455)	0.0475 (0.2156)	0.2798** (0.0290)	-0.1010 (0.5260)	0.2560* (0.0666)	-0.0806** (0.0101)	-0.5342 (0.4432)	851	0.0146
(51)	Singapore	-0.0285 (0.1538)	0.0003 (0.1643)	0.0262 (0.4008)	0.3990*** (0.0000)	-0.1303 (0.2467)	-0.0102 (0.9172)	.	0.1031 (0.8366)	1,795	0.0207
(52)	Slovakia	-0.0484* (0.0503)	0.0005** (0.0300)	0.1075*** (0.0057)	0.3163*** (0.0015)	0.0315 (0.8063)	-0.1742 (0.1642)	-0.0254 (0.3862)	0.1566 (0.8067)	1,085	0.0224

(Continues)

**Table (Continued)**

	Country	<i>age</i>	<i>age square</i>	<i>incscale</i>	<i>educrec</i>	<i>married</i>	<i>male</i>	<i>townsize</i>	constant	Observations	Pseudo R-squared
(53)	South Korea	-0.0328 (0.2744)	0.0004 (0.1754)	0.0461 (0.3047)	0.2521** (0.0311)	0.0752 (0.6953)	-0.0237 (0.8410)	-0.2723*** (0.0047)	2.0190** (0.0284)	1,244	0.00833
(54)	Taiwan ROC	-0.0849*** (0.0003)	0.0007*** (0.0035)	0.0474 (0.2233)	0.2211** (0.0187)	0.3115** (0.0213)	-0.0977 (0.4292)	-0.0685 (0.3455)	2.5638*** (0.0004)	1,211	0.0374
(55)	Tajikistan	-0.0113 (0.6639)	0.0002 (0.5739)	-0.0806** (0.0379)	0.0830 (0.3833)	-0.0604 (0.7182)	-0.3719*** (0.0027)	-0.0939*** (0.0006)	0.7202 (0.2263)	1,165	0.0144
(56)	Thailand	-0.0331 (0.2376)	0.0003 (0.3916)	-0.1030*** (0.0014)	0.1372 (0.1317)	0.0220 (0.8671)	-0.0528 (0.6284)	0.1389*** (0.0000)	1.0894* (0.0929)	1,413	0.0274
(57)	Tunisia	-0.0649** (0.0117)	0.0007*** (0.0092)	0.0463 (0.1646)	0.1657* (0.0983)	-0.0027 (0.9862)	-0.0644 (0.6183)	-0.0193 (0.5394)	0.3837 (0.5222)	1,071	0.0107
(58)	Turkey	-0.0665*** (0.0085)	0.0008*** (0.0054)	0.0861*** (0.0012)	0.0587 (0.3419)	0.0584 (0.5940)	0.0550 (0.5246)	0.0651** (0.0158)	0.4764 (0.3592)	2,255	0.0107
(59)	Ukraine	-0.0128 (0.5881)	0.0001 (0.5900)	-0.0989*** (0.0064)	0.4484*** (0.0000)	-0.1466 (0.2864)	-0.2310* (0.0660)	-0.0609*** (0.0053)	0.0574 (0.9205)	1,089	0.0226
(61)	United States	-0.0046 (0.8159)	-0.0001 (0.7412)	-0.0363 (0.2115)	0.5061*** (0.0000)	-0.1943* (0.0792)	0.0237 (0.8294)	0.1142** (0.0118)	-0.9313 (0.1025)	875	0.0499
(60)	Uruguay	0.0203 (0.4458)	-0.0002 (0.4315)	-0.0309 (0.3986)	0.6415*** (0.0000)	-0.4366** (0.0178)	0.2094 (0.2234)	0.0103 (0.7677)	-0.4870 (0.4748)	1,596	0.0255
(62)	Venezuela	-0.0089 (0.6832)	0.0001 (0.7833)	-0.0323 (0.3348)	0.1752** (0.0313)	-0.0885 (0.5971)	-0.2272* (0.0643)	-0.0392 (0.2673)	-0.0168 (0.9741)	1,143	0.00771
(63)	Vietnam	0.0145 (0.6915)	0.0000 (0.9930)	-0.1078** (0.0187)	0.1279 (0.2160)	-0.0312 (0.8615)	0.0261 (0.8461)	-0.1201 (0.4201)	1.6276 (0.1937)	1,174	0.00997
(64)	Zimbabwe	-0.0003 (0.9884)	0.0001 (0.8080)	-0.0386 (0.1662)	0.1030 (0.2936)	0.1070 (0.4102)	0.1175 (0.3246)	-0.1211*** (0.0002)	0.2699 (0.5357)	1,193	0.0132

p-values in parentheses, \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

**Source:** (Inglehart, et al., 2022)

## APPENDIX-6: DATA DESCRIPTION FOR CHAPTER IV

Variable	Question or Explanation	Answers, Coding & Details	Source
Belief in Hell	Q 167: Which, if any, of the following do you believe in? Hell	=1 if Yes, =0 if No	World Values Survey
Belief in Heaven	Q 168: Which, if any, of the following do you believe in? Heaven	=1 if Yes, =0 if No	World Values Survey
Belief in After-Life	Q 166: Which, if any, of the following do you believe in? Life after death	=1 if Yes, =0 if No	World Values Survey
Belief in God	Q 165: Which, if any, of the following do you believe in? God	=1 if Yes, =0 if No	World Values Survey
Religious Person	Q 173: Independently of whether you attend religious services or not, would you say you are...?	=1 if "A religious person", =0 if "Not a religious person" or "An atheist".	World Values Survey
Weekly Participation	Q 121: Apart from weddings and funerals, about how often do you attend religious services these days? (Participation at least once a week)	=1 if "More than once a week" or "Once a week", =0 if "Once a month" or "Only on special holy days" or "Once a year" or "Less often" or "Never, practically never".	World Values Survey
Monthly Participation	Q 121: Apart from weddings and funerals, about how often do you attend religious services these days? (Participation at least once a month)	=1 if "More than once a week" or "Once a week" or "Once a month", =0 if "Only on special holy days" or "Once a year" or "Less often" or "Never, practically never".	World Values Survey
Importance of God	Q 164: How important is God in your life?	Ranges from 1 to 10, =1 if "Not at all important", =10 if "Very important."	World Values Survey
Importance of Religion	Q6: For each of the following, indicate how important it is in your life: Religion. Would you say it is "very important", "rather important", "not very important", "not at all important".	=1 if not at all important, =2 if not very important, =3 if rather important, =4 if very important	World Values Survey
State religion	State religion or philosophy	=1 if "Religious", "Adventist", "Anglican", "Buddhist", "Confucian", "Hindu", "Islamic", "Jewish", "Lutheran", "Methodist", "Orthodox", "Reformed", "Roman Catholic", "Shinto", "Ethnoreligionist", "Christian (unspecified)", "Religious (unspecified)", =0 if "Atheist" or "Secular".	Barrlett et al. (2001)
State regulation	Regulation of and Restrictions on the Majority Religion or All Religions	The composite index is constructed by summing 29 different restriction categories, each of which is scaled as follows: =3 if "The activity is illegal or the government engages in this activity often and on a large scale", =2 if "Significant restrictions including practical restrictions or the government engages in this activity occasionally and on a moderate scale", =1 if "Slight restrictions including practical restrictions or the government engages in this activity rarely and on a small scale", =0 if "No restrictions".	The Religion and State Project
Religious pluralism	1 minus the Herfindahl index	The Herfindahl index is calculated by summing the squares of the shares of each religious group, including Bahai's, Buddhists, Chinese folk-religionists, Christians, Daoists, Confucianists, Ethnic religionists, Hindus, Jains, Jews, Muslims, New religionists, Shintoists, Sikhs, Spiritists, Zoroastrians, Non-Religious.	World Religion Database

(Continues)

**Table (Continued)**

Variable	Question or Explanation	Answers, Coding & Details	Source
Log of per capita GDP	log of real GDP per capita	log of output-side real GDP at chained PPPs (in mil. 2017US\$) per capita	Penn World Table
Years of education	Educational attainment	Average years of total schooling for population Aged 25-64	Barro and Lee (2021)
1/(life expectancy)	Mortality rate	Life expectancy at birth is a statistical measure that estimates the average number of years a newborn infant is expected to live based on mortality rates at the time of birth. Mortality is calculated as the reciprocal of life expectancy.	The World Bank
Urbanization rate	Urban population	Urban population as percentage of total population	The World Bank
Population share > age 65	Population ages 65 and above	Population ages 65 and above as percentage of total population	The World Bank
Population share < age 15	Population ages 0-14	Population ages 0-14 as percentage of total population	The World Bank

**Source:** PWT (Feenstra et al., 2015), World Christian Encyclopedia (Barrett et al., 2001), RAS (Fox, 2017), World Religion Database (The ARDA, 2023) , WVS (Inglehart, et al., 2022), Education Attainment Dataset (Barro & Lee, 2021), World Development Indicators DataBank (The World Bank, 2023d).

## APPENDIX-7: DATA DESCRIPTION FOR CHAPTER IV, ALTERNATIVE INDICATORS OF MODERNIZATION

Question or Explanation	Coding & Details	Source
KOF Globalization Index	Composed of Economic Globalization, de facto (16.65%), Economic Globalization, de jure (16.65%), Social Globalization, de facto (16.65%), Social Globalization, de jure (16.65%), Political Globalization, de facto (16.65%), Political Globalization, de jure (16.65%)	KOF
KOF Financial Globalization Index	Composed of Financial Globalization, de facto (50%), Financial Globalization, de jure (50%)	KOF
KOF Social Globalization Index	Composed of Interpersonal Globalization, de facto (16.65%), Interpersonal Globalization, de jure (16.65%), Informational Globalization, de facto (16.65%), Informational Globalization, de jure (16.65%), Cultural Globalization, de facto (16.65%), Cultural Globalization, de jure (16.65%)	KOF
KOF Interpersonal Globalization Index	Composed of Interpersonal Globalization, de facto (50%), Interpersonal Globalization, de jure (50%)	KOF
KOF Informational Globalization Index	Composed of Informational Globalization, de facto (50%), Informational Globalization, de jure (50%)	KOF
KOF Cultural Globalization Index	Composed of Cultural Globalization, de facto (50%), Cultural Globalization, de jure (50%)	KOF
Voice and Accountability Index	Voice and Accountability measures the extent to which individuals can participate in the process of determining their government, including perceptions of freedom of expression, association, and a free media. Index scores range from -2.5 to 2.5.	WGI
Control of Corruption Index	Control of Corruption measures perceptions of the extent to which public power is used for private gain. Index scores range from -2.5 to 2.5.	WGI
Government Effectiveness Index	Government effectiveness measures perceptions of the quality of the public and civil service, the independence of the civil service from political pressure, the quality of policymaking and implementation, and the government's commitment to these processes. Index scores range from -2.5 to 2.5.	WGI
Regulatory Quality Index	Regulatory quality measures perceptions of the government's ability to establish legal structures and implement rules that allow and encourage private sector development. Index scores range from -2.5 to 2.5.	WGI
Rule of Law Index	Rule of law measures the extent to which parties trust and abide by the rules of society. It takes into account indicators such as the enforcement of contracts, property rights, the quality of the police and courts, and the incidence of crime and violence. Index scores range from -2.5 to 2.5.	WGI
Economic Freedom Index	The Economic Freedom Index measures economic freedom on a scale of 0-10 in five main areas: "Size of Government", "Legal System and Security of Property Rights", "Sound Money", "Freedom to Trade Internationally", and "Regulation".	FI
Judicial Independence Index	The Index measures the extent to which the judicial system in a country is independent from the influence of the government, private companies, or citizens. It includes the degree of independence of both High Courts and Low Courts. The index ranges from 0 to 10.	FI
Impartial Courts Index	The index measures how efficient the legal framework is for private businesses to resolve disputes. It measures the effectiveness of the legal system in dealing with disputes about the legality of government decisions and additionally measures the rule of law. The index ranges from 0 to 10.	FI
Integrity of the Legal System Index	The index measures the strength and impartiality of the legal system, as well as the extent to which the law is practiced and respected. The index ranges from 0 to 10.	FI

*(Continues)*

**Table (Continued)**

Question or Explanation	Coding & Details	Source
Freedom of Assembly and Association Index	The index measures the extent to which restrictions or limitations imposed by the government have an impact on the freedom of assembly and association in practice. =0 if "Severely restricted or denied completely to all citizens", =1 if "Limited for all citizens or severely restricted or denied for select groups", =2 if "Virtually unrestricted and freely enjoyed by practically all citizens".	CIRIGHTS
Freedom of Speech and Press Index	The index measures the impact of government censorship and government ownership of media outlets on freedom of expression and press freedoms. =0 if "Complete", =1 if "Some", =2 if "None".	CIRIGHTS
Freedom of Religion Index	The index measures the extent to which citizens' freedom to practice and fulfill their religious beliefs is subject to government-imposed restrictions. =0 if "Severe and Widespread", =1 if "Moderate", =2 if "Practically Absent".	CIRIGHTS
Electoral Self-Determination Index	The index measures the extent to which citizens have the right to freely choose their leaders and political system. =0 if "Not respected", =1 if "Limited", =2 if "Generally respected".	CIRIGHTS
Independence of the Judiciary Index	The index measures the extent to which the judiciary is independent of corruption, government control, military influence, or other sources of intervention. It also includes information on whether court hearings are open to the public. =0 if "Not independent", =1 if "Partially independent", =2 if "Generally independent".	CIRIGHTS

**Source:** (Gygli et al., 2019), (Kaufmann & Kraay, 2023), (Fraser Institute, 2023a), (Mark et al., 2023)

## TURKISH SUMMARY / TÜRKÇE ÖZET

Dünya sürekli bir değişim ve dönüşüm içerisinde olan yaşayan bir organizma gibidir. Bu değişim insanoğlu ilk tohumu toprağa ektiği andan itibaren hiç sekteye uğramadan süregelmiştir. Bu çalışmada olumlu veya olumsuz hiçbir ahlaki değer atfedilmeyen modernleşme, 18. yüzyıl ve hatta daha öncesine kadar götürülebilen Sanayi Devrimi ve bu değişimlerin taşıyıcısı rolündeki küreselleşme dünyayı tarihsel hiçbir olgunun daha önce etkilemediği kadar etkiledi. Ancak, yüksek gelir grubu ve alt gelir grubu ülkeler arasındaki insani kalkınma farkı modernleşmenin kazanımlarına ulaşma konusunda ortada bir sorun olduğunu gösteriyor. 20. yüzyılın ilk yarısı boyunca meydana gelen savaşlar, 2. Dünya Savaşı sonrası, özellikle Orta Doğu, Afrika, Güney Amerika ve dünyanın diğer bölgelerindeki toplumsal huzursuzluk bu durumun önemli birer göstergesi niteliğindedir.

Günümüzün halen küresellenen ve modernleşen ekonomik büyümenin teknolojik ilerlemelerle hız kazandığı dünyasında sosyokültürel olguların karmaşık doğasını anlamak önem arz ediyor. Bu bakımdan, göç, çevre ve din kavramları geniş toplumsal etkileri sebebiyle bu çalışmanın konusunu oluşturmaktadır. Bir zamanlar hayat kalitesini artırmak amacıyla yapılan göç, dünyanın birçok bölgesinde fiziki güvenlik endişelerini gidermek için gerekli bir eylem haline gelmiş durumda. Diğer yandan, çevresel bozulma çevrenin korunmasına dair bilinçli ve küresel bir politikanın ihtiyaç olduğunu işaret etmektedir. Üretim yapıları dönüşmediği takdirde, çevresel bozulma küresel ısınma yoluyla dünyanın sonunu getiriyor. Buna ek olarak, modernleşme insanlığın en eski sosyal değeri olan dini inançları da dönüştürüyor.

Bu çalışma birbirinden bağımsız gibi görünen bu değerlerdeki değişimi ve bu değişimi belirleyen unsurları tespit etmek amacını taşımaktadır. Bunu yaparken saf bir modern ekonomi perspektifinden ziyade konuya daha kapsamlı bir bakış açısıyla yaklaşmaktadır. Amaç sosyal bilimlerin henüz bir şemsiye altından çıkarak kendi ayakları üzerinde durmaya başlamadığı 20. yüzyıl öncesi döneme benzer şekilde sosyoloji, tarih, ekonomi, felsefe gibi dalları da içeren bütüncül bir politik ekonomi bakış açısı sunmaktır.

Bazıları olumlu, bazıları ise olumsuz olarak deneyimlese de göç kavramı tüm toplumlarda ortak bir gerçeklik haline gelmiştir. Göç, küreselleşme ve gelişen iletişim sayesinde giderek popüler bir seçenek olma durumundadır. Toplum, ekonomi ve politika üzerindeki çok yönlü etkileri sebebiyle göçü ve onunla ilintili olan faktörleri anlamak önemlidir. Ek olarak, teknolojik gelişmeler ve yüzyıllar boyunca artan üretim çevrenin korunmasını üretimdeki bu artışın olumsuz etkilerini hafifletmek konusunda bir öncelik haline getirmiştir. Sadece bir

öncelik değil çevre aynı zamanda hayatın devamı için bir gerekliliktir. Tıpkı göç gibi, çevresel bozulma da sosyal eşitlik ve nesiller arası adalet kavramıyla ilişkilidir. Kamu farkındalığı ve sivil toplum katılımı hem göçle hem de çevre ile alakalı sorunları ele almak için gereklidir. Fakat önce bu sorunların dinamiklerini açıkça tanımlamak gerekmektedir.

Göç ve çevre gibi din de dünyada en fazla tartışma konusu olan kavramlardan biri konumundadır. Bireyin inanmak ve inanmamak arasında bir seçim yapması gerektiği bireysel bir tercih ve inanç sistemi olmasının yanı sıra din, aynı zamanda toplumları bir bütün olarak ardından sürükleyen sosyal bir değerdir. Kimi zaman birbirinden farklı toplumları birleştiren bir unsur olurken kimi zaman ise tarih boyunca gerçekleşen din merkezli savaşlarda olduğu gibi toplumu ayırıştırıran bir kavram olmuştur. Bir toplumu kendi içinde birleştirdiği gibi bir toplumun içindeki aynı kökene sahip insanları zıt kutuplara iterek belirli bir kesimin göç etmesine dahi sebep olabilir. Diğer yandan aynı doktrinin farklı toplumlarda farklı tepkimelere yol açtığı tarihsel bir gerçekliktir. En önemlisi de modernleşme dinin tarihsel evrimine katkıda bulunan en etkili etmenlerden biridir.

Bu doktora tezi, bu bakımdan, üç anahtar konuyu üç bölüm kapsamında incelemektedir. Türkiye’de göçmenlere karşı tutum, Türkiye’de ve çeşitli kriterlere göre sınıflandırılan 63 farklı ülkede çevrenin korunması ve ekonomik büyüme arasındaki önceliklendirme, modernleşmenin bir sonucu olarak dünyada dini inanışlarda meydana gelen dönüşüm üç farklı bölümde incelenmektedir. Diğer bir deyişle Türkiye odak noktası olarak kabul edilmiş ve çalışma katman katman açılmıştır. Her bölümde kullanılan bireysel özellikler ve sosyal değerlere dair ana veri kaynağı Dünya Değerler Araştırması’dır (WVS). Bu uluslararası anket programı, farklı ülke ve bölgelerde birey düzeyinde, 1980’lerden beri çok ayrıntılı bir bilgi kaynağı olmuştur. İkinci ve üçüncü bölümler lojistik regresyonu metot olarak kullanırken dördüncü bölüm görünürde ilişkisiz regresyonu (SUR) yöntem olarak kullanır.

Çalışmanın özellikle ikinci ve üçüncü bölümlerinin sonuçları literatürün aksine genellenebilir ampirik bulgular sunmaktadır. Türkiye örneklemini için birey düzeyinde, detaylı ve farklı bölgelerden veri kullanılması bunun sebebidir. Diğer yandan dördüncü bölüm modernleşme ve dini inançlar arasındaki ilişkiyi, ekonomik büyümeye ek olarak küreselleşme ve kurumsal kalite boyutlarını da tartışmaya katarak, irdelemektedir. Veri setinin genişletilmesi, örneklemin yüzden fazla ülkeye dair bilgi içerecek şekilde düzenlenmiş olması modernleşme ve dinsel<sup>55</sup> arasındaki ilişkinin değişimine daha fazla ışık tutulabilmesine imkân

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<sup>55</sup> Dinsel ile kastedilen değer, dindarlığı kapsasa da en geniş haliyle ölüm sonrasına dair inançları, cennet-cehennem inançlarını, tanrı inancını, tanrının ve dinin kişinin hayatındaki önemini, dini seremonilere haftalık veya

tanılmaktadır. Bu bağlamda, sadece bir durum tespiti olmasının ötesinde bahsi geçen üç ana konuya ışık tutması bakımından bu çalışma sosyal politika oluşturma yolunda hangi bireysel ve sosyal değerlere eğilmek gerektiği konusunda yol gösterici niteliğindedir.

### **Türkiye’de Göçmenlere Karşı Tutumun Politik Ekonomisi**

Göç tarih boyu var olan bir kavramdır. Doğal olarak yerleşikler ve göçmenler arasındaki sorunlar da göç kadar eski tartışma konuları olmuştur. Türkiye, göçü ve toplumun göçe bakış açısını araştırmak için ilginç bir vaka çalışması niteliğindedir. Türkiye’nin var olduğu coğrafya tarih boyu çeşitli etnik grupları içinde barındıran devletlere ev sahipliği yapmıştır. İpek Yolu ve Baharat Yolu üzerinde önemli bir durak olmuştur. Günümüzde Asya’dan Batı’ya uzanan göç rotasındaki önemini korumaktadır. Bir imparatorluğun bakiyesi olarak Türkiye, araştırma sahası olarak emsalsiz bir zenginliği içinde barındırmaktadır. Suriye’de 2011 sonrası meydana gelen iç savaş sebebiyle Türkiye’ye doğru hız kazanan göç dalgası araştırma konusu bakımından bu zenginliğe daha da katkıda bulunmaktadır. Tezin ikinci bölümü Türkiye’nin göç konusundaki bu benzersiz önemini gözeterek bireysel etmenlerin ve sosyal değerlerin göçmenlere karşı tutum ile olan ilişkisini incelemektedir. İktisadi ve güvenliğe ilişkin kaygılar çalışmanın odağını oluşturmaktadır. Bu amaçla WVS’den 2018 yılına ait birey düzeyindeki Türkiye verileri kullanılmış ve kapsamlı bir lojistik regresyon analizi uygulanmıştır.

Birleşmiş Milletler verileri gösteriyor ki 1970’te 84,5 milyon olan uluslararası göçmen sayısı 2020’de 281,6 milyona ulaşmıştır (United Nations Department of Economic and Social Affairs, Population Division, 2020a). Dünya nüfusu içerisinde göçmenlerin payı 1970’te %2,3 iken 2020’de %3,6’ya yükselmiştir. Türkiye bu artan göçler ortasında iki büyük göç koridorunda iki farklı türde göçün ana aktörü konumundadır. 1960’lardan beri çalışma motivasyonu ile oluşan Türkiye-Almanya göç koridorunda menşe ülkesidir. Suriye’nin kuzeyindeki insani kaygılardan dolayı oluşan göç koridorunda ise hedef ülke konumundadır. Toplam uluslararası göçmen sayıları sıralamasında 2010’da dünyada 33. sırada iken 2020’de 12. sıraya kadar yükselmiştir (United Nations Department of Economic and Social Affairs, Population Division, 2020a). Birleşmiş Milletler (2021) verilerine göre uluslararası göçmenlerin Türkiye’nin toplam nüfusu içerisindeki payı ise neredeyse dört kat artarak %1,9’dan %7,2’ye kadar yükselmiş Türkiye’nin demografik yapısını etkileyecek derecede

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aylık katılımı ölçmektedir. Yani bu çalışmada dinselikle kast edilen kavram dindarlığı da içeren daha kapsamlı bir sosyal değerdir. Bu bağlamda, WVS’de bireyin kendisini değerlendirmesi istenen “...siz kendinizi dindar bir kişi olarak mı görürsünüz?” sorusundaki *dindarlık* ile karışmaması için *dinselikle* tabirinin kullanılması daha uygun görülmüştür.

önem kazanmıştır. Bu sebeple iktisadi, sosyal, demografik, dini, vb. birçok unsur göçmenlere olan bakış açısı ile etkileşim içerisindedir.

Göçmenlerle daha fazla etkileşime girme fırsatı yakalayan, gelir seviyesinden dolayı yurtdışı seyahatlere daha fazla çıkan ve yabancılar ile karşılaşan bireylerde göçmen karşıtlığının daha az olması beklenir. Diğer yandan işgücü piyasasında göçmenlerin menşe ülke vatandaşı olan çalışanlara rakip olması hayatta kalma içgüdüleriyle göçmenlere karşı olumsuz bir tavır doğurabilir. Literatüre göre işgücü piyasasındaki kaygılar göçmenlere karşı olan tutumda etkilidir. Yüksek vasıf gerektiren işlerde çalışanlara kıyasla düşük vasıflı işlerde çalışanlar arasında, eğitim seviyesi yüksek olanlara kıyasla düşük olanlarda göçmen karşıtı tutum daha yaygındır (Haubert ve Fussell, 2006; O'Rourke ve Sinnott, 2006; Rustenbach, 2010). Cooray vd.'nin (2018) 53 farklı ülke için 2010-2014 arası yaptığı çalışmaya göre işgücü piyasasında yaşlı, eğitim seviyesi düşük veya düşük gelirlilerden gelen bireyler, dindarlığı yüksek veya politik yelpazede sağa daha yakın olanlar daha fazla göçmen karşıtı olma eğilimindedir. Finansal açıdan tatmin olamayan insanlar işgücü piyasasında göçmenlerin çalışmasına karşı bir tutum sergiler. Buna mukabil, nüfusu yüksek şehirlerde yaşayanlar kırsalda yaşayanlara kıyasla (Fennelly ve Federico, 2008), kadınlar erkeklere kıyasla daha az göçmen karşıtıdır (Cooray vd., 2018). Eğitim ve gelir seviyesi ile göçmen yanlısı görüşlerin ilişkide olduğunu iddia eden çalışmalar (Espenshade ve Hempstead, 1996) kadar, politik görüş, ekonomik durum, yaş ve cinsiyetin göçmen karşıtlığında etkisinin kısıtlı veya hiç olmadığını savunan çalışmalar (Chandler ve Tsai, 2001) da mevcuttur. Literatürü özetlemek gerekirse iş kaybetme endişesi göçmenlere karşı olumsuz görüşlerin ana kaynaklarından birini teşkil etmektedir. Ancak diğer yandan, demografik özelliklerin bireylerin sahip olduğu sosyal değerlerin göçmenlere karşı bakış açısını etkilediği, ancak bu etkileşimin tabiatının bir örüntü teşkil etmediği ve toplumdan topluma ve kültürden kültüre değiştiği ifade edilebilir.

Türkiye'de 2018 yılının Mart, Nisan ve Mayıs aylarında uygulanan Dünya Değerler Araştırması'nın yedinci dalga anket verileri (World Values Survey Association, 2018) kullanılmış ve lojistik regresyon metodu uygulanmıştır. Göçmenlere bakış açısı ile etkileşimde olan demografik özellikler ve bireylerin sahip olduğu sosyal değerler bu bölümün konusunu oluşturmuştur.<sup>56</sup> Türkiye'de eğitim seviyesinin yüksek olması ve nüfusun yüksek olduğu

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<sup>56</sup> Bu sebeple kullanılan bağımlı değişken *neighimmig* için anketin "Diyelim evinizin yanına bir komşu taşınacak. Şimdi size göstereceğim insanlardan hangilerinin komşunuz olmasını İSTEMEZDİNİZ? İstemediklerinizi seçip belirtiniz." sorusuna karşılık "Göçmenler, başka ülkelerden gelen işçiler" seçeneğine verilen cevaplar değerlendirilmiştir. Eğer ankete katılanlar bu grubu bir cevap olarak belirttiyse 1, belirtmediyse 0 olarak kodlanmıştır. Bunun dışında göçmen karşıtı tutumları ölçen farklı bağımlı değişkenler de kullanılmıştır.

şehirlerde yaşamak ile göçmen karşıtı tutum negatif ilişki içerisindedir. Evli olan bireyler evli olmayanlara kıyasla daha fazla göçmen karşıtı tutuma sahip olma eğilimine sahiptir. Diğer yandan, cinsiyet ve yaş gibi demografik özelliklerin göçmenler ile ilgili bakış açısıyla ilişkide olmadığı sonucuna ulaşılmıştır. Dinin bireyin hayatındaki rolü arttıkça göçmen karşıtlığının arttığı; vatandaşlık üzerinden ölçülen milliyetçiliğin de dindarlık gibi göçmen karşıtlığı ile pozitif ilişkide olduğu ortaya çıkmaktadır. Her ne kadar politik görüş ile göçmen karşıtlığı arasında istatistiksel olarak anlamlı bir ilişki bulunmamişsa da göreceli olarak politik skalanın daha sağında yer almak emek piyasasında göçmenlere karşı olumsuz bakış açısına sahip olmak ile negatif bir ilişkidir. İçinde gelir ve meslek grubu bilgilerini içeren sosyal sınıf yükseldikçe göçmen karşıtı olma ihtimalinin azaldığı, ancak sosyal sınıftaki artış ile göçmen karşıtlığı arasındaki ilişkinin emek piyasasında istatistiksel açıdan anlamlı olmadığı sonucuna ulaşılmıştır. Fakat sosyal sınıf yükseldikçe göçmenlerin suça, işsizliğe ve sosyal çatışmaya sebep olduğu görüşünün azaldığı görülmektedir. Yaş ile göçmen karşıtlığı arasında örüntü teşkil edecek bir ilişki olmasa da göçmen karşıtı olma ihtimali 18-34 yaş grubuna dahil olan gençler arasında daha popülerdir. Bunun haricinde anketi cevaplayan 50-54 yaş kategorisine dahil olan insanlar arasında da göçmen karşıtı olma ihtimali göreceli olarak yüksektir.

Görüleceği üzere göç politikasında sadece göçmenlerin durumunu gözeten bir sosyal politika anlayışından ev sahibi ülke vatandaşlarının sorunlarını da dile getiren, farklı gruplar için farklı çözümler üreten bir bakış açısına geçmeye ihtiyaç vardır. Milliyetçilik ve din gibi sosyal değerleri göz önünde bulundurmamak, farklı yaş gruplarını, emek piyasasındaki farklı meslek gruplarının endişelerini gözlemek ortak bir hayatın, göçmenlerin topluma uyum sağlamanın ve sosyal bütünleşmenin bir gerekliliğidir.

### **Türkiye’de Çevre ve Ekonomi Önceliklendirmesinin Politik Ekonomisi**

Sera gazı emisyonu tarihsel olarak artış gösterse de 1970-2022 yılları arasında sadece 2,20 kat artmıştır (Crippa vd., 2023). Buna mukabil aynı yıllar arasında dünyanın toplam gayri safi yurtiçi hasılasındaki artış 4,95 kattır (The World Bank, 2023c). Her ne kadar üretim yapılarının karbon verimliliği geçtiğimiz yarım yüzyıllık zaman diliminde artış göstermiş olsa da 1970’lerden 1990’ların ortalarına kadar düşme eğiliminde olan kişi başına sera gazı emisyonu daha sonra sürekli bir artma eğilimi göstermiştir (Crippa vd., 2023). İnsanlar her zamankinden daha fazla sera gazına maruz kalmaktadır. Bu sebeple çevresel sorunları ortadan kaldıracak bir dönüşümün ekonomik gelişmenin kendi içinden doğmasını beklemek yerine aktif, bilinçli politikaların gerekliliği her zamankinden daha fazladır.

Birleşmiş Milletlere üye ülkeler 2000 yılında Binyıl Kalkınma Hedeflerini (MDG) belirlediler. Buna göre 2015 yılına kadar, aralarında çevresel sürdürülebilirliğin de bulunduğu sekiz ana hedefe ulaşılması öngörülüyordu (The United Nations, 2000). Her ne kadar hedeflere kısmen ulaşılmış olsa da çevre örneğinde olduğu gibi en önemli sorunlar halen önem arz etmeye devam ediyor. Dünyanın toplam CO<sub>2</sub> emisyonu 1990 ile 2015 arasında %50'den fazla artış gösterdi. Ormansızlaşma, biyolojik çeşitlilik kaybı ve dünya nüfusunun %40'ını hala etkilemekte olan kuraklık MDG'nin hedef yılı olan 2015'te güncelliğini koruyordu. Yoksul ülkeler geride kalıp çevresel bozulmanın yükünü üstlense de küresel hareket yavaş ve eşit olmayan bir şekilde de olsa ilerliyordu. 2015'te ise MDG'yi Sürdürülebilir Kalkınma Hedefleri (SDG) izledi. SDG aralarında *yoksulluğa son* ve *iklim eylemi* hedeflerinin en fazla vurgulananlardan olduğu 17 farklı hedef içermektedir. Hedefler sadece kalkınmakta olan ülkeleri değil dünyanın tamamını kapsamaktadır. Fakat, 2023 itibarıyla hedeflerin yarıdan fazlasında istenen gelişme sağlanamamıştır (The United Nations, 2023). Tarımın icadından bu yana artan nüfus ve iktisadi genişleme dünyanın kaynaklarının ölçsüz şekilde sömürülmesine ve çevre bozulmasına sebep olmuşken teknolojik gelişme ve güçlü kamu politikaları bir araya getirilerek bu çevre sorunlarının önüne geçmek mümkündür. Bireylerin çevre konusundaki duyarlılıkları ve bilinci bu sebeple çevre kalitesinin artırılmasında kamu politikalarını etkilemeleri bakımından birincil öneme sahiptir. Çalışmanın bu bölümünü oluşturan çevre duyarlılığının bileşenlerini kavramak halk desteğine sahip etkin kamu politikaları oluşturabilmenin ön şartıdır.

Gifford ve Nilsson'a (2014) göre eğitim seviyesi, kadın olmak ve yüksek gelir sahibi olmak, çevre yanlısı olmakla ve çevre duyarlılığı ile yakından ilişkilidir. İnsanlar genç yaşlarda çevre ile ilgili daha fazla duyarlılık sahibi iken yaşları ilerledikçe çevre konusunda daha fazla aktif rol almaktadır. Din ve kentte yaşamının ise çevresel tutum ve davranışlarla ilişkisine dair kesin bulgular yoktur. Birch (2020) de gelir, eğitim ve kadın olmanın çevreyi korumanın ekonomik büyümeye önceliklendirilmesi konusunda pozitif etkiye sahip olduğunu belirtirken Kajsa vd. (2020) kadınların çevre ile sosyal refah arasında kaldıklarında sosyal refahı tercih ettiklerini iddia etmektedir. Demografik özellikler ile çevre farkındalığı arasındaki ilişkiye dair literatürde çelişkili bulgular mevcuttur (Egondi vd., 2013; Semenza vd., 2008).

Çalışmanın bu bölümü Türkiye'de çevre duyarlılığını şekillendiren etmenler üzerine eğilmektedir. Lojistik regresyon metodu analizler için temel değerlendirme aracı olmuştur. Sırf çevreye ilişkin bir bağımsız değişken kullanmak yerine bireylerin çevrenin korunması ile ekonomik büyüme arasındaki önceliklendirmelerinin ölçüldüğü bir bağımsız değişken tercih

edilmiştir.<sup>57</sup> Demografik özelliklere ek olarak, yaşam memnuniyeti, gelir, postmateryalist değerler, iş dünyası ve sanayide devletçi tercihler, dindarlık, demokrasi ve sivil toplum algısı, milliyetçilik ve siyasi tercih gibi çeşitli açıklayıcı değişkenler analize dahil edilmiştir. WVS çalışmasının yedinci anket dalgasına Türkiye içinde olmak üzere 64 ülke dahil edilmiştir. Yedinci dalga 2017 ve 2022 yılları arasında gerçekleştirilse de bu bölümün odaklandığı ana örneklem Türkiye olup anket Türkiye’de 2018 yılında yapılmıştır.

Türkiye’de yaş ile çevrenin ekonomik büyüme karşısında önceliklendirilmesi arasında negatif bir ilişki mevcuttur. Yaş ilerledikçe insanların çevre yanlısı görüşlere sahip olma ihtimali düşmektedir. Ancak bu ilişki doğrusal olmayıp çevre yanlısı görüşlerdeki bu aşınmanın hızı yaş ilerledikçe yavaşlamakta ve daha sonra tersine dönmektedir. Türkiye’de bireylerin gelir skalasındaki yeri yükseldikçe çevreyi ekonomi karşısında daha öncelikli görme ihtimalleri de artmaktadır. Kentsel yaşam, yaşam memnuniyeti, postmateryalist değerlerin artması çevrenin öncelikli görülmesi ile ilişkilidir. Evli olup olmama ve cinsiyet çevre ile istatistiksel olarak anlamlı bir ilişki göstermemektedir.

Diğer yandan dinsellik, demokrasiye atfedilen önem, sivil topluma duyulan güven ve vatandaşlık üzerinden ölçülen milliyetçilik çevrenin öncelikli görülmesi ile pozitif ilişkidir. Politik yelpazede daha sağda yer almak çevre yerine ekonomik büyümenin öncelikli görülmesi ile ilişkilidir. İş dünyası ve üretimde birey yerine devletçi bir anlayışa sahip olmak ile çevrenin önceliklendirilmesi pozitif ilişkilidir.

Şaşırtıcı bir sonuç olarak eğitim ile çevrenin ekonomi karşısında önceliklendirilmesi arasında istatistiksel olarak anlamlı bir sonuç bulunamamıştır. Bunun için ankete dahil olan diğer 63 ülke de analize dahil edilmiş, gelir seviyelerine, özgürlük durumlarına, demokrasinin işlevselliğine, ekonomik özgürlüklerine, dini tercih yüzdelerine, insani kalkınma endeksi ve sera gazı salınımlarına göre sınıflandırılmış ve Türkiye için hazırlanan temel model bu ülkeler için de çalıştırılmıştır. Demografik özellikler ile çevrenin önceliklendirilmesi arasında örüntü teşkil edecek bir bulguya rastlanmamıştır. Eğitim, dini tercihler ve sera gazı emisyonuna göre sınıflandırma kapsamında bir örüntüyü işaret etmemektedir. Fakat, eğitim ile çevrenin ekonomik büyümeye kıyasla öncelikli görülmesi konusunda genel bir pozitif ilişki mevcuttur.

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<sup>57</sup> Kullanılan bağımlı değişken *environment* için anketin “Şimdi size, insanların çevre sorunları ve ekonomik gelişme konularından söz ederken ileri sürdükleri iki fikir okuyacağım. Bunlardan hangisi sizin görüşlerinize daha yakın? 1. Ekonomik gelişmeyi yavaşlatsa ve biraz işsizliğe yol açsa bile, çevrenin korunmasına öncelik verilmelidir. 2. Çevreye bir miktar zarar gelse bile, ekonomik gelişmeye ve iş yaratmaya öncelik verilmelidir.” sorusuna verilen cevaplar değerlendirilmiştir. Eğer ankete katılanlar ilk tercihi seçmişse 1 olarak, ikinci tercihi seçmişse 0 olarak kodlanmıştır.

Bu pozitif ilişki yüksek gelirli ve kurumsal kalite bakımından ileride olan, insani kalkınması yüksek ülkelerde göreceli olarak daha fazla yoğunlaşmaktadır. Türkiye’de özel eğitim kurumlarındaki öğrencilerin çevre bilinci devlet okullarında okuyan yaşlılarına kıyasla daha yüksektir (Tuncer vd., 2005). Türkiye’de eğitimin çevre karşısında katsayısının istatistiksel olarak anlamsız olmasının sebebi devletin toplam örgün eğitim kurumlarının %80’inden fazlasına sahip olmasından ve Türkiye’deki resmi eğitim müfredatında çevre eğitiminin yeterince yer bulamamasından kaynaklanıyor olabilir. Türkiye’de çevre politikalarının halk tarafından benimsenmesi ve daha etkin şekilde yürütülebilmesi için çevre eğitiminin eğitim sistemine bilinçli bir şekilde entegre edilmesi çevre duyarlılığının ve çevre bilincinin güçlendirilmesi şarttır.

### **Dini Değerler ve Modernleşmenin Politik Ekonomisi**

Din ve modernleşme arasındaki ilişki tek taraflı değildir. İki tarafın da dinamik doğası gereği bu ilişki zamana, kavrama ve çalışmanın yapıldığı yere göre değişiklik gösterir. Modernleşmenin, beraberinde getirdiği kurumların ve ekonomik gelişmenin din üzerindeki etkisi konunun bir yönünü oluştururken. Dinin modernleşme ve diğer değişkenler üzerindeki etkisi konunun bir diğer yönünü oluşturmaktadır. Tezin bu bölümünde McCleary ve Barro’nun (2006) ana olarak ekonomik büyümenin ve kalkınmanın çeşitli boyutlarının dini inançlar üzerine etkisini incelediği çalışmanın bir yinelemesi yapılmıştır. Ancak veri seti genişletilmiş ve ülke örneğine dahil olan ülke sayısı artırılmıştır. Diğer yandan, ekonomik büyümenin yanı sıra modernleşmenin diğer boyutları olarak küreselleşme ve kurumsal kalitenin dinselikle olan ilişkisi de kurumsal iktisat bakış açısıyla sunulmuştur.

Weber’in Protestan ahlakı (Weber, 1905/2012), 17. yüzyılda kilisenin ötesinde bir etkiyle topluma sirayet ederken 18. yüzyılda kapitalizmin Sanayi Devrimi ile güçlenmesiyle içindeki dini karakteristiktan sıyrılmıştır. Bu dinselikle ilgili birçok teori mevcut iken öne çıkan iki tanesi bu çalışmada kullanılmıştır: Sekülerleşme Hipotezi ve arz yönüne vurgu yapan, ekonomik bir bakış açısıyla kurgulanan Din Piyasası Modeli. İlki modernleşme ve ekonomik gelişme ile dinin inançların ve dini törenlere katılımın zayıflayacağını öngörür (Wilson, 1966/2016). Yani dine olan talebin azalacağı varsayılmaktadır. İkincisinde ise devletin din piyasasına müdahalesi serbest piyasaya müdahale niteliğindedir ve din tekeli yaratır, rekabeti azaltır. Bir devlet dininin varlığı ve din piyasasının devlet eliyle düzenlenmesi buna örnektir. Dini çoğulculuk ise piyasa için temel unsurlardan biridir. Sekülerleşme hipotezinin aksine din piyasası modeline göre sekülerleşmenin sebebi talepte var olan azalmadan çok arz yönlü bir değişimdir (Stark ve Finke, 2000; Young, 2016). İktisat biliminin incelediği herhangi bir

piyasada en temel anlamda denge, talep ve arzın bir araya geldiği noktada gerçekleşir. Bu sebeple hem talep yönlü sekülerleşme hipotezinin hem de arz yönlü din piyasası modelinin bir arada değerlendirilmesi dini inançların evrimini anlamak bakımından önemlidir. Bu sebeple tezin dördüncü bölümü dinsellikle alakalı teorileri bir bütün olarak ele alıp bir araya getirmiş analize dahil edilen modeller buna göre kurgulanmıştır.

WVS'nin elde mevcut olan yedi anket dalgasından son altısı bu çalışmaya dahil edilmiştir. Anketlerin kapsadığı yıl aralıkları sırasıyla 1989-1993, 1994-1998, 1999-2004, 2005-2009, 2010-2014, 2017-2022'dir. McCleary ve Barro'nun (2006) 68 ülkeli örneklemi bu çalışmada 108'e çıkarılmış ve en uzun hali ile 1989-2022 yıllarını kapsayacak şekilde genişletilmiştir. Analiz için SUR metodu kullanılmaktadır.

1989-2004 arasının analize dahil edildiği temel model bulgularına göre devlet dininin varlığı din piyasası modeline uyumlu olarak bir din monopolü yaratarak rekabeti azaltır. Bu sebeple dinsellikle ekonomik büyümenin arasında olduğu gibi negatif ilişki içerisindedir. Devletin din piyasasını düzenlemesi ise dinsellikle pozitif ilişkilidir. Bu sonuç din piyasası modeli ile çelişkili gibi görünse de bu çalışmada kullanılan devlet düzenlemelerine ilişkin bağımsız değişken çok kapsamlı olduğundan ve devlet düzenlemelerinin yüksek olduğu ülkelerde insanların anket sorularına normalde olduklarından daha dindar oldukları şeklinde cevap verme eğilimlerinden kaynaklanıyor olabilir. Bunun ardında yatan sebeplerden biri düzenlemenin fazla olduğu ülkelerdeki rejimlerin göreceli olarak daha otoriter bir anlayışa sahip olmaları olabilir. Diğer yandan dini çoğulculukla ölçülen dini çeşitlilik din piyasasındaki rekabetin varlığına işaret ettiğinden dini çoğulculuk da dinsellikle negatif ilişkidir. Bu sonuçlar gözlem sayısının arttığı, veri setinin 1989-2022 yıllarını kapsayacak şekilde genişletildiği analizlerde de aynı şekilde korunmaktadır.

Modernleşmenin en önemli göstergelerinden biri olarak kabul edilen küreselleşme ve küreselleşmenin alt kalemleri olan finansal küreselleşme, sosyal küreselleşme, kişiler arası küreselleşme, enformasyonel küreselleşme ve kültürel küreselleşme ile dinsellik arasında ters yönlü bir ilişki mevcuttur. Diğer yandan modernleşmenin göstergesi niteliğindeki kurumsal kalite kapsamında değerlendirilebilecek yönetim kalitesi de genel olarak dinsellikle negatif ilişkilidir. Bunun alt kalemleri olan ifade özgürlüğü ve hesap verebilirlik, yolsuzluğun kontrol altına alınması, devletin etkinliği, hukukun üstünlüğü ve yasal kalite gibi kurumsal nitelikler de dinsellik ile negatif ilişki içerisindedir. Bağımsız yargı, tarafsız mahkemeler, hukuki bütünlük ve ekonomik özgürlüklerin alt kalemlerini oluşturduğu ekonomik özgürlükler ve hukuk sistemi başlığı da istisnalar olmakla beraber genel olarak dinsellikle negatif ilişkilidir. Özgürlük ve

insan hakları dinselliğin bütün boyutları ile ters yönlü ilişkidir. Ancak din özgürlüğü ve seçimle kendi kaderini tayin etme özgürlükleri dini seremonilere katılımı pozitif ilişkilidir. Bunun sebebi din özgürlükleri arttıkça ve politikaya etnik kökenleri, ırkı, cinsiyeti ve dini tercihi sebebiyle katılımı engellenenlerin özgürlükleri arttıkça, dini törenlere zaten katılmakta olan bireylerin katılımının daha da artıyor olmasıdır. Dernek kurma ve toplantı özgürlüğü, konuşma ve basın özgürlüğü de diğer özgürlükler gibi dinselikle negatif ilişkilidir.

Özetle, bireysel özerkliği artıran ve özgürlükleri teşvik eden modernleşme, bireyi ön plana çıkarır. Bireyler sivil topluma veya bir topluluğa dahil olabilirken kararlarını sosyal değerlerden çok kişisel özgürlüklere dayandırmaktadır. Bu bireyselleşme din çeşitliliğinin ve din özgürlüğünün artmasıyla dini inanışlara da yansımıştır. Birey, modernleşmenin beraberinde getirdiği ekonomik, teknolojik ve bilimsel gelişmeler ile her şeyi sorgulayabildiği gibi dini kurumları da sorgular hale gelmiş, her şeyi seçerken özgür olduğu gibi tanrıyı seçerken de özgür hale gelmiştir. Sekülerleşmenin ardında modernleşmenin toplumsal değerlerin önüne bireyi geçirerek yarattığı kurumsal dönüşümün etkisi yatmaktadır.