

CORRUPTION, WOMEN PARTICIPATION, AND ECONOMIC DEVELOPMENT: EVIDENCE FROM G20

Thesis

**Submitted to meet the Graduation Requirements of
Master's Degree (M.A. in Economics)**



Author:

Ananda Olga Ulma

Student ID: 03232110007

**FACULTY OF ECONOMICS AND BUSINESS
UNIVERSITAS ISLAM INTERNASIONAL INDONESIA
DEPOK**

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Ananda Olga Ulima

03232110007

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ABSTRACT

Women's participation in the public sphere has been increasingly prominent and impactful, resonating across various macro and microeconomic domains. Gender-Corruption issues have been recently become the focus in empirical findings of scholars. This study aims to examine the effect of women participation in public space on corruption in G20 member countries between year 1995-2021, based on panel data analysis. Under the most relaxed assumption of the model i.e., fixed effect, the result concludes that countries with high inequality is associated by higher corruption level. However, a good governance indicated from their rule of law has significant impact on reducing the level of corruption, which indicated that the policies' role and commitment set by the government institution are essential especially for those of G20's developing countries. Furthermore, the impact of women participation in parliament does not necessarily reduce corruption. Both female labour force participation and senior-middle management have a positive effect to eradicate corruption level. While under fixed effect model, the impact of these variables dissipates, suggesting that country-specific characteristics may explain the variation in the corruption level. This study suggests that promoting women participation must be followed by institutions, norms, and culture to strengthen the effectiveness of law. Moreover, next agenda of G20's board meeting can be focusing on tracking the progress of Anti-Corruption Working Group because there is still gap between developed and developing countries in terms of corruption eradication policy to gain sustainable economic development.

Keywords: *Corruption, Women Participation, Economic Development, G20*

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LIST OF ABBREVIATIONS

ACWG	: <i>Anti-Corruption Working Group</i>
BTI	: <i>Bertelsmann Transformation Index</i>
CFR	: <i>Council on Foreign Relations</i>
CPI	: <i>Corruption Perception Index</i>
COVID-19	: <i>Coronavirus Disease</i>
EMDE	: <i>Emerging Market and Developing Economy</i>
EMPOWER	: <i>Empowerment and Progression of Women's Economic Representation</i>
EU	: <i>European Union</i>
FATF	: <i>Financial Action Task Force</i>
FEM	: <i>Fixed Effect Model</i>
G-7	: <i>Group of 7</i>
G20	: <i>Group of 20</i>
GDP	: <i>Gross Domestic Product</i>
GII	: <i>Gender Inequality Index</i>
GNP	: <i>Gross National Product</i>
GNI	: <i>Gross National Income</i>
ILO	: <i>International Labour Organization</i>
IMF	: <i>International Monetary Fund</i>
IS-LM	: <i>Investment-Saving and Liquidity Preference-Money</i>
KPI	: <i>Key Performance Indicator</i>
LDP	: <i>Liberal Democratic Party</i>
MORENA	: <i>Movement for National Regeneration</i>
NAFTA	: <i>North America Free Trade Agreement</i>
OECD	: <i>Organisation for Economic Co-operation and Development</i>
OLS	: <i>Ordinary Least Square</i>
PPP	: <i>Purchasing Power Parity</i>
REM	: <i>Random Effect Model</i>
SCS	: <i>South China Sea</i>
SLC	: <i>Saudi-Led Coalition</i>
UNDP	: <i>United Nations Development Program</i>
UNODC	: <i>United Nations Office on Drugs and Crime</i>
WGI	: <i>World Governance Indicator</i>

CHAPTER 1

INTRODUCTION

1.1 Background

In 2022, various crises, such as the pandemic, the climate emergency, large-scale conflict, and rising costs of living, have caused progress towards gender parity to stall. With leaders dealing with economic and political shocks, the risk of reversing progress is increasing. This halt in progress towards gender parity is not only affecting female at present but will also have catastrophic consequences for the future of our communities, societies, and economies. It is essential to prioritize accelerating gender parity in both public and private sectors.

According to the World Economic Forum, in year 2022, the global gender gap reached about by 68.1%. However, at the current pace of progress, it will still take another 132 years to achieve complete gender parity. While this estimate is a slight improvement from the 2021 prediction of 136 years to parity, it does not fully make up for the setback caused by the pandemic, which caused a generational loss in progress towards gender equality. Prior to 2020, it was expected that the gender gap would close within 100 years based on previous trends.

Among countries globally, there are 10 countries which have made a significant progress towards gender parity which have at least 80% of their gender gaps. Iceland has been the leading country in the global ranking with over 90% of its gender gap. Other top 5 countries include Scandinavian countries (such as Finland, Norway, and Sweden), with additional European countries such as Ireland and Germany in the top 10 level. Sub-Saharan African countries, i.e., Rwanda and Namibia, along with Nicaragua from Latin America and New Zealand from East Asia and the Pacific, also feature in the top 10. Nicaragua and Germany are new entrants in the top 10 this year, while Lithuania and Switzerland drop out. Despite this progress, no country has achieved full gender parity yet (World Economic Forum, 2022).

Although several countries have been progressing in recent decades by which women labour type received paid work and leadership positions in various

industries, obstacles such as societal expectations, employer policies, legal constraints, and limited care infrastructure have been continued to hinder their access to education and career opportunities. Unfortunately, the COVID-19 pandemic and geopolitical conflicts have worsened the situation for females globally, jeopardizing their future prospects in the labour market. Nevertheless, there are positive signs, such as increased representation of women in leadership roles and engagement in tertiary education, as well as a rebound in professional and technical roles, which could serve as a foundation for future progress.

The latest Corruption Perceptions Index (CPI) shows that corruption levels have remained stagnant globally, two years into the COVID-19 pandemic. Despite anti-corruption commitments, 131 countries have not made significant progress in tackling corruption over the last ten years. This year, 27 countries have hit their lowest score in the CPI. At the same time, there are increasing attacks on human rights and democracy worldwide. Corruption is often linked to human rights abuses, leading to a vicious cycle of declining freedoms, weakening democracy, and higher levels of corruption.

According to UNODC (2022), corruption is defined as an error term where societies including the system cannot predict precisely how much the side impact from the allocation or regression of the system's run unsmooth. Corruption tends to have varying impacts on individuals based on a range of factors, such as gender, context, race, socioeconomic status, power dynamics, and vulnerability. In many situations, it is believed that corruption can disproportionately affect women compared to men. This is due to the fact that vulnerable groups are more susceptible to corruption, and women often face greater vulnerability than men due to discrimination and gender-based oppression. Additionally, considering that certain groups of women may be more vulnerable than others, it follows that those who are more vulnerable are likely to experience more adverse effects from corruption compared to those who are less vulnerable (UNODC, 2022).

A big chamber, a big share of pie has a big responsibility. G20 has been played important role regarding controlling economic activities toward global scale. More than 20 years, G20 countries shaping and strengthening global architecture and

governance on all major international economic issues. Today's cooperation of G20 become more complex and comprehensive agenda to inter-alia include trade, climate change, sustainable development, health, agriculture, energy, environment, climate change and anti-corruption. Gross domestic product (GDP) in the G20 area grew by 1.3% quarter-on-quarter in the third quarter of 2022 according to provisional estimates, after shrinking by 0.3% in the second quarter. The bounce back in the G20 area in the third quarter mainly reflected a recovery in China, as some of the country's strictest COVID-19 lockdowns began to be eased. China's GDP grew by 3.9% quarter-on-quarter after contracting by 2.7% in Q2 2022 (OECD, 2022).

More than 10 years G20 have been committed to tackling corruption issues among them. G20 Anti-Corruption Working Group (ACWG) has been initiated in 2011 to effectively implement and adopt high-level principles to prevent corruption and criminalization, enforcing the law, fostering international cooperation, and recovering assets. Through G20 Anti-Corruption Working Group (ACWG), the progress of high-level meeting has been delivered in annual Accountability Report to ensure that the Groups holds itself accountable to the commitments it has made.

Next, regarding anti-corruption, the Japanese Presidency 2019 has been supported efforts to prevent and combat corruption, as well as the implementation of the G20 Anti-Corruption Action Plan 2019-2021. Furthermore, Japanese Presidency has been supported Compendium of Good Practices for Promoting Integrity and Transparency in Infrastructure Development, and High-Level Principles for Effective Protection of Whistle-blowers. For the next step, practical cooperation is needed to combat corruption, facilitate asset recovery, and recognize the significance of the relationship between corruption and gender.

The Saudi Arabian Presidency 2020 has been promoted a multistakeholder approach by welcoming the first G20 Anti-Corruption Ministerial Meeting and supporting the G20 Call to Action on Corruption and COVID-19. Under Saudi Arabian Presidency, anti-corruption campaign was received positively followed by G20 Anti-corruption Accountability Report, dan G20 High-Level Principles for: the Development and Implementation of National Anti-Corruption Strategies,

Promoting Public Sector Integrity Through the Use of Information and Communications Technologies, and Promoting Integrity in Privatization and Public- Private Partnerships.

The Italian Presidency 2021 has been emphasized zero-tolerance commitment for corruption in the public-private sector and supports the Financial Action Task Force (FATF) and the Global Network to address money laundering and terrorism financing. On the other hand, Italian Presidency has been encouraged tackling corruption related to organized crime, corruption in sport and preventing and combating corruption in emergencies.

Gender and women's empowerment has been representing the sherpa track issue in every G20 meeting. One of the initiatives, there was Empowerment and Progression of Women's Economic Representation (EMPOWER) alliance that continued to play a role in gender equality and women's empowerment in Japanese Presidency 2019. This issue has been remained to be one of the priorities in Saudi Arabia Presidency 2020 and followed by Italian Presidency 2021.

The G20 ACWG Action Plan for 2022-2024 under Indonesia presidency guides the Group to utilize the reformed, thematic approach in the annual Accountability Report, which was developed during the Saudi G20 Presidency. This approach serves as a mechanism for G20 countries to self-assess their progress in implementing specific sets of High-Level Principles and other anti-corruption commitments. The purpose is to facilitate mutual learning of effective practices and identify areas for improvement in implementing these commitments, all while adhering to respective domestic laws and considering individual country frameworks.

The 2022 Accountability Report primarily centres on the G20's endeavours to combat corruption in customs and address corruption in sports. These two areas were chosen as they represent significant and pressing global anti-corruption concerns. Additionally, they involve intricate and cross-agency efforts, necessitating extensive internal coordination and data collection to conduct a comprehensive assessment of the G20 ACWG's initiatives in these domains.

Nowadays, research about Women participation might be common sense related to gender equality issue. But there is limited research concern to how Women participate in good governance system. Several research find out Women participation has significant effect in corruption eradication. Women's presence in parliament has a causal and negative impact on corruption while other measures of female participation in economic activities are shown no effect. The negative relationship between women's presence in government and corruption is also found to hold in a regional analysis of 17 European countries (Jha & Sarangi, 2018). While in the firm-level, the different results found that women apparently behave differently with respect to bribing on the grounds of higher ethical/moral standards. Women receive, on average, a greater payoff bribing compared to male counterparts (Wellalage et al., 2020).

The G20's strategy for combating corruption, as outlined in the Anti-Corruption Action Plans and Working Group, deals with numerous challenges regarding the transmission of corrupt practices. By addressing issues such as domestic and foreign bribery, promoting transparency and accountability in public institutions, and supporting public sector integrity, government efficiency, and by entrepreneurship, the G20 aims to stimulate investment and competition. In-depth analysis and research at the country level can help identify how corruption is negatively affecting economic performance and define policy measures and reforms more clearly. By doing so, progress can be measured more effectively, and the impact of anticorruption policies can be better understood, which is currently a barrier to more decisive, coherent, and sustained action in this field in many countries. Although G20 has specific Sherpa Track on Anti-Corruption movement, the impact and progress remain low toward member countries. Based on this background, further discussion related to corruption and gender specifically in term of women participation, this research will fill the gap which aims to investigate the relationship between corruption, women participation, and economic development issue toward G20 member countries.

1.2 Research Questions

Based on the background provided above, this study aims to address the following research questions:

1. What is current economic and political development in G20 countries?
2. What is current development of women's participation and corruption in G20 countries?
3. How do women's participation, economic development, and governance affect the occurrence on corruption in G20 countries?
4. How do women's participation, economic development, and governance differ in their impact between developing and developed countries within the G20?

1.3 Research Objectives

To provide comprehensive responses to the research questions, this study outlines the following objectives:

1. To analyse the present economic and political development in G20 countries.
2. To examine the current status of women's participation and corruption in G20 countries.
3. To explore the influence of women's participation, economic development, and governance on corruption in G20 countries.
4. To investigate the relationship between women's participation, economic development, and governance on corruption, differentiating between developing and developed countries within the G20.

By accomplishing these objectives, this study aims to provide insights into the current economic and political landscape, women's involvement, and corruption levels in G20 countries. Additionally, it seeks to examine the relationships and variations in the impact of women's participation, economic development, and governance on corruption between developing and developed nations within the G20.

1.4 Hypothesis

In accordance with the research questions and objectives stated earlier, this thesis sets out to the following hypotheses:

Hypothesis 1: Women's Participation in Public Space and Corruption Rate.

The increased participation with a decrease in the corruption rate within G20 countries.

Hypothesis 2: Economic Development and Corruption Rate.

Higher levels of economic development have a positive impact on reducing the corruption rate in G20 countries.

Hypothesis 3: Quality of Governance and Corruption Rate.

The presence of good governance practices is positively associated with a decrease in the corruption rate within G20 countries.

By examining these hypotheses, this thesis aims to assess the relationships between women's participation in public space, economic development, governance quality, and the corruption rate within the G20 countries. The findings will contribute to a deeper understanding on the factors that influence corruption levels and provide insights for policymakers and practitioners in combating corruption effectively.

1.5 Research Significance

This thesis is expected to fill the gap and enrich study from economics' behaviour and governance perspective for G20 countries and for future research. This is the first research which investigates the Women roles in public space of G20 respectively. So, this research provides these benefits:

1. For Academia and Scholars

This research can become a new exposure to examine the effect of corruption and its relation to women's participation in G20 member countries. Furthermore, this research adding a new perspective from environment point of view which can be causality relationship between behaviour economics and governance. Hopefully, this study become

reference and inspiration for next study with a more comprehensive and complex perspective.

2. For Government

This research gives information for regulator especially government and anti-corruption agency each country G20 member countries to always enhance synergy and governance system to fight corruption so that clear and health economics' performance within countries can accelerate sustainable development goals.

3. For Public and Private stakeholder

This research has been expected to make a clear statement to impose and encourage women participation in labour market both in private government-owned companies. It doesn't stop there; it is hoped that this research will open the eyes of stakeholders to place women in strategic positions in companies.

1.6 Thesis Outline

This thesis consists of five chapter. Chapter 1 covers things that lead the reader to the main issue. Chapter 1 is described sequentially starting from the background of the problem, the formulation of the problem, the objectives, the benefits of research and the systematics of writing.

Chapter 2 covers the theoretical basis and conceptual framework which is linear with the issues to be discussed. The theoretical basis or what is commonly called literature review is obtained from various sources including books, international journals, annual reports, or official reports sourced from official institutional and government websites. Next is previous research obtained from Scopus indexed international journals. At the end of this chapter is hypothesis of problem and the framework.

Chapter 3 explains current development of G20 from corruption status, women participation from politics, labour force, and education nowadays. Moreover, in this chapter, describes current comparison perspective from developed and developing member countries from economic and political development as well.

Chapter 4 covers the research approach used in analysing the problem. Part of the research method includes research approaches, identification of variables, types and sources of data used, procedures for collecting data and analysis techniques.

Chapter 5 includes matters relating to general description of research object, variables used in the study, description of research results, results include selection of estimation models, model analysis and hypothesis testing, statistical tests, proof of hypotheses and thorough discussion of research results.

Chapter 6 includes the final part of writing research results including conclusions that answer the formulation of problem and policy recommendations based on research findings.

CHAPTER 2

LITERATURE REVIEW

2.1 Theoretical Framework

The literature review of this study consists of theoretical framework and previous research from three different variable which are Women participation, economic development, and governance. As the dependent variable, corruption become main base theory to extend this study. The theoretical framework of this research contains of Women participation (women in politics, Women in labour market, and Women in education). Second, economic development has been representing by gross domestic product per capita and trade openness. Third, the governance has 2 variable control which are rule of law and political stability.

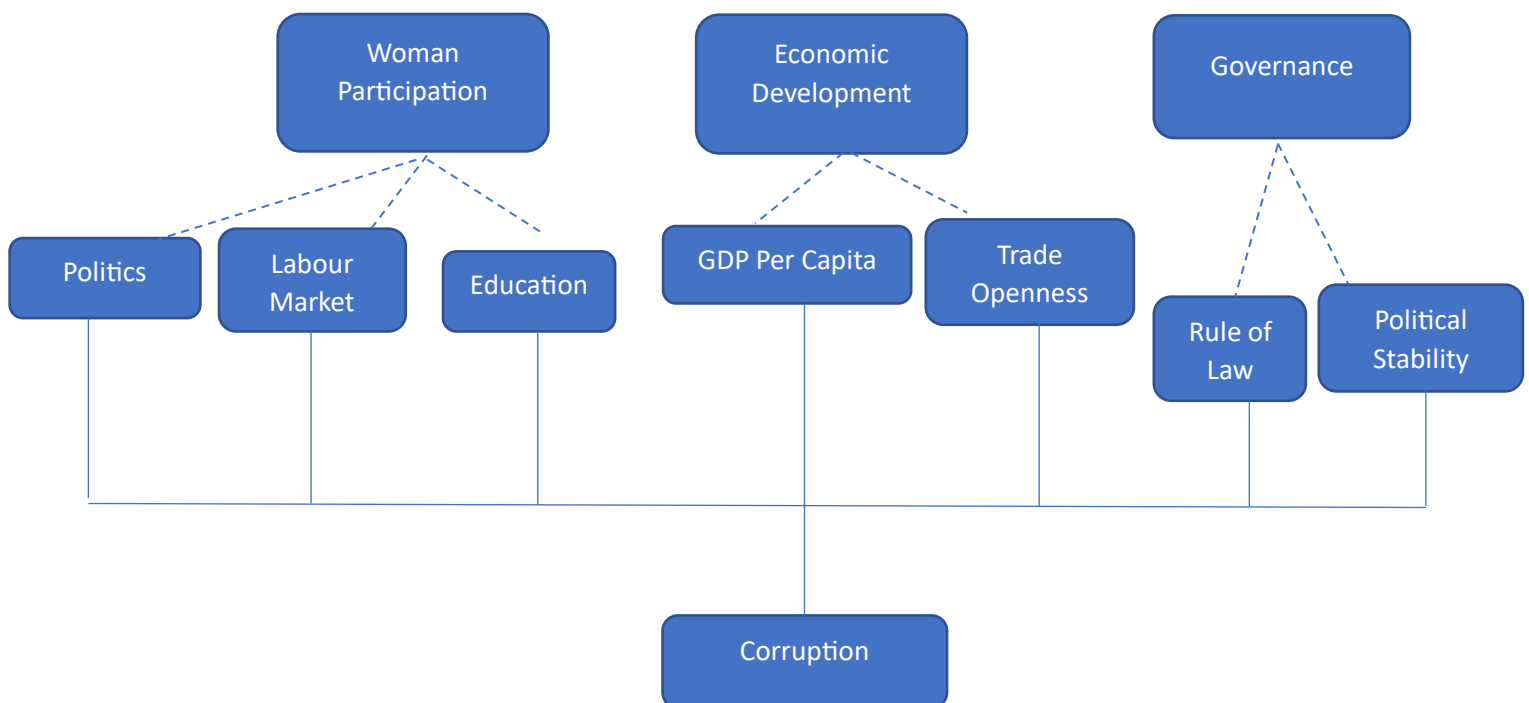


Figure 2.1 Research Framework

Source: Author, 2023

2.1.1 Corruption

The definition of corruption according to many world scientists is very diverse. Definition of corruption according to Nye (1967), corruption is behaviour that deviates from formal duties and public roles. Deviations committed are based

on problems and personal, family or colleague interests to get a certain amount of money or status that violates the rules or abuses authority because it has a certain influence.

Othman et. al (2014) defines corruption into 2 types, namely explicit and implicit aspects. In the explicit aspect, corruption seen from the point of view of physical character is an act related to two visible elements, namely deviant behaviour, and personal gain. Deviant behaviour depicts corruption as unethical behaviour (Nwabuzor, 2005). While personal gain describes the abuse of authority for personal gain (Beugre', 2010; Budiman et al., 2013; Alan and Hagemen, 2013). While in the implicit aspect, corruption describes the process of carrying out deviant acts or behaviours and personal gain. Types of acts of corruption include bribery and nepotism. Based on its scope, corruption can be expanded from personal interests to organizational interests. When viewed from deviant behaviour, the definition of corruption is expanded to include abuse of power, fraud, and malpractices such as extortion (Nye, 1967; Donleavy et al, 2008; Chandler and Graham, 2010).

Othman et al (2014) further explain the reasons why someone can commit corruption. There are three main points, namely because of power, opportunity, and moral impurity.

1. Power

Power means someone has the privilege of being able to do whatever they want. They use their power or position driven by opportunity so that they commit acts of corruption. This power is closely related to cases of bribery, exploitation, and conflicts of interest. Power can be categorized into three contexts, namely political power or what is often called political influence (the power to influence others), authority power, and controlling power or limited separation of duties which leads to corruption.

2. Opportunity

Opportunity is often associated with power. When someone has power in a certain position, then he/she will have the opportunity to commit acts of

corruption. Public roads that are frequent and prone to opportunities for corruption are project procurement with the government sector.

3. Moral impurity

Another reason why someone commits corruption is because of low morals, namely low personal integrity, selfishness, greed, and temptation, as well as low religious principles or firmness.

2.1.2 Women Participation

This section explains theoretical point of view from Women participation in public space which are Women in politics and Women in labour force. Various theories related to definition, the factors, the obstacles from legal, sociological, cultural point of view as well as political perspective has been trying to shape the framework.

2.1.2.1 Women in Politics

The status of women in politics refers to the extent to which women are able to exercise their rights to equality and freedom in the political sphere, both in terms of their ability to participate in decision-making processes and their recognition and value within society for their contributions to political leadership (Thanikodi & Sugirtha, 2007).

According to Thanikodi and Sugirtha, at all levels of society, women across the globe are facing a lack of representation in national parliaments and a significant distance from decision-making positions. Despite differences in political landscapes across countries, one commonality is an unequal playing field that hinders women's participation. Women who aspire to pursue a career in politics encounter unfavourable or even hostile political, public, cultural, and social conditions.

Moreover, the extent of women's political subjugation encompasses a wide range of societies, economies, and political systems. Across most cultures, political power structures are complex and consist of multiple social hierarchies, with gender being just one component. Despite this, men in any group are typically better positioned to engage in political activities than their female counterparts.

Iwanaga (2008) argued that the literature on politics and women outlines two major viewpoints when it comes to political representation: the descriptive and substantive perspectives. From the descriptive perspective, the election of more women to political positions holds a symbolic importance in terms of promoting gender equality and conferring greater legitimacy upon the political system.

The descriptive approach to women's political representation argues that legislative bodies should have a greater proportion of female members to ensure more accurate representation of women in society. Existing research on women and politics has primarily focused on descriptive and numerical representation of women in politics in established Western democracies, demonstrating the importance of symbolic representation for enhancing legitimacy and promoting gender equality. This approach also recognizes the need for substantive representation, which involves ensuring that women's perspectives and interests are reflected in policymaking and political decision-making processes.

The substantive perspective on women's political representation argues that simply increasing the number of women in parliament is not enough to achieve meaningful change. Rather, the inclusion of women in political decision-making processes is important because they bring unique perspectives and priorities that differ from those of men. Women's experiences, for instance, may be shaped by gender-based discrimination, social and economic marginalization, and other factors that are not necessarily shared by men.

By increasing women's representation in parliament, their perspectives can be more fully reflected in policy making, and issues that disproportionately affect women can receive more attention. Women policymakers are often better equipped to drive policies aimed at addressing gender inequality and advocating for the rights of vulnerable groups, including women and children (Jha and Sarangi, 2018). This aligns with previous research indicating that women in parliament tend to exhibit more progressive values and show greater support for diversity and gender equality compared to their male counterparts (Gouws and Kotze, 2007). Similarly, women in public office, particularly in countries with higher gender equality, are likely to be in a favourable position to promote policies that align with the interests of public

goods (Bauhr, Charron, and Wängnerud, 2018; Engelbert and Kubbe, 2018). This approach recognizes the importance of both descriptive and substantive representation, as increasing the number of women in parliament is necessary for their voices to be heard but ensuring that their perspectives and priorities are reflected in policy making is equally important.

Various theoretical approaches, such as legal/institutional, sociological, psychological, rational choice, and political process theories, have been developed to explain participation patterns in different types of political activities. Researchers have investigated these approaches in various studies, including those conducted by Conway (2000), Conway et al. (1997), Fowler (1993), McGlen and O'Connor (1998), and Rinehart (1992).

One perspective of sociological theory suggests that cultural factors play a significant role in the limited number of women who hold public office. American society has been historically dominated by patriarchal culture, with social norms and gender expectations dictating that women should be relegated to domestic life or a limited range of prescribed work roles, such as clerks, secretaries, nurses, or teachers. Due to these social norms and the limited opportunities for education and employment, women have been prevented from obtaining the necessary skills and resources to compete effectively for positions in public office.

Second, for the under-representation of women in elected offices focuses on their differential acquisition of skills relevant to a political career. This is due to family care responsibilities and time demands associated with employment outside the home. Both men and women have the opportunity to acquire such skills through non-political activities like volunteer organizations, religious institutions, and work-related activities, but men tend to engage more frequently in activities that foster skill acquisition than women (Verba et.al, 1996).

Third explanation for the low number of women holding elected office is the role of gatekeepers who decide who can run for public office. Gatekeepers can include political parties, interest groups, and influential individuals who have a say in candidate selection. Studies suggest that gatekeepers often exhibit gender bias and may discourage or impede women from running for office, contributing to the

underrepresentation of women in politics. This theory has been explored by various scholars, including Burrell (1993), Niven (1998), Norris (1997), and Lovenduski (1995).

Thanikodi and Sugirtha (2007) revealed despite various international and national commitments to gender equality, women are still underrepresented in politics. The current composition of political decision-makers in any region reveals that women encounter various obstacles in expressing and controlling their own future. The obstacles are:

1. Political Obstacles

The political sphere is overwhelmingly dominated by men, with the “masculine model” of politics and governance prevailing. This model is characterized by male norms and values and is organized in a way that reflects male lifestyles and perspectives. Men set the rules of the political game and establish the standards by which political success is measured. They engage in a competitive and confrontational approach that emphasizes winning at all costs, rather than fostering collaboration and consensus building.

This approach to politics is unfamiliar to many women, who may find it at odds with their nature and experiences. As a result, women are often deterred from entering politics altogether or opt for alternative styles of political engagement. Consequently, female participation in politics remains limited, with women being vastly underrepresented in elected offices and other positions of political power. In summary, the prevalence of the masculine model of politics and governance reinforces gender disparities in political representation and undermines efforts to build more inclusive and equitable societies.

The underrepresentation of women in political leadership can be attributed to various factors, including insufficient support from political parties. Female candidates often receive limited financial assistance and have limited access to political networks that can help them advance in their careers. Additionally, women face double standards in the political arena, with their qualifications and abilities often scrutinized more closely than their male counterparts. Despite their significant

contributions to campaigning and mobilizing support for their parties, women continue to be side-lined from decision-making positions in politics. This lack of party support for women perpetuates gender inequality in politics and reinforces the existing power dynamics that favour men.

2. Socio-Economic

The socio-economic challenges that hinder women's political participation can be categorized as follows:

Firstly, poverty and unemployment often limit women's opportunities to engage in politics as they must prioritize their basic survival needs. Secondly, women frequently face a lack of financial resources to finance their campaigns and compete on an equal footing with male candidates. This can be compounded by systemic discrimination in accessing funding, such as biases in awarding grants and loans.

Thirdly, illiteracy and limited access to education and professional opportunities hinder women's ability to acquire the skills, knowledge, and networks necessary to succeed in politics. Furthermore, patriarchal societal norms can limit women's choices of professions and discourage them from pursuing careers in male-dominated fields, including politics.

Finally, women often shoulder the burden of domestic tasks and caregiving responsibilities, leaving them with limited time and energy to participate in political activities. This "dual burden" can create a significant obstacle for women who wish to enter politics and compete for political leadership roles.

3. Ideological and Psychological

In many countries, traditional values prioritize women's roles as mothers and homemakers. A patriarchal value system reinforces the idea of segregated gender roles, which can act as a barrier to women's political participation. "Traditional cultural values" often hinder women's progress and their ability to take part in political processes. Worldwide, society is governed by a belief about "a women's place," which is often limited to the role of a "working mother." This role is frequently underpaid and excluded from political participation.

Moreover, in some developing societies, men exercise control over women's voting decisions. These factors contribute to an environment where women are stereotyped as traditional, apolitical figures with limited agency and opportunities for advancement. These cultural values perpetuate gender disparities in politics and prevent women from contributing to decision-making processes. To achieve gender equality in politics, these traditional views must be challenged, and efforts must be made to promote women's participation in all aspects of political life.

One of the primary reasons for women's underrepresentation in formal political institutions such as parliaments, governments, and political parties is a lack of confidence in themselves. Women often internalize societal messages that suggest they are less capable than men and feel inadequate when it comes to pursuing leadership roles in politics. This lack of confidence can stem from various factors, including gender-based discrimination and harassment, stereotyping, and a lack of female role models in politics. Additionally, women may face resistance and hostility from male-dominated political environments that further erode their confidence.

Countries where political processes are often marred by corruption, abuse of power, and unethical practices. Women may perceive politics as a "dirty" game due to the prevalence of these negative aspects, which can discourage them from participating. Moreover, the underrepresentation of women in politics can reinforce this perception, as women are often excluded from decision-making processes and may not have the opportunity to challenge or change these negative practices. This perception of politics as a "dirty" game is not limited to certain countries, but rather it is prevalent worldwide. It reflects the reality in many contexts where political processes are dominated by a patriarchal and often corrupt system that reinforces gender inequality and excludes women from participation.

2.1.2.2 Women in Labour Market

The classic economic literature discusses how women's relative disadvantage in the workforce is explained by the burden of caring for their families and the division of labour within families based on comparative advantage (Du and

Dong, 2010; Xiong and Li, 2016; Killingsworth and Heckman, 1986; Altonji and Blank, 1999).

Scholars have also examined women's wage levels, attributing them to fertility and family responsibilities in studies conducted by Millimet (2000), Sigle-Rushton and Waldfogel (2007), and Budig and England (2010). However, these traditional economic studies do not provide a comprehensive explanation as to why women are primarily responsible for family care. Research on women's labour supply behaviour and labour market outcomes has largely focused on economic, institutional, and policy constraints, with little attention paid to individual preferences or social beliefs. In recent years, there has been an increasing number of interdisciplinary studies conducted between economics, psychology, and sociology, where some scholars have begun to explore women's employment decision-making and labour market outcomes from the perspectives of psychology, individual preferences, and social concepts.

There have been various studies conducted by scholars to explore the impact of culture on the economy, estimating the effects of specific cultural characteristics on individual decision-making and macroeconomic performance. These studies define culture as social customs or beliefs that are shared by particular groups, as well as individual values and preferences. According to Alesina and Giuliano (2015), these two definitions of culture can be summarized as beliefs and preferences. Most empirical studies in the field of cultural economics define culture as customs, beliefs, or values that can be passed down from one generation to the next within a particular group, which is also the definition given by Guiso et al. (2006).

Recently, culture has been used to explain women's reproductive behaviour, labour force participation decision-making, and labour market outcomes in the literature. For instance, Giavazzi et al. (2013) found that social attitudes towards women's employment significantly influence women's labour force participation rate. Fernandez and Fogli (2009) and Fernandez (2007) used an epidemiological approach to demonstrate the importance of culture in explaining women's labour market outcomes. Alesina and Giuliano (2015) found that the feedback effect

between culture and institutions affected various economic variables, and therefore, culture could be employed to explain women's labour force participation and other related issues.

Gender roles are patterns of behaviour that are based on gender differences, and they are influenced by the social culture and history of a particular period. In ancient feudal Chinese society, women were not allowed to participate in social activities or show themselves freely due to the constraints of feudal ethics. Although modern notions of gender equality have gradually become more prevalent with the development of the modern economy and changes in the division of labour, discrimination against women still exists in practical life, and women are still bound by traditional gender role concepts such as "the husband is the breadwinner, and the wife is the housekeeper."

The concept of gender roles shapes the career expectations of both genders. For example, women are more likely to prioritize housework and support their spouse's paid work. The beliefs and preferences of both genders regarding their career choices are also influenced by the regional concept of gender. If most people in society hold negative views on women's paid work, the effectiveness of women's choice of paid work will be reduced because they care about social views, which will decrease the probability of women's choice of paid work. Existing empirical studies support the idea that gender roles have a significant impact on women's employment decisions and outcomes (Chuanchuan & Jingwen, 2021).

2.1.3 Economic Development

In this research, economic development as control variables has been referred to gross domestic product per capita and trade openness. The concept of GDP per capita has been related to growth as the result of economic performance. Real GDP represents the collective income of all individuals within an economy, while real GDP per person quantifies the income of an average individual in the economy (Mankiw, 2016).

Schaffner (2014) explained economic growth refers to the increase in an economy's average income rate. This rate is determined by dividing the total value of income earned from any source by anyone in the country by the number of people.

In essence, economic growth occurs when the total income grows at a faster pace than the population.

The growth in the per capita value of everything produced in the economy is equivalent to economic growth. The total income of an economy is equivalent to the total value of its production since people derive their income from the production of goods or services. All value that is generated through production activities is distributed as income to someone in some form, whether it be wages or returns on capital and entrepreneurship

The most used indicators of economic growth are the average annual percentage growth rates in real per capita gross domestic product (GDP) and real per capita gross national product (GNP). Gross domestic product is defined as the total value of final goods and services produced within a country border over a year. Final goods consist of consumption goods, which are used up by consumers during the year, and capital goods, which are long-lasting goods used in the production of other goods and services that are not used up during the year. Intermediate goods, on the other hand, are used up in the production of other goods and services during the year.

For instance, cotton thread is an intermediate good used up in the production of a final consumption good such as clothing, while steel is an intermediate good used up in the production of a capital good such as factory equipment. The difference between the value of intermediate goods used in a production activity and the value of the final goods produced is referred to as the activities value added. Calculating the total value of all final goods and services produced during the year is the same as calculating the value added generated in all production activities.

Gross national product, also referred to as gross national income (GNI), represents the total value of final goods and services produced by a country's domestic factors of production, regardless of whether they are located within the country or abroad. This economic indicator becomes significant when there is an international movement of labour or capital across national borders for production purposes. In such situations, the distinction between GDP and GNP provides a

better understanding of the actual economic activity undertaken by a country, as it accounts for the contribution of its citizens and businesses operating abroad.

To compare GDP or GNP across countries, it is necessary to convert the income figures of all countries into identical currency units. The most widely adopted approach in development analysis is to convert these figures into U.S. dollar equivalents using purchasing power parity (PPP) exchange rates. The computation of PPP exchange rates involves researchers in each country collecting local price data that enables them to estimate the cost, in local currency, of a basket of goods that costs one dollar in the United States. This enables international comparisons of income levels across countries that account for differences in the cost of living.

To calculate GDP or GNP growth rates, it is necessary to compare the total value of goods and services produced in two different years. If current prices are used to value the goods and services, then the resulting growth rate is called nominal GDP growth. Nominal GDP can increase over time due to either an increase in the quantity of goods and services produced or an increase in the prices of those goods and services due to inflation. Real GDP growth, on the other hand, measures the portion of nominal GDP growth that is attributable to increases in the quantity of goods and services produced, rather than to price increases. To calculate real GDP growth, a single set of prices (often from the first year) is used to value the quantities of goods and services produced in both years being compared.

Real GDP growth is calculated by using a fixed set of prices to measure the value of goods and services produced in two different years. Typically, the prices used are those from the base year or the first year of the comparison. By using a fixed set of prices, changes in the value of GDP can be more accurately attributed to changes in the quantity of goods and services produced, rather than to changes in the overall price level. This allows for a better understanding of how the economy is actually growing in terms of the production of goods and services, rather than just changes in the price level. Based on Blanchard (2017) there are three dimensions of open economy:

- a. Openness in goods markets: Consumers and businesses have the option to select between domestic and foreign goods, but this choice is not entirely unrestricted in any country. Even nations that prioritize free trade employ tariffs, which are taxes imposed on imported goods, and quotas, which are limits on the amount of foreign goods that can be imported. Despite this, the average tariffs in most countries are minimal and are continuously declining.
- b. Openness in financial markets: The freedom for financial investors to choose between domestic and foreign assets was not always available. In the past, even wealthy nations like France and Italy had imposed capital controls which limited the foreign assets that domestic residents could possess, as well as the domestic assets that foreigners could hold. However, these restrictions have mostly vanished, resulting in more closely interconnected global financial markets.
- c. Openness in factor markets: Firms have the freedom to decide where to set up their production facilities, while workers have the flexibility to choose where they want to work. The prevailing trend suggests that multinational corporations establish factories in numerous countries and shift their operations to locations that offer lower costs. NAFTA, signed in 1993 by the United States, Canada, and Mexico, triggered much debate about its impact on the relocation of American firms to Mexico. Currently, similar concerns are centred on China. Furthermore, immigration from low-wage nations is a contentious political matter in Europe and the United States.

The famous model for open economy wrote by Mankiw (2016), the Mundell-Fleming Model. The model mentioned in the previous context has been referred as the prevailing policy paradigm for examining monetary and fiscal policy in open economies. In 1999, Robert Mundell received the Nobel Prize for his contributions to open-economy macroeconomics, including his work on this model.

The Mundell-Fleming model shares a strong resemblance to the IS-LM model, as both emphasize the connection between the money market and the goods market. Both models presume that the price level remains constant, and they demonstrate how short-term changes in aggregate income occur (or, alternatively, how the aggregate demand curve shifts). The primary distinction between the two is that

the IS-LM model is based on a closed economy, while the Mundell-Fleming model is based on an open economy.

Furthermore, the Mundell-Fleming model is built on a significant and drastic assumption, which is that the economy under investigation is a small open economy with complete capital mobility. In other words, the economy can borrow or lend unlimited amounts in global financial markets, resulting in the determination of its interest rate by the world interest rate. This model highlights the notion that an economics performance is heavily influenced by the exchange-rate system it has opted for. In fact, the model was primarily devised to comprehend the mechanics of different exchange-rate systems and assess how the selection of a specific system affects the implementation of monetary and fiscal policies.

The Mundell-Fleming model depicts the goods and services market in a similar fashion to the IS-LM model, but it incorporates an additional variable for net exports. Specifically, the goods market is depicted by the following equation:

$$Y = C(Y-T) + I + G + \epsilon X(e) \dots\dots\dots (2.1)$$

The equation shows that the total income Y in an economy equals the sum of consumption C , investment I , government spending G , and net exports NX . Consumption is determined by disposable income Y minus taxes T . Investment varies inversely with the interest rate, while net exports are inversely proportional to the exchange rate e . The exchange rate e is defined as the amount of foreign currency per unit of domestic currency, for instance, e could be 100 yen per dollar.

In the Mundell-Fleming model, the real exchange rate e is calculated as the nominal exchange rate e multiplied by the ratio of the domestic price level P to the foreign price level P^* . However, the model assumes that both price levels are fixed, so the real exchange rate is proportional to the nominal exchange rate. When the domestic currency appreciates and the nominal exchange rate increases (for example, from 100 to 120 yen per dollar), the real exchange rate also increases, making foreign goods cheaper relative to domestic goods. This leads to a reduction in exports and an increase in imports.

The goods market equilibrium condition mentioned above includes two financial variables that impact spending on goods and services, namely the interest rate and the exchange rate. However, we can simplify this by assuming perfect capital mobility, which means that the domestic interest rate is equal to the world interest rate, denoted by $r=r^*$.

$$Y = C(Y-T) + I(r^*) + G + NX(e) \dots\dots\dots(2.2)$$

2.1.4 Governance

The field of governance deals with the management and leadership of societies, governments, and organizations. This involves the way they organize their affairs, make decisions, exert authority, and handle their responsibilities and relationship. At a fundamental level, governance pertains to overseeing the progression of events within a social system, regardless of whether such systems are considered in terms of organizations, sectors, or more expansive contexts (Burriss et al., 2005).

As such, the governance of systems encompasses their frameworks, both internal and external interactions, and methods of decision-making and other actions. Chhotray and Stoker (2008) provide a comprehensive definition of governance that encompasses all of these aspects. The essence of governance lies in the regulations of group decision-making in situations where multiple actors or organizations are involved and where no formal control system can prescribe the conditions of the interactions among these actors and organizations. In summary, governance focuses on the manner and rationale behind the formation and functioning of all types of systems.

In the present time, governance involves a multitude of institutions and participants who engage in various interactions within interconnected networks of governance. These networks comprise several governance systems that involve multiple actors and employ diverse mechanisms to distribute, exercise, and make accountable the exercise of power in society. At this level, governance concentrates on the mechanisms like institutions, social norms, and practices that give rise to social benefits such as democracy, effective and ethical governance, political stability, and the rule of law in such systems (Burriss et al., 2005).

Nation-states and governments remain crucial in all governance systems, regulations, and responsibilities (Bell and Hindmoor 2009). However, there are continuous significant changes in the way governments interact with people and how citizens hold those in power accountable. While governments continue to lead in their own right or act as the centre of networks dedicated to national and global public policy development, non-state institutions and actors are becoming increasingly prominent, particularly through multi-stakeholder standard-setting initiatives and extra-governmental mechanisms of societal scrutiny. This development is also related to democracy's transformation to incorporate such features, as discussed later in this chapter. Indeed, as this chapter demonstrates, there are strong connections among governmental and non-governmental stakeholders, their participation in different democratic mechanisms, various governance systems, and their underlying values.

2.2 Previous Research

2.2.1 Corruption and Women Participation

Recent research by Salari & Noghanibehambari (2021) observed the relationship between natural resources, women, and corruption. They used panel data from 141 countries from 1997 to 2018 to investigate how natural resources rent and share of women in parliament determine corruption level. Natural resource rent will increase corruption level while the share of women in parliaments decreases corruption level across countries. Countries with high natural resource rent can reduce their corruption level once they will increase the share of women in their parliaments. Raising women's share in parliaments reduces corruption level in natural resources. This study finds that women's presence in decision-making positions such as parliaments is associated with less resource-related corruption compared with men. Women are more likely to pass more restrictive rules compared to the men. Increasing the share of women in the parliament can prevent natural resource dissipation and lead to lower corruption across countries.

Another interesting research by DiRienzo & Das (2019) study about women in government, environment, and corruption as a mediator variable. This study found that a positive relationship between women and environmental concern and

much of this research suggests that a greater percentage of women in positions of political power should enhance environmental quality. Women in political power do have a positive effect on environmental outcomes, but this effect is channelled through their impact on reducing corruption.

The cross-country analysis confirmed that higher shares of women in politics and the labour force are correlated with lower levels of corruption. However, an increase in female participation in society is not associated with a reduction in corruption. Solely focusing on the number of women in politics and the workplace is unlikely to alleviate corruption directly. Nevertheless, more substantive representation of women in the public sphere may play an important role in shaping values and beliefs within a society over longer time span (Debski et al., 2018).

2.2.2 Corruption and Economic Development

Basically, the core problem of economic development not only just focusing on the growth. Going further, economic development needs support system to impose transparency against the growth. Many researchers have been conducted the relationship between corruption and economic development. The role of economic development has been identified by focusing on political and economic freedom specially by (Saha & ben Ali, 2017) which resulted the interactive relationship between economic and political freedoms and government size leads to a reduction in corruption.

Previous research has been investigated the relationship between income and corruption which provides an insight to the changes in the level of perceived corruption and economic development across countries found that despite an upsurge of corruption among the low-to-medium income countries, the advanced stages of development eventually reduce corruption level substantially. The result has been persisted when per capita income is instrumented for by latitude distance and life expectancy (Saha & Gounder, 2013).

Naturally, when the economic development has been leading to increase the quality of governance, the size of public spending affects the relationship between bureaucratic corruption and growth. Dzhumashev (2014) analysed the incidence of corruption have been declined with economic development. This is because as the

economy grows, wages go up and private rent seeking costs go up, which discourages corruption. The primary policy implication is that focusing on tax evaders rather than bureaucrats is more effective in reducing corruption and increasing economic growth potential.

Corelation of economic development had not been separated from financial sector. Song et al. (2021) have been investigated the relationship between corruption, gross domestic product, and financial development through long-term cointegration relationship. Economic growth has a positive effect to financial development, while corruption has a negative effect. They found that causal relationships exist between economic growth to financial development and corruption to financial development in the long run.

Some researchers have been examined the role of corruption to government expenditure and economic growth which one of them conducted by Nguyen & Bui (2022). They have been explained that government expenditure and control of corruption have a negative impact on economic growth. An intriguing finding of this study is that negative impact of government spending and corruption control on economic growth can be reduced through their interaction. As a result, EMDEs in Asia can boost economic growth through government spending if corruption control is above the 0.01 threshold value.

2.2.3 Corruption and Governance

Talking about governance nowadays is often associated with the issue of digitalization that can reduce corruption rate. Jiménez et al. (2022) have been investigated the effect of e-procurement on how firms use corruption to get public contracts, highlighting how the quality of governance institutions and support from supranational governments moderate this relationship. They found that firm corruption decreases when an e-procurement system is implemented. However, the relationship becomes even stronger when the quality of country-level governance institutions is considered in the analysis. An electronic procurement system that can only effectively combat corporate corruption when it receives support from multiple nations.

The existence of corruption in public governance system has been undeniable and lead to drives some assumption whether its common behaviour instead of harmful action. Research by Goutte et al. (2022) have been sought to emphasize in greater detail the public levers of action for the implementation of anti-corruption policies in Central African nations. They have analysed the influence of public policies on the prevalence of corruption at the national level, and our findings show that there is a shared and consistent sub-regional political agenda that is aimed at guiding public policymakers, regardless of the level of diversity among national structures.

Regardless of the existence in public government institutional, corruption also happened in the firm level. Bribery acts as a tax on the profitability of companies, leading to a decrease in efficiency. However, the available evidence is not clear regarding its impact on productivity. Conversely, bribery has been found to have a favourable effect on companies exports and product innovation. According to the findings regarding who must pay bribes, tax-evading businesses are more likely to pay greater bribes to government officials (Sharma & Mitra, 2015).

Despite controversy results of positive relationship between corruption and firms' innovation which stated that bribe is part of 'tax' to simplify the complex bureaucracy, research by Lee et al. (2020) found that sanding the wheels hypothesis is supported by the fact that corruption has a negative impact on innovation likelihood. Innovation suffers greatly from corruption at the firm level, in the manufacturing industry, and in regions with poor governance or higher levels of corruption. Additionally, the governance of a nation plays a particularly significant role in corrupt businesses innovative endeavours.

CHAPTER 3

CURRENT DEVELOPMENT IN G20

3.1 Corruption Status

In 2014, the Anti-corruption Working Group (ACWG) of the G20 recognized the significance of open data in promoting transparency and integrity within the public sector. They identified open data as an important issue that requires special attention in this context. As a result, the ACWG took the initiative to develop the G20 Open Data Principles. This development was considered the initial step towards harnessing the power of open data as a vital tool to foster a culture of transparency, accountability, and access to information. These efforts aimed to prevent corruption and promote good governance.

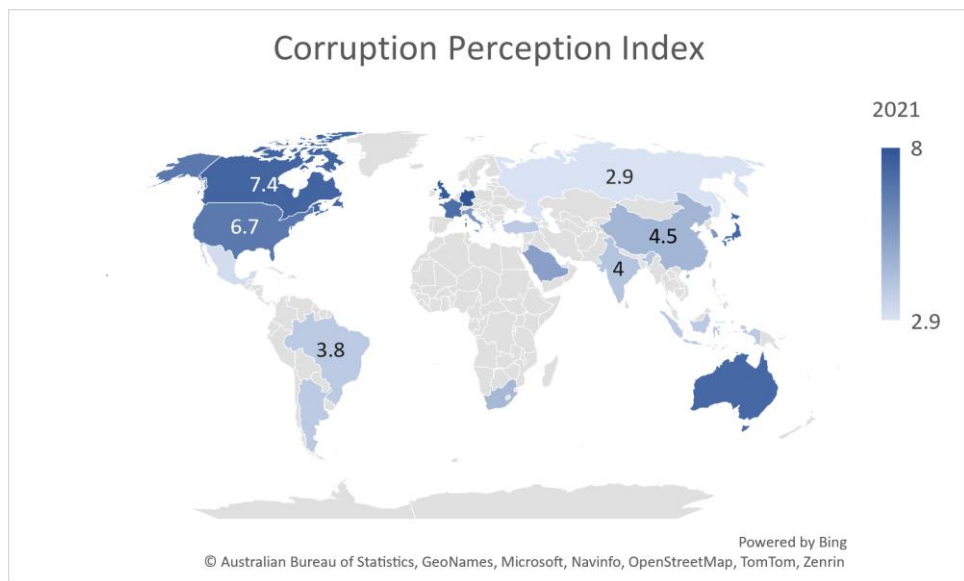


Figure 3.1 G20's Corruption Rate

Source: Transparency International, 2022

Based on data from Transparency International in 2021, Germany was a country with consistent result to 8 points in corruption perception index means that just need 20% of the country to cover corruption issue. The second Western part that has lowest corruption rate was United Kingdom with 7.8 which has been increased from 7.7 in 2020. Next, countries in G20 that has good score in corruption eradication was Canada with 7.4 points decreased from last year in 7.7 points. The

other countries that have good result in corruption perception index were Australia 7.3; France 7.1; Japan 7.3.

Most of advanced economics has not been issues regarding good governance and corruption issues. While the edge of emerging economies e.g. Argentina, Brazil, Indonesia, Mexico, Turkiye turns on average 3.5 points, Saudi Arabia was showed to perform in 5.3 points and corruption in United States was increased lead to 6.7 points from last 5 years 7.5 in 2017. Different condition has been faced by Russia that has a problem with corruption issue regarding the stagnancy to improve the good governance's quality and bring out low corruption perception index in 2.9 points in 2021 respectively. These positions haven't changed for almost 10 years ago.

3.2 Women Participation

The condition of women representation in public space toward developed and developing countries of G20 remains immersing toward the composition and the figures as well. Instead of many approaches to get in through the parity, still, there is gap and 'different' treatment and point of view of female representation. Neglected culture, bad institutional forms, legal disputes are several of many kinds of hurdles to reshape the paradigm of what are the matters of women representation in public space. This section explains about the recent condition of Women representation in terms of current condition related to corruption issue.

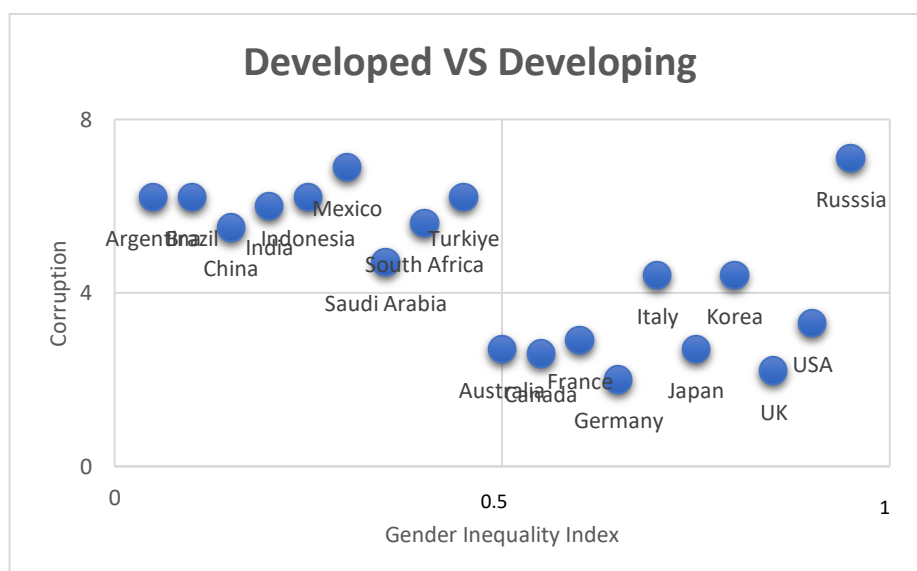


Figure 3.2 Positioning of G20's Gender Inequality and Corruption

Source: UNDP and Transparency International, 2021 (processed data)

Based on Figure 3.1 it clearly shows that developing economies has been infesting in the third quadrant which implied moderate gender inequality high corruption rate consist of Argentina, Brazil, China, Saudi Arabia, South Africa, Mexico, Turkiye, Indonesia, India. While actually not to better condition, advanced economies e.g., United States, United Kingdom, Japan, Germany, France, Canada in second quadrant which gender inequality still there but the corruption rate lower than developing countries.

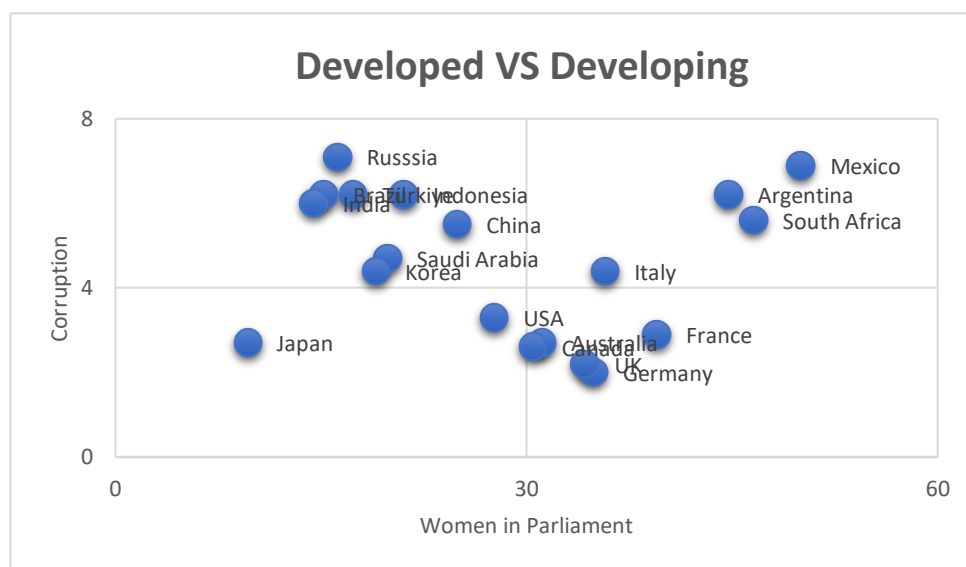


Figure 3.3 Positioning of G20's Women in Parliament and Corruption

Source: World Bank and Transparency International, 2021 (processed data)

Based on figure 3.2 several advanced countries take in first quadrant (higher women in parliament, lower corruption rate) which consist of France, Germany, Australia, Canada, United Kingdom. In the second quadrant, lower women in parliament lower corruption there are United States and Japan. Third quadrant has been taken by Italy, South Africa, Argentina, and Mexico which implied higher women in parliament, but still have high corruption rate. And the fourth quadrant, higher corruption lower women in parliament consist of Indonesia, Korea, Saudi Arabia, China, Turkiye, India, Brazil, and Russia.

Based on figure 3.4 G20's positions from developed and developing countries on gross domestic product and corruption rate has huge implications. Advanced countries e.g., France, Japan, Canada, United Kingdom, United States, and Australia has been infesting in first quadrant which they have higher GDP per capita and lower corruption rate. Contrary, all developing countries still has great barrier in higher corruption rate and lower GDP per capita compared to developed countries which has been attempting to fourth quadrant.

3.2.1 G20's Women in Politics

To begin with the representation of cabinet ministers, the average percentage of women in the governments of the G20 nations is 25.3%, which is lower than the 29.3% observed in the SCS (South China Sea e.g., China, Brunei Darussalam, Indonesia, Malaysia, Vietnam, Philippines, Taiwan) countries. In terms of the percentage of female ministers in government, Canada is ranked as the highest with 51.4%, followed by France where women constitute exactly half of the cabinet positions. It is noteworthy that France has achieved gender parity in the governme^{nt} but ranks 9th in the representation of women in its senior civil service with 37.0%.

Over the last two years, the US has seen a significant increase of 24.5 percentage points in the representation of women in government, reaching a 46.2% mark. This progress is believed to be linked to the change in administration when Joe Biden became president in January 2021. As a result of this advancement, the US has moved up eight places in the global ranking ^{fr}om 12th to 4th place. In terms of female representation in senior ministerial positions versus the civil service, the US is performing better by 8.4 points, similar to France (and Canada, with a minimal difference of only 0.4 percentage points). However, this trend is also noticeable in six other countries: Mexico (42.1%), Germany (40%), Italy (35.4%), South Korea (28%), Turkey (11.8%), and Japan (10%).

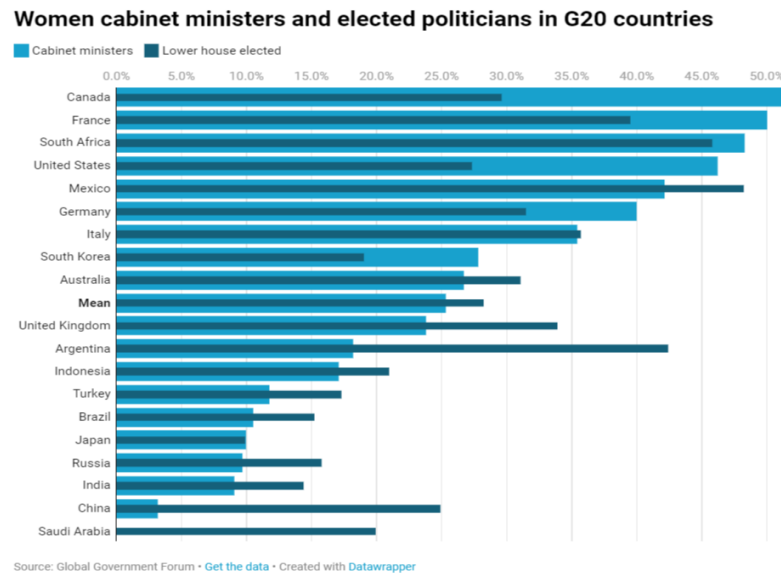


Figure 3.4 G20's Women in Cabinet Ministers and Elected Politicians

Source: Global Government Forum, 2022

Conversely, when comparing the cabinet minister list to the civil service list, four countries have dropped by at least five places in the rankings. Brazil, which ranks 13th in the cabinet minister list, drops to 5th in the SCS list. Australia drops from 8th to 2nd place, the UK drops from 9th to 4th, and Germany drops from 11th to 6th place. Additionally, it is noteworthy that the average of the middle six countries in the cabinet minister ranking, which stands at 22.2%, is 11.4 points lower than the average for the middle six countries in the SCS ranking, which is 33.6%.

Although fewer countries have improved the representation of women in cabinet over the last two years than in the SCS (seven compared to 11), the improvement margin in most cases has been more significant, ranging from 4.7 to 7.6 percentage points. On the other hand, more countries have shown no progress in achieving gender balance in their cabinets since 2020, and some have even regressed considerably. For instance, the proportion of women in the Indian government has decreased by 14 percentage points from two years ago to 9.1%, while the UK has experienced an 8.0-point decline to 23.8%.

The increased fluctuations in female representation in cabinet compared to the SCS could potentially result from changes in administration or premier in some cases. The more consistent picture of women at the top of civil services might be attributed to the impartial and merit-based nature of most individuals on the list.

Women in the senior civil service, G20 countries

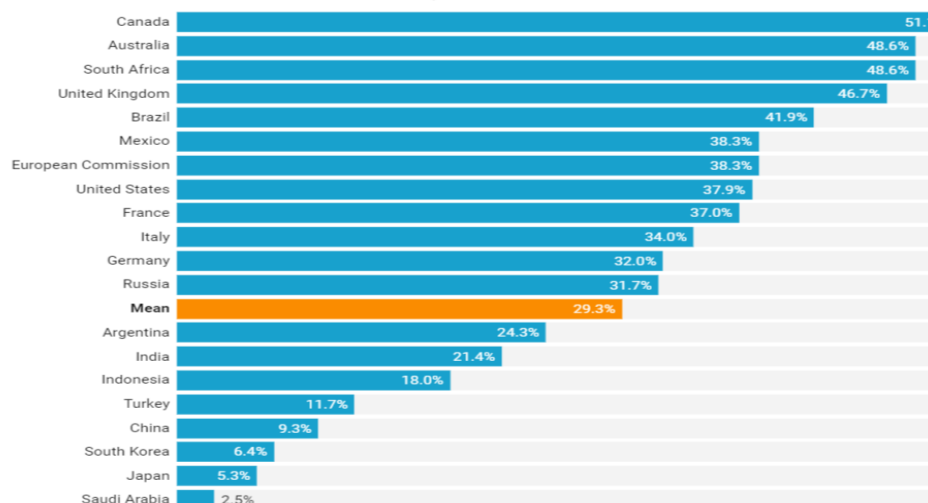


Figure 3.5 G20's Women in Senior Civil Service in 2021

Source: Global Government Forum, 2022

The top five countries have shown exceptional performance above the G20 average, with approximately 40% to 50% of their senior officials being women. Although 12 countries, including the European Commission, have more than 30% of women in the top positions of their civil services, the countries at the bottom of the list bring down the overall average by a considerable margin.

The countries that have socially conservative cultures and the smallest percentage of women in senior positions are Turkey (11.7%), China (9.3%), South Korea (6.4%), Japan (5.3%), and Saudi Arabia (2.5%). Although these countries have made progress since the previous index, the improvement has been less than one percentage point, except for China where the situation has worsened. In China, the representation of women has decreased by 3.3 points compared to two years ago.

Apart from China, two more G20 countries, namely Russia and Argentina, have experienced a decline in their performance since the last index. Russia's percentage of women in civil service leadership has decreased by 1.1 points to 31.7%, while Argentina's proportion has dropped by 5.3 points to 24.3%. Indonesia's representation of women in top civil service positions remains unchanged at 18%.

Canada, South Africa, Mexico, the US, France, and India have shown significant progress in the last two years, with an improvement of three or more percentage points. The European Commission has also shown a similar improvement. It is important to note that when comparing Italy and Germany to other countries in the ranking, caution should be exercised, and their results in this Index should not be directly compared to previous ones. This is because prior to the 2022 Index, data for these countries only covered the two highest grades instead of the five grades covered in other countries. This year, the data collected on Italy and Germany covers a broader definition of seniority, but it is still slightly narrower than the equivalent senior civil service measure used in the UK and other places. However, we can observe that women make up 34.0% of senior civil servants in Italy and 32.0% in Germany.

In general, the G20 countries can be broadly categorized into three groups. The top seven countries have high scores and are making slow but consistent progress, while the middle seven countries started from a low base in 2012 but have made significant progress. The bottom six countries are notable for their low starting point and lack of meaningful growth.

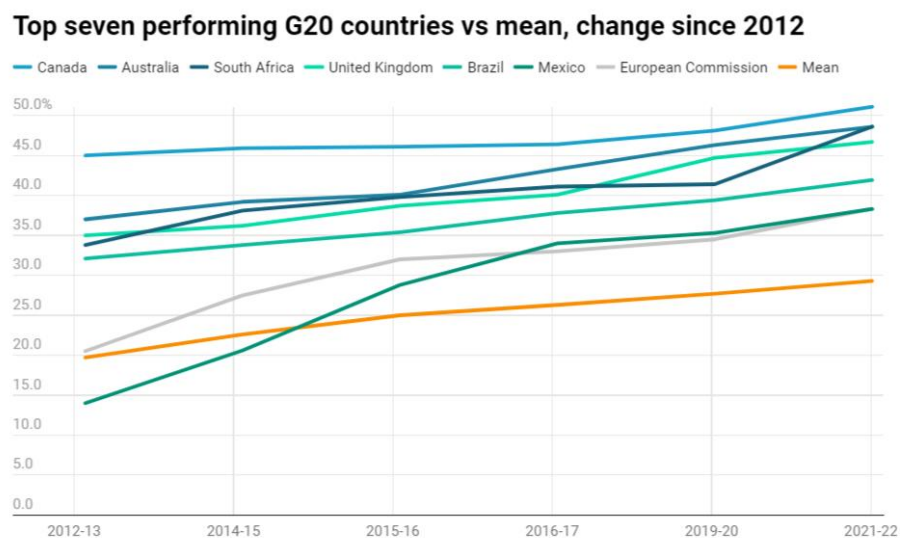


Figure 3.6 Top 7 G20's Women in Politics

Source: Global Government Forum, 2022

The mean proportion of women holding senior civil servant positions across the top seven countries is 44.7%, indicating a higher representation of women in

these countries. In contrast, the mean proportion of women in similar positions for the middle seven countries is 31.1%, implying a moderate representation of women. Meanwhile, the average percentage of women in senior civil servant positions in the bottom six countries is only 8.8%, indicating a low level of representation for women in these countries.

Since the first index was published in 2013, countries have made progress in terms of representation of women in civil service leadership positions. Among these countries, Mexico has shown the most improvement, with a significant increase of 24.3 percentage points to 38.3%. However, this improvement is primarily attributed to a large jump of 20 points between 2012 and 2016, and progress has slowed down in recent years.

Over the last decade, six countries and the European Commission have made significant improvements in terms of representation of women in civil service leadership positions. These countries are Russia (18.7 percentage points), the European Commission (18.7), France (15.6), South Africa (14.8), India (13.7), the UK (11.7), and Australia (11.6). It's important to note that Germany was not included in this list due to the reasons mentioned earlier.

Since 2012, three countries have shown regression in the representation of women in the top echelons of the civil service. China and South Korea have experienced a decline of 2.2 percentage points each, while Turkey's representation of women has fallen by 1.9 points. When considering the change in ranking over the past 10 years since the first Index was published in 2012, Turkey has fallen the most, being overtaken by more countries than any other. It has gone from 12th place in 2012 to 16th place in 2022. On the other hand, Mexico has made the most significant jump in ranking, rising from 11th to 6th place.

In the previous index, there was a surprising finding that the US had a regression of 0.4 percentage points from 2017 to 2019, resulting in its rank dropping from sixth to ninth place. In the current Index, the US has climbed one spot to eighth place due to a 3.8 percentage point improvement over the past two years, bringing the proportion of women in senior civil servant positions to 37.8%. However, it is still two places lower than its position in the 2012 Index.

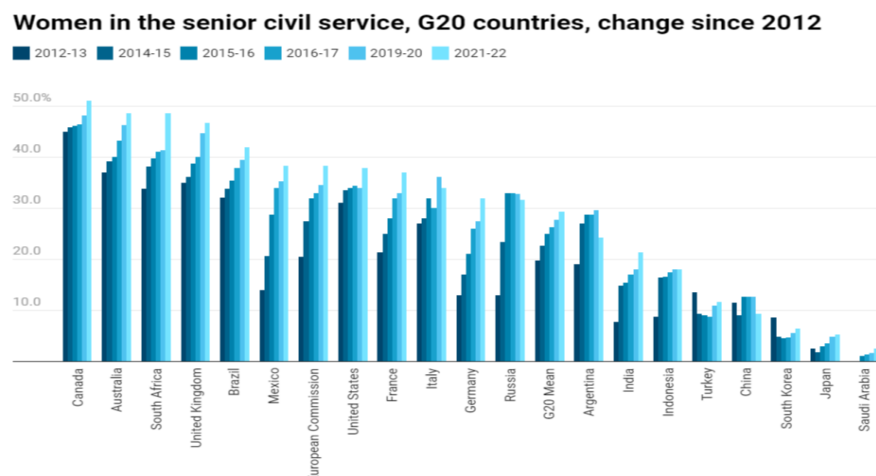


Figure 3.7 G20's Women Senior Civil Service

Source: Global Government Forum, 2022

Regarding the proportion of female politicians in the lower house elected legislature, the G20 average stands at 28.2%, which is 1.1 points lower than the SCS average. However, there is a considerable difference in the rankings of countries when comparing the two measures. Mexico has achieved the closest approximation to gender equality, as 48.2% of its elected officials in the lower house are women. Following Mexico are South Africa, with 45.8% women, Argentina with 42.2%, the European Commission with 41%, and France with 39.5%. Argentina stands out in this context, ranking third despite being placed 13th in the SCS ranking, which measures the percentage of women in its SCS (which is at 24.3%).

Another notable distinction between the two lists is that Canada falls to the 10th position, with women representing merely 29.6% of its elected officials in the lower house. Similar declines can also be observed in certain EU and OECD nations when comparing their rankings in the civil service to their rankings in the cabinet (more on this topic below), prompting inquiries as to whether a substantially smaller number of women in these nations aspire to become Members of Parliament than apply for or are promoted to senior civil service roles, or whether their governments are more progressive in terms of diversity and inclusion than their electorates.

Australia is also among the Western democracies that have experienced a significant decline when comparing one list to another, dropping from second place in the SCS ranking (with 48.6% women) to the ninth position in this list (with only

31.1% women). What's noteworthy is that the opposite trend seems to hold true for countries that have consistently ranked at the bottom of the SCS list in this and previous indexes. For instance, Saudi Arabia, which ranks last in the main list with only 2.5% of top civil service positions held by women, ranks 14th in the elected politician list with women constituting 19.9%. China is another example, ranking 12th in the lower house elected ranking with 24.9% representation, as opposed to 17th in the SCS list with 9.3%.

The proportion of women among elected politicians in the five worst-performing countries ranges from 9.9% to 17.3%, while in the five worst-performing civil services, it ranges from only 2.5% to 11.7%. While there may be several factors at play here that differ from one country to another, a reassessment of how women enter the civil service, the support provided to them to advance in their careers, and the criteria for promotion may be helpful- not just for the countries at the bottom of the list, but for all countries.

One positive observation, particularly for the civil services, is that women occupy a higher percentage of senior positions in the bureaucracy compared to their representation on the boards of publicly traded companies. The G20 average for women on boards is only 22.1%, while the average for the Senior Civil Service (SCS) is 29.3%.

There are two countries where the gender gap between women's representation on private sector boards and the senior civil service is significant, ranging from 25 to 35 percentage points. The largest discrepancy is in Brazil, where only 10% of board members are women, while women account for 41.9% of the SCS. In Mexico, women hold only 10.6% of corporate business leadership positions, compared to 38.3% of the SCS. Canada also shows a considerable difference, where women make up 32.9% of private sector boards compared to 51.1% of the senior civil service, a difference of 18.2 percentage points. It's worth noting that all three of these countries are among the top six in the SCS ranking.

On the other hand, there is cause for concern as seven G20 countries show better representation of women on private sector boards compared to the SCS, although the margin is smaller. These countries are France, which leads with 45.3%

of women on private sector boards compared to 37% in the SCS, Turkey (18.8% vs 11.7%), Japan (12% vs 5.3%), South Korea (12.2 vs 6.4%), Italy (38.8% vs 34%), China (13.8% vs 9.3%), and Germany (34.1' vs 32%).

It's not surprising to note that women account for nearly half of the global workforce, and as a result, there is a higher representation of women in the civil service in general, which includes officials at all levels of government, compared to the SCS. In this ranking, 12 out of the 20 countries have achieved or surpassed gender parity, with women comprising between 51.0% (in Argentina) and 67.3% (in South Africa) of public sector roles in these countries. The G20 public sector average is precisely 50.0%, which is 20.7 percentage points higher than the SCS average.

The average of the top six countries in the ranking is 61.5%, while the middle seven countries have an average of 51.9%, and the bottom seven countries have an average of 38.3%. These figures are 15.6, 18.3, and 27.6 percentage points higher than the respective means in the SCS ranking. The data indicates that in many countries, women comprise approximately half or more of the lower grades, including frontline roles, but face challenges when it comes to advancing to and remaining in senior positions. Various factors could contribute to this trend, such as educational barriers for girls and women in countries with male-dominated cultures, societal and government views of women's roles in certain cultures that may affect equity in recruitment and promotion, inadequate support for women during pregnancy and childcare, gender pay gaps at senior levels, and limited development, training, and mentorship opportunities for talented female civil and public servants.

3.2.2 G20's Women in Labour Force

During the Italian presidency in 2021, the G20 EMPOWER members, with the help of knowledge partners, established four primary domains employment, finance, authority, and knowledge as well as five essential key performance indicators (KPIs) within these domains. The definitions presented in this section were collectively formulated and approved by the G20 EMPOWER members.

To establish a consistent system for monitoring companies and gathering data that can be consolidated at both national and international levels, the G20

EMPOWER Alliance has adopted datasets provided by its Knowledge Partners, namely the International Labour Organization (ILO) and the Organisation for Economic Co-operation and Development (OECD). These datasets serve as the foundation for tracking the alliance's five key performance indicators (KPIs) in the annual KPI dashboard.

First, female share of workforce by career level which has two indicators help measure the progress on women's advancement to leadership positions in workforce.

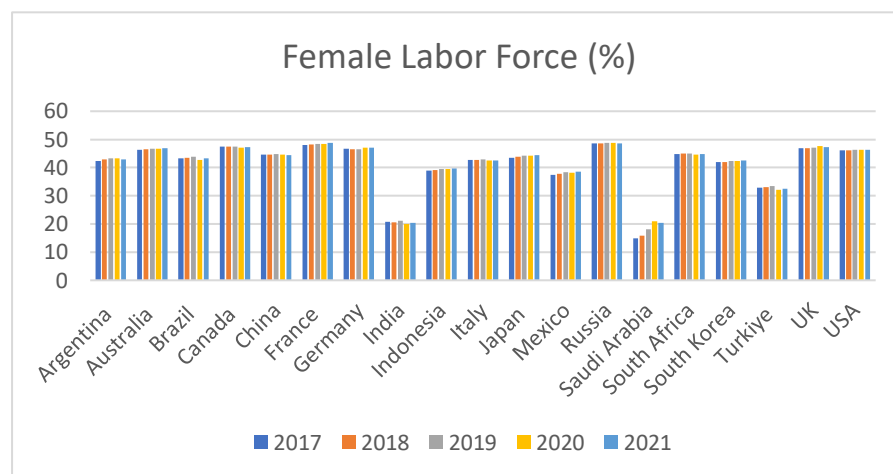


Figure 3.8 G20's Female Labour Force

Source: World Bank, 2022

Based on figure above, the spread of G20 Women labour force remains high toward participation year on year. India, Saudi Arabia, and Turkiye are the lowest 3 countries compared to West part. The highest participation has been represented by France and Russia in 2021 with approximately 48.69% and 48.62%, means that female participation remains equal in labour force market. In general, there is no significant changes from each country in terms of female labour force participation during latest 5 years.

Next variable to represent female participation at work in this research is female labour income share which calculated by national aggregate labour income earned by women relative to the total aggregate of labour income within a country. It's pre-tax labour income share held by the population 100 group.

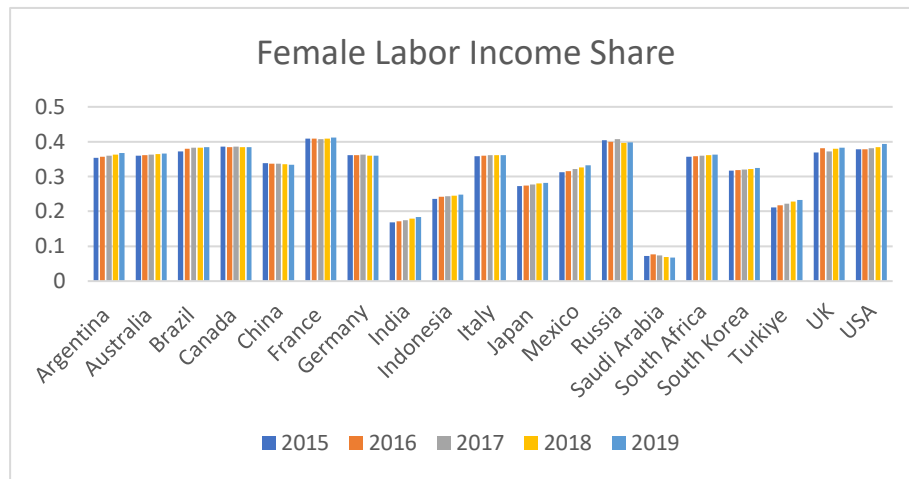


Figure 3.9 G20's Female Labour Income Share

Source: World Inequality Database, 2019

As can be seen in the chart above, India, Saudi Arabia, and Turkiye still remains the top 3 lowest female labour income share participation in 5 years trends compared to G20 other member countries with 0.18; 0.06; 0.23 respectively. While the highest female labour income share of G20's goes to United States and Russia with 0.393 and 0.398 in 2019. It means that the domination of two superpower countries still taking part to global economic circulation from women participation.

One of the objectives outlined in the Sustainable Development Goals is to guarantee the complete and active engagement of women, as well as equal opportunities for them to assume leadership roles at every level of political decision-making. An indicator used to measure progress towards this goal is the representation of women in managerial positions. The representation of female labour force in this research has been using share of women in senior and middle management positions.

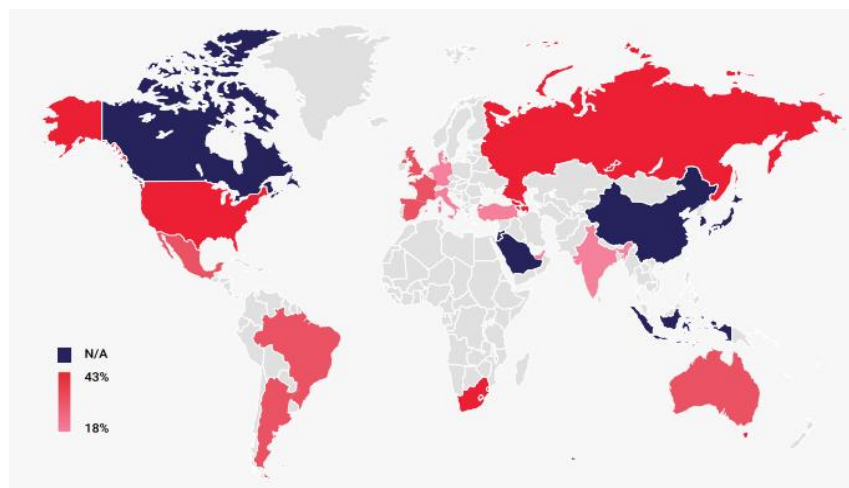


Figure 3.10 G20's Female in Senior and Middle Management Positions

Source: ILO, 2021

Based on figure above, some of countries has been lack of tracking data e.g., Indonesia, Canada, South Korea, Saudi Arabia, and China. In all G20 countries, the representation of women in managerial positions is significantly lower than that of men. The percentages vary across countries, with the United States and Russia having relatively higher representation at approximately 40% or more. On the other hand, India recorded a comparatively lower representation of women in managerial roles, at around 18% in the year 2020.

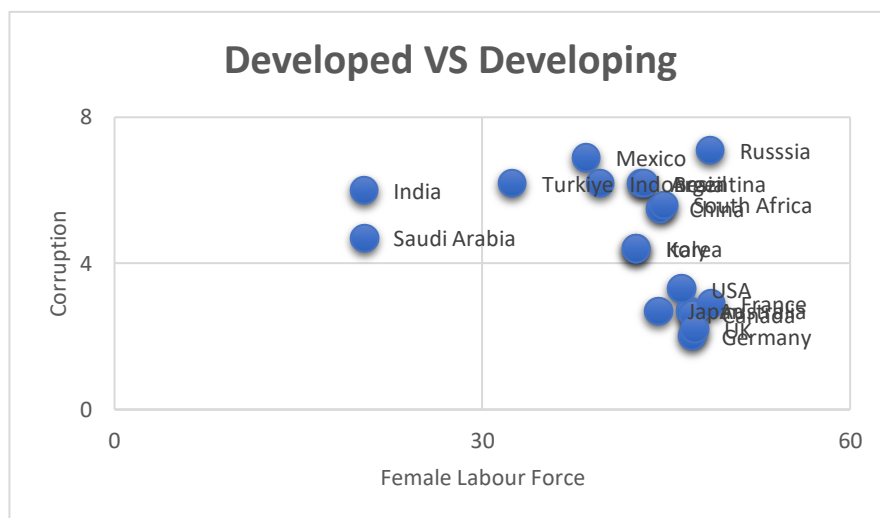


Figure 3.11 Positioning of G20's Female Labour Force and Corruption

Source: World Bank and Transparency International, 2021 (processed data)

Based on figure 3.3 positions of developed countries attempt in first quadrant which reflects higher female labour force participation lower corruption rate consist of United States, Germany, Japan, France, United Kingdom, Canada, Australia. In third quadrant dominated by developing countries e.g. Mexico, Turkiye, Argentina, Indonesia, South Africa, China, Korea, Italy, and Russia which shows the higher corruption rate and higher participation of female in labour market. India and Saudi Arabia has been attempted in forth quadrant that they have higher corruption rate and lower female participation in labour force.

3.3 Economic and Political Development

The Group of Twenty, commonly referred to as the G20, is comprised of 19 individual countries as well as the European Union. These countries include

Argentina, Australia, Brazil, Canada, China, France, Germany, India, Indonesia, Italy, Japan, Republic of Korea, Mexico, Russia, Saudi Arabia, South Africa, Türkiye, United Kingdom, and United States. The G20 member nations represent a significant portion of the global economy, accounting for approximately 85% of the world's gross domestic product (GDP), over 75% of global trade, and two-third of the world's population.

The G20 has emerged as the most prominent forum for facilitating international economic cooperation and is recognized as a pivotal institution in shaping and enhancing global frameworks and governance structures pertaining to significant economic issues of our time. Its role encompasses a wide range of areas, including but not limited to financial regulation, trade, investment, and development policies, and it has assumed a critical responsibility in promoting greater coherence and collaboration among nations in the pursuit of shared economic objectives.

The G20 lacks a permanent secretariat or staff, and instead, the Presidency of the G20 rotates every year among its member countries, with a different regional grouping of countries chosen to lead the organization each time. The 19 member nations are split into five groups, with each group having a maximum of four countries. Regional proximity is usually taken into account when forming the groups, with the exception of Group 1 (comprising Australia, Canada, Saudi Arabia, and the United States) and Group 2 (comprising India, Russia, South Africa, and Türkiye). Group 3 consists of Argentina, Brazil, and Mexico; Group 4 includes France, Germany, Italy, and the United Kingdom; and Group 5 consists of China, Indonesia, Japan, and the Republic of Korea. The European Union (EU), which is the 20th member of the G20, is not a part of any of the regional groups.

The G20 Presidency rotates annually among the member countries, with a different country from a different regional group assuming the Presidency each year. Although the countries in a group are equally eligible to hold the Presidency when it's their group's turn, the current holder of the G20 Presidency is India, which belongs to Group 2. India will be holding the Presidency from December 1, 2022, until November 30, 2023.

Table 3.1 G20 Structure Meeting

Sherpa Focus Area	Finance Focus Area	Sherpa Working Group	Finance Working Group
Agriculture	Global Economy	Agriculture	Framework
Anti-corruption	Infrastructure	Anti-corruption	International Financial Architecture
Climate	Financial Regulation	Culture	Sustainable Finance
Digital economy	Financial Inclusion	Development	Global Partnership for Financial Inclusion
Education	International Financial Architecture	Digital Economy	Join Finance and Health Task Force
Employment	International Taxation	Disaster Risk Reduction	International Taxation Issues
Energy		Education	Financial Sector Issues
Environment		Employment	
Health		Energy Transitions	
Tourism		Environment and Climate Sustainability	
Investment		Health	
		Tourism	
		Trade and Investment	

Source: G20 report, 2022

The G20 Presidency carries the crucial responsibility of convening and coordinating the G20 agenda in consultation with other member countries, and it must be responsive to evolving global economic developments. The process of ensuring coherence and continuity within the Presidency is supported by a ‘troika’, which consists of the current, immediate past, and next host nations. This collaborative mechanism allows for a smooth transition of leadership and ensure that the G20's strategic priorities and objectives remain aligned over the course of multiple Presidencies. In the course of India's Presidency 2023, the G20 troika will consist of Indonesia, India, and Brazil.

There are two structures of G20 forum which divided into Sherpa and Finance track. The forum of Sherpa track will lead by Leader who is representative

and Finance track has been headed by the Finance Ministers and Central Bank Governors of the member countries, who usually convene four times a year. Two of these meetings are held on the side-lines of the World Bank/International Monetary Fund (IMF) meetings.

3.3.1 G20's Economic Performance

Based on report from International Monetary Fund, multiple shocks have hurt growth and raised inflation. The forecast indicates a deceleration in global growth to 3.2 % in the current year, with further moderation to 2.7 % expected in 2023. Significantly, the reduced pace of growth in both the United States and China is exerting a substantial influence on global economic expansion in 2022. Although a moderation in growth was expected after the initial rebound from the severe recession caused by the pandemic, three additional factors have further impacted global output this year and will continue to shape the economic outlook. First, Russia's invasion of Ukraine and the resulting sanctions, as well as reduced gas supply to Europe. Second, necessary tightening of monetary policy to combat inflation, leading to tighter global financial conditions. Third, ongoing effects of the pandemic, including lockdown measures in China, supply disruptions, and challenges in the real estate sector.

Furthermore, the global spike in inflation has negatively affected real wages, further dampening economic momentum. While there were some positive surprises in third-quarter GDP releases following a contraction in global output during the second quarter, recent monthly indicators of economic activity suggest continued weakness in several economies.

Inflation has remained persistently high and has become more widespread. The surge in consumer prices that began last year has intensified in 2022, resulting in inflation rates that have surpassed the targets set by central banks in most G20 economies. While some exceptions exist, such as China where inflation remains low, many economies have seen headline inflation reach or exceed double-digit levels. In the euro area, while a significant portion of the inflation increase is attributed to food and energy prices, overall inflation reached 9.9 % in September, marking the highest rate in the history of the euro area.

Notably, inflationary pressures have extended beyond food and energy prices in many economies, leading to elevated inflation levels for core goods and services. Short-term inflation expectations have also risen above the inflation targets set by central banks. Although wages have not kept up with inflation, tighter labour markets may contribute to imbalances between supply and demand, subsequently putting pressure on consumer prices in countries such as Australia, Canada, the United Kingdom, and the United States.

Despite recent decreases in commodity prices, energy concerns have become significant in certain economies, especially in Europe. While there has been a moderation in oil and other commodity prices, the worries surrounding energy have escalated. Although gas prices, including those in Europe, have recently experienced a notable decline, significant concerns persist. The indefinite shutdown of the Nord stream pipeline and developments related to the G-7 proposal to limit the price of oil from Russia have added to the overall uncertainty.

The reduced supply of natural gas to the European Union has resulted in a substantial surge in natural gas prices during the third quarter. While estimating the precise impact of the reduced gas supply is inherently uncertain, research conducted by the IMF indicates a tangible impact on economic growth, particularly for economies heavily reliant on Russian gas and with limited alternative supplies available (International Monetary Fund, 2022).

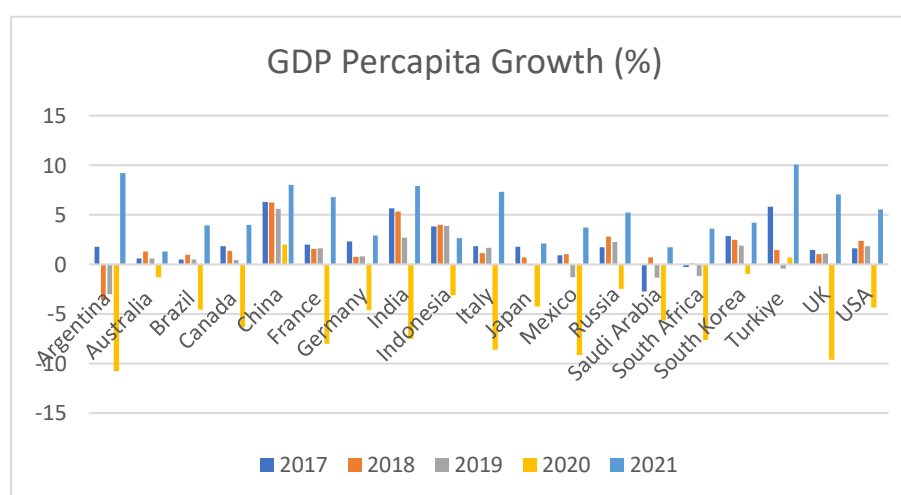


Figure 3.12 G20's GDP Per Capita Growth

Source: World Bank, 2022

Based on data from World Bank, growth of gross domestic per capita of G20 countries in 2021 has been recovered from the desperate years after Covid-19 pandemic. Most of countries made progressive growth to reach positive number until 10,06%, the highest GDP per capita growth among G20 from Turkiye. Next emerging economics from Latin America, Argentina has been reached 9.22% in 2021 after the economics has been shocked -10.76% in 2020. Mexico has been started low growth from 2017 in 0.93%, 1.05% in 2018, -1.26% in 2019, -9.13% in 2020, and 3.72% in 2021. Brazil has low growth from 2017 in 0.5%, 0.98% in 2018, 0.46% in 2019, -4.56% in 2020, and 3.91% in 2021.

Moving to East Asia, China is the only country in G20 which has positive growth during Covid-19 pandemic from 1.99% to 8.01% in 2020-2021. South Korea started the growth in last five years, specifically in 2017 of 2.87%, move to decreased 0.41% to 2.46% in 2018, 1.88% in 2019, came to negative growth during Covid-19 pandemic in -0,98% and recovered to 4.2% in 2021. On the other part of Asia, Indonesia has been experienced stagnancy growth in 3.84% from 2017 to 3.98% in 2018. From 2019 to 2020, GDP per capita of Indonesia has been decreased from 3.87% to -3.1% and increased of 2.62% in 2021. The same case has been undergone by Saudi Arabia from 2017 with -2.71% to 0.68% in 2018. The trend has been decreased to -1.32% and jumped to -5.63% in 2020, continued to increase in 1.7% in 2021.

Furthermore, some of advanced economies has been faced slow progress in gross domestic product per capita Covid-19 pandemic around 1 until 3 %. Australia has been showed low GDP per capita since 2017 approximately 0.58%, 1.3% in 2018, 0.57% in 2019, -1.27% in 2020 and 1.29% in 2021. Similarly, Canada, Germany and Japan have been experienced a similar situation with sluggish economic growth figures. Canada went through a challenging time in 2020, witnessing a negative growth rate of -6.31%, continued to recover in 2021 of 3.99%. Germany has been through -4.64% in 2020 and started to scale up on 2.93% in 2021. Japan has negative growth since 2019 in -0.1%, continued to be worst during Covid-19 pandemic in -4.64% and increased to 2.93% in 2021.

The significant progress has been found in developed countries e.g. France from -8.03% in 2020 to 6.77% in 2021. GDP per capita growth Italy has been increased from -8.59% to 7.33% in 2021 which similar with United Kingdom from -9.6% in 2020 to 7.04% in 2021. Russia and USA, experienced equal economic growth at 5% in 2021, despite both countries previously experiencing negative growth rates of -2.48% and -4.32% respectively.

Stricter global financial conditions have brought attention to the vulnerabilities associated with debt and have led to various repercussions, including affecting emerging market economies. Although there has been some reduction in debt levels, the government debt-to-GDP ratio is projected to be around 120 %and 70 %in G20 advanced economies and emerging market economies, respectively, this year. Global government debt is expected to remain approximately 7.5 percentage points higher than pre-pandemic levels. Furthermore, certain emerging market economies within the G20 heavily rely on foreign currency borrowing, resulting in currency depreciations as global financial conditions have tightened. This has been observed in countries such as India and South Africa.

Economies that carry high levels of debt and are vulnerable are also experiencing wider gaps between interest rates. The significant strengthening of the US dollar has had significant effects on emerging market economies due to its role as a currency commonly used for international financing. The private sector is also facing difficulties as corporate debt levels remain high while profit margins decline, particularly impacting emerging market and developing economies. As a result, both corporate and government debt issuances have significantly decreased in several emerging market economies. The new debt being issued is primarily by higher-rated entities, and it comes at higher costs and with shorter maturities compared to previous months. These circumstances, coupled with external pressures on the flow of capital, have put high-risk countries under strain. Many emerging markets are in danger of losing access to financial markets, and more than half of low-income economies are either currently experiencing debt distress or have a high probability of entering such a situation.

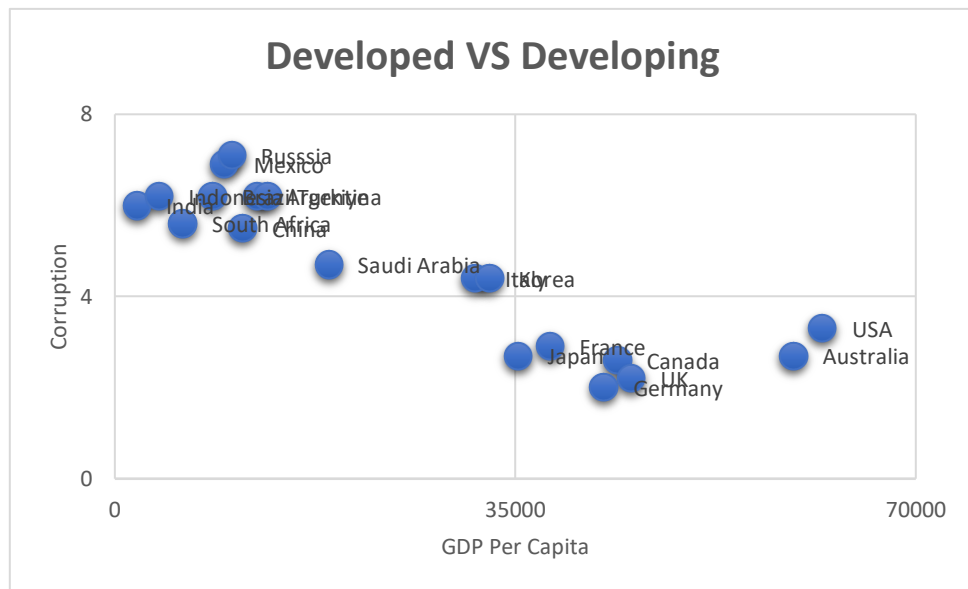


Figure 3.13 Positioning of G20's GDP Per Capita and Corruption

Source: World Bank and Transparency International, 2021 (processed data)

3.3.2 G20's Political Performance

Since the world was hit by the COVID-19 pandemic, the global economy has been in chaos. The severe challenge has resurfaced with the Russia-Ukraine war, which has directly or indirectly affected the political stability of G20 countries. The political stability of G20 member states in Europe has become polarized due to its impact, which has disrupted the availability of food and energy resources.

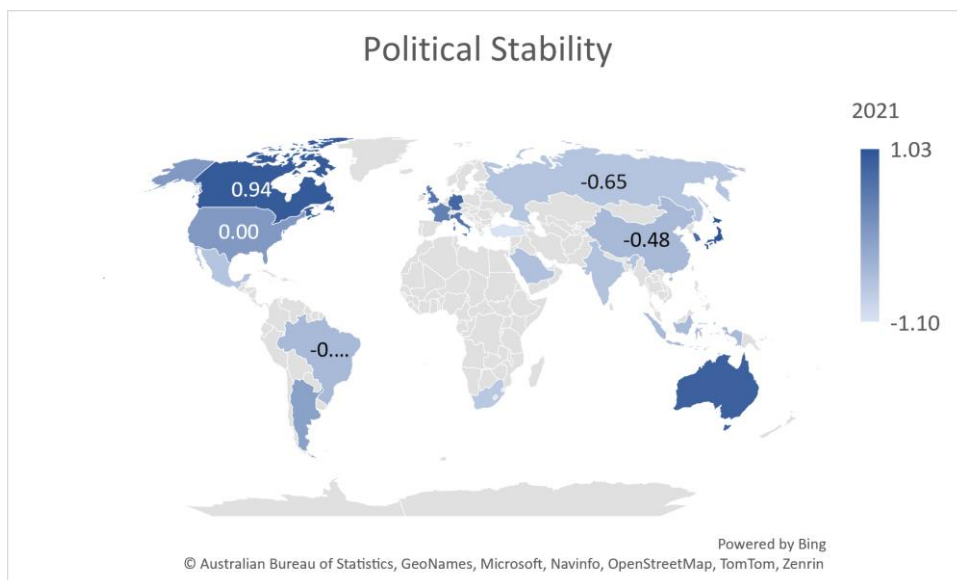


Figure 3.14 G20's Political Stability

Source: World Governance Indicator, 2022

Based on World Governance Indicator by World Bank, the political stability of G20's developing countries remains low (as the number approaches 2.5, the political situation in the country becomes more stable) as compared to developed countries. In 2021, Latin America region, Argentina has been attained -0,11 increase 0,03 from 2020. Despite the nomination of most stable democracies in Latin America, but the political polarization has become a recurring problem. The deep-seated division in Argentina, commonly referred to as 'la grieta' or the rift, has frequently resulted in democratic dysfunction and policy flip-flops whenever a new government assumes power. For example, the Macri administration strongly opposed the regime of Venezuelan President Nicolas Maduro. However, President Fernandez has reversed numerous policies established by his predecessor concerning Argentina's relationship with Venezuela. This polarization has also extended to intra-party dynamics. Analysts were taken aback by the public disagreements between Fernandez and his vice president, Cristina Fernandez de Kirchner (no relation), regarding social and economic policies after their party's disappointing results in the 2021 primary elections (CFR, 2021).

Due to overdate of Covid-19 crisis, Brazil's political stability has remained low from -0.43 increase to -0.49 in 2021. The period being discussed encompasses the initial two years of President Jair Bolsonaro's four-year term. Throughout this period, Brazilian democracy has undergone a tangible stress test. While recent polls indicate that support for democracy among the Brazilian population remains strong at 75%, President Bolsonaro has consistently exhibited behaviour that poses a threat to democratic principles through his rhetoric and concrete actions. Acting as a populist leader, he has encouraged some of his radicalized supporters to engage in anti-democratic conduct.

Fortunately, the presence of checks and balances has prevented some of the most extreme elements of the president's political agenda from being realized. The Supreme Court has intervened on multiple occasions, deeming government decrees and measures unconstitutional and reversing them. Additionally, Bolsonaro's initiatives have encountered opposition from Congress, as well as regional and local authorities, resulting in their failure. Nevertheless, the quality of Brazilian

democracy has significantly declined over the past two years, particularly for government critics and journalists who hold critical views (BTI, 2022) .

The improvement from Mexico's political stability has been appeared from -0.86 to -0.64 in 2021 despite lack of government concern in advanced its infrastructure. Based on report from Bertelsmann Stiftung's Transformation Index (BTI) 2022, the recently inaugurated administration of Andrés Manuel López Obrador, widely referred to as AMLO, made a bold declaration of ending neoliberalism upon assuming power in December 2018. However, there are evident indications that the AMLO presidency will largely maintain the existing model, except for heightened government involvement in the energy industry. A prominent illustration of this is the achievement of a new economic agreement with Canada and the United States, which bears striking resemblance to the previous North American Free Trade Agreement (NAFTA), signalling minimal deviation.

From a political perspective, the present government has been increasingly centralizing power in the hands of the president. The president's political party, the Movement for National Regeneration (MORENA), holds a majority in Congress, and in alliance with other supportive parties, possesses an absolute majority capable of amending the constitution. Moreover, the federal judiciary exhibits a significant degree of influence from the president. Notably, the president has launched attacks on and issued threats to autonomous institutions that play a crucial role in ensuring transparency and oversight of governmental actions. These institutions, along with the National Electoral Institute responsible for organizing elections, have suffered budget cuts under the president's administration. Consequently, democratic practices in Mexico have been gradually undermined.

Another emerging market in Asia which has been struggling to get stability in political order was China. The political stability index was approached increasing negative number over 3 years from -0.26; -0.33; -0.48. Over the course of his tenure since 2012, Xi Jinping has been progressively shifting China's political landscape towards the left, resulting in a heightened concentration of power within the Chinese Communist Party' including Xi's own position within the party.

The response from both political and policy circles against Xi's anti-market measures has gained momentum, evoking a renewed longing for the era of reform and opening and the principles of collective leadership advocated by Deng Xiaoping. Nevertheless, it is worth noting that, although this opposition has emerged, it has not yet reached a significant threshold that would prevent Xi from being reappointed.

Amidst the intricate economic and political dynamics within China, Xi Jinping aims to maintain a relatively smooth year of predictable events on the international stage, particularly in the context of the China-US relationship, leading up to his reappointment in November 2022. However, it is important to note that Xi may also be inclined to support Putin's attempts to showcase American vulnerability in the Ukraine situation. It is noteworthy that both Xi and Putin are likely to be deeply unsettled by the recent uprising against the authoritarian regime in Kazakhstan, as they share concerns about the potential for colour revolutions and the destabilizing effects they can have (Rudd, 2022).

The second emerging market which has been raised up among decade with populations approximately 1.4 billion was India. Political stability within these countries was dynamic, started at -0.77 point in 2019, increasing to -0.81 in 2020, and the condition was getting better at -0.62 in 2021. India has long been recognized as a well-established democracy, known for its strong governance and elected representatives holding effective power. Historically, there were no significant obstacles that undermined the democratic credentials of the country. However, during the period under review, Prime Minister Narendra Modi and his Hindu-nationalist Bharatiya Janata Party (BJP) government contributed to a gradual erosion of democratic institutions and pursued a path aimed at transforming India into a Hindu majoritarian state. This shift in approach took place following Modi's re-election in 2019, where the BJP secured an absolute majority of seats in the lower house of parliament (Stiftung, 2022b).

Besides India, Indonesia as the only one country from Southeast Asia which listed as G20's member has been experiencing political dynamics during last 5 years under the incumbent. Political stability index by World Governance Indicator

showed that in 2019, Indonesia gained -0.49 point, getting better to -0.45 in 2020. However, this condition didn't last long, in 2021 the index has been increased to -0.51 point, means that the instability has raised. During the period from 2019 to 2021, the state of democracy in Indonesia experienced a gradual but evident decline. Following his re-election in 2019, President Joko Widodo (Jokowi) adopted a two-pronged approach in dealing with the country's influential Islamist movement, which had gained prominence since the mid-2010s. On one hand, Jokowi incorporated more centrist Islamist figures and ideologies into his government, exemplified by the appointment of a conservative cleric as his vice president in 2019.

On the other hand, the government cracked down on the more radical Islamist leaders, including the ban of a significant organization in December 2020 and the imprisonment of its influential figurehead. Both strategies had detrimental effects on liberal freedoms, albeit in distinct ways. While socially and politically conservative narratives became entrenched in government discourse, the space for dissent against the regime, regardless of its nature, continued to diminish (Stiftung, 2022).

Despite the lower quality of political stability compared to the other G20's emerging countries, the improvement was showed by Turkiye during Erdogan order which the political tension turning out to semi-authoritarian regime respectively. The enhancement within government reflected to governance indicator since last 5 years from 2017 at -1.79 point, stability increased to -1.32 point in 2018. After this period, political stability among Turkiye has been decreased to -1.37 in 2019. Nonetheless, during 2020-2021, political stability raised to -1.14 until -1.1 point.

One of the reasons behind these conditions was, during the review period, significant transformations occurred in both domestic and foreign policymaking in Turkey. In terms of domestic politics, the New Turkey witnessed the consolidation of authoritarian tendencies. Following the lifting of the state of emergency that was imposed after the coup attempt in July 2018, various legal measures limiting fundamental rights and granting extensive powers to the executive branch were incorporated into legislation. As a result, the rule of law further declined. The

implementation of the revised constitution and the promotion of a presidential system have significantly undermined essential elements of a democratic system.

In Turkey, there has been a noticeable increase in nationalism. This nationalist rhetoric is not only embraced by the ruling People's Alliance, which consists of the AKP and its coalition partner, the Nationalist Movement Party (MHP), but also by opposition parties. The country remains deeply divided into two opposing factions. President Recep Tayyip Erdoğan has followed a governance approach that is exclusive and favours the majority, rather than being inclusive. The ruling coalition has continued with the process of Islamization in Turkey, as evidenced by Erdoğan's decision to convert Istanbul's Hagia Sophia into a mosque and the growing influence of the Diyanet (Directorate of Religious Affairs) in Turkish politics (Stiftung, 2022).

Dynamization over absolute authoritarian regime was reflected through Saudi Arabia government. This condition supported by some strides which have been made in improving the status of Saudi women. After gaining the right to vote and run in municipal elections in 2015, and the right to obtain driving licenses in June 2018, they have also made progress in the economic sphere. Women are now permitted to receive job training through government-approved centres and institutes, although the COVID-19 pandemic has disrupted these efforts. They are also experiencing limited access to employment opportunities. However, the government's crackdown on women's rights activists continues, with some being arrested and detained under challenging circumstances without proper legal proceedings.

Furthermore, King Salman bin Abdulaziz Al Saud has maintained a robust foreign policy approach, as demonstrated by his decision to initiate airstrikes in Yemen in March 2015, followed by the subsequent invasion of the country. Despite the United Nations' efforts to find a resolution to the Yemen conflict, neither the Saudi-led coalition (SLC) nor the Houthi rebels have demonstrated sincere commitment to reaching a negotiated settlement. Additionally, the Saudi kingdom has actively worked to counter Iran's influence across the region. After engaging in

a prolonged political, economic, and diplomatic confrontation, King Salman eventually achieved reconciliation with Qatar in January 2021 (Stiftung, 2022f).

South Africa, a member of G20's from Africa has been faced disappointment progress towards political stability in 2021 from -0.24 to -0.71 point. Based on Bertelsmann Stiftung's Transformation Index, from 2019 to 2021, South Africa witnessed significant political changes and implemented reforms within its civil service. However, during this period, the country faced underwhelming levels of socioeconomic development.

In the coming years, the party system in South Africa is expected to undergo reform. In 2020, the Constitutional Court declared a section of the Electoral Act unconstitutional, which prohibited independent candidates from running in elections without party affiliation. The court ordered parliament to amend the legislation within two years to allow for independent candidates. Electoral experts have conducted reviews and proposed alternatives to address the Constitutional Court's concerns, but it remains to be seen which reforms will be proposed and approved by parliament. While the amendment to the law may not have significant implications for party politics or elections in South Africa, it is a positive indication in a young democracy that there are opportunities to reform legislation and ensure equal opportunities for seeking political office. The COVID-19 pandemic has been a defining feature of this period, causing immense shocks to the country's economy, healthcare system, and society as a whole (Stiftung, 2022).

Political situation among advanced economies has been facing tremendous challenges in between Russia-Ukraine war. Desperate years overcoming through day by day has been emerged, as the result polarization satisfy respective interest and to fulfil own parties. However, the political stability index showed a positive progress toward European countries. First, France has been made progressive improvement in 2018-2019 from 0.03 to 0.3 point, continued to increase to 0.32 until 0.37 in 2021. In 2019, Germany also experienced an increase in the political stability index from 0.57 to 0.68 in 2020, and it further rose by 0.08 in 2021. Over 5 years, Italy has been started political stability index in good score from 2017 in 0.31; 0.34 in 2018; 0.4 in 2019; 0.43 in 2020; and increase to 0.58 in 2021.

The political among European countries has been affected by the relationship between China and EU as well. Publication by Asia Society toward Europe's China Challenge explained that European Union (EU) is confronted with a challenging task of managing its connections with China and Russia as the conflict in Ukraine escalates. Despite previous strains and differences between the EU and China, prominent European figures such as German Chancellor Olaf Scholz and French President Emmanuel Macron have emphasized their dedication to engaging in discussions with China. This commitment remains unchanged, regardless of the state of U.S.-China relations and the strengthened transatlantic alliance, which is a 'response to Russia's invasion of Ukraine and the United States diplomatic and military support for Ukraine. The future trajectory of Europe's geopolitical role is at a critical juncture, with significant implications.

The dynamization of political stability over UK has been emerged from 0.39 in 2017 decreased to 0.08 in 2018. Further analyses by World Governance Indicator, UK recovered to 0.54 in 2019 but faced a downward trend to 0.49 in 2020 and enhanced again to 0.54 in 2021. Based on Sustainable Governance Indicator, Prime Minister Johnson achieved a significant majority (80 seats) in the House of Commons following the 2019 general election. His success was largely attributed his promise of getting Brexit done amid prolonged political disagreements, as well as the unpopularity of opposition leader Jeremy Corbyn, particularly in central and northern England. The negotiations with the European Union proved to be complex and only concluded on Christmas Eve of 2020, putting an end to speculation about a "no-deal" Brexit. However, despite the Trade and Cooperation Agreement being finalized, numerous unresolved matters concerning the relationship between the United Kingdom and the European Union remain, which will require years to address.

One particular source of tension is the Northern Ireland Protocol, which has sparked renewed political conflicts. As businesses and citizens adapt to new regulations, customs controls, and changes in supply chains, frictions have become evident. Consequently, the percentage of goods imported from the European Union experienced a slight decline in 2021, while UK exports to the European Union recovered after a sluggish start to the year (Schiller et al., 2022).

From a political standpoint, the Westminster system has returned to a state of normalcy with a strong government majority that enables the implementation of its policies. However, the prime minister's credibility has been undermined by a series of allegations of misconduct. Keir Starmer has taken over as the leader of the Labour Party, aiming to reconcile internal divisions and establish his party as a credible opposition. Recent polls indicate increasing success in this endeavour. The party system has also undergone a reconsolidation, as evidenced by the decline of UKIP and the Brexit Party in electoral support.

During last 3 years of Trump's presidency, America has been faced downward political stability. Based on World Governance Indicator, the index showed 0.42 in 2018 decreased to 0.13 in 2019 and continued to 0.03 in 2020, until reached 0 (zero) in 2021. This situation has been faced US's government which cross to numerous challenges. For over a decade, the United States has largely been unsuccessful in addressing these issues. The division of party control between the presidency and Congress has resulted in legislative gridlock. Even during the first two years of the Trump administration, when there was unified government, Congress remained highly unproductive due to internal disagreements within the Republican party.

Following the 2018 midterm elections, where the Democrats gained control of the House of Representatives, gridlock persisted under a divided government. This was further compounded by the constant disruptions and distractions caused by various scandals involving members of Trump's administration and associates, including the Trump impeachment proceedings. Nevertheless, in 2020, the pandemic compelled Congress to pass significant stimulus legislation, a trend that continued in 2022 under the Biden administration and a Democratic-controlled Congress (Schiller et al., 2022).

The counterpart, Russia has faced low score in political stability index based on World Governance report. Up and down internal and external factors affected Putin's leadership to maintained Russia existence toward global world and last years, Russia got -0.65 in 2021 better than 2020 at -0.68. These conditions due to Vladimir Putin has exerted his influence over Russia's political, economic, and

cultural environment for about two decades. Initially, he held two terms as president, followed by a term as prime minister, and is currently in his fourth term as president. In January 2020, President Putin instigated a constitutional reform that allowed him to potentially serve two more terms beginning in 2024. The reform officially took effect in July 2020.

The advancements in domestic politics have been accompanied by an unprecedented and assertive foreign policy stance. The ongoing conflict in Ukraine persists with Russian backing, and the annexation of Crimea is widely regarded as an established fact. Additionally, Russian military involvement in Syria persists, and there are indications of expanding interests in Africa. As a result, relations with the European Union and the United States have significantly deteriorated and are currently at their lowest point since the conclusion of the Cold War.

Russia's leaders firmly believe that, as the world's largest country, Russia can only maintain its status as a major power and not be subordinate to any other nation. Numerous efforts to engage in meaningful discussions with the European Union and the United States have proven unsuccessful. One of the reasons behind this failure is Russia's perception that its foreign policy interests have been largely disregarded by both the EU and the United States (Stiftung, 2022).

Further analysis to Canada's political stability in 2019, these countries has been succeeded to enhance political performance reached 1.02 from the previous year at 0.98. It has continued to 1.03 points in 2020 but slowed down to 0.94 in 2021. Although Canada has high reputation in terms of governance management, during September 2021, Canadian voters participated in an election amid the ongoing pandemic, leaving many questioning the necessity of holding the election in the first place. The re-elected minority Liberal government now confronts significant challenges comparable to those witnessed during the Great Depression.

Political parties typically adopt a hierarchical structure that safeguards the leader, including the prime minister, from internal threats. However, it is important to note that the presence of the Canadian Charter of Rights and Freedoms, enshrined in the constitution, and the federal nature of the country act as effective checks on the authority of the executive branch. These constitutional and structural elements

serve to limit the power of the prime minister and ensure accountability (Schiller et al., 2022).

Despite ongoing efforts, significant issues persist in Canada. Social movements like Black Lives Matter Canada have questioned the idea that Canada is free from discrimination and have highlighted the presence of systemic racism, a viewpoint endorsed by many Canadian political leaders, including Prime Minister Justin Trudeau. Indigenous communities, who have historically faced oppression and marginalization by the Canadian government, argue that they are still in a colonial situation. In 2020-2021, several high-profile cases of racism and discrimination against Indigenous Canadians came to light. The discovery of mass graves of Indigenous children from the residential school system, which aimed to assimilate Indigenous youth, in British Columbia and Saskatchewan caused widespread shock and horror throughout the country. The federal government's commitment to reconciliation with Indigenous peoples represents one of the most crucial challenges in Canadian democratic life.

Moving to south developed countries, Australia has been carried out an up and down political stability unless the score closed to 1. Based on WGI, started in 2017, Australia got 0.9 point lead to enhanced to 0.99 in 2018 but decreased 0.08 point to 0.91 in 2019. Further conditions happened to 2020-2021 at 0.85 point. These conditions might be occurred because the Senate's persistent refusal to cooperate, a situation that no government has managed to control since 2007, remains a cause of frustration for governments attempting to implement their policy agenda. However, it could be argued that its influence has diminished during the review period. This is partially due to the fact that the Morrison government, following the May 2019 election, only required the backing of four independent senators instead of nine. Additionally, the lack of unity within the major political parties has been less noticeable since the re-election of the Morrison government (Schiller et al., 2022).

Two neighbourhood of impressively economic development in East Asia are Japan and South Korea has a good score in political stability index. Based on World Governance Indicator, South Korea has been made improvement last 3 years from

0.55 in 2019 lead to enhanced in 2020 to 0.57 point and 0.66 in 2021. Korea showed progressive government performance due to elections conducted at the national, regional, and local levels now adhere to principles of freedom and transparency. There has been a significant decrease in the prevalence of money-driven politics during electoral periods in recent years. Accusations and inquiries into illegal campaign financing are frequently employed as tactics to cast doubt or undermine the credibility of prospective political candidates (Donner et al., 2022).

During the Moon administration, South Korea has made notable strides in terms of press and internet freedom. Reporters Without Borders ranked South Korea as the 42nd country in 2020, which was the highest ranking among Asian nations. Despite these advancements in media freedom, there are still certain issues that need to be tackled. One such concern highlighted by Reporters Without Borders is the appointment of public broadcasters' managers through a politically connected system. Moreover, major media organizations display political biases, with the largest and most established outlets aligning themselves with conservative parties.

The political success achieved in April 2020 within the parliament was undermined by a poorly executed electoral reform. This reform aimed to enhance democratic representation by elevating the significance of proportional seats but ended up consolidating the influence of major parties while diminishing that of minor ones. Despite holding a substantial majority in parliament, the government has encountered difficulties in implementing its pledged institutional transformations, which encompass decentralizing power, enhancing human rights, and bolstering democracy.

Next, Japan is the only one country in G20 which has more stable political situation reflected to World Governance Indicator in last 5 years, always constant in 1 point. Despite the stability, Japan has been experienced up and down. Since the early 2000s, governments led by the Liberal Democratic Party (LDP) have progressively moved away from the political centre. However, some observers are worried that tightening political control has had a negative impact on the neutrality and professionalism of the state bureaucracy. The courts and the media have been unable to effectively check the government's actions. Although higher-level courts

have exhibited some restlessness, criticism of the government on social media has intensified. Civil society organizations have also become somewhat more active, but their influence on public policy remains limited. Concerns regarding press freedom and civil liberties have been increasing. The governing coalition's strong presence in parliament hampers the opposition's ability to exercise effective oversight. Declining voter turnout rates suggest that alternative party options lack appeal. Japan, a traditional bastion of liberal democracy in East Asia, has been overshadowed in this regard by Taiwan and possibly South Korea.

Since 2012, LDP-led governments have not wholeheartedly pursued structural reforms, which has contributed to the overall pessimism among the Japanese population, ranking among the highest in the OECD. Despite the LDP managing to maintain its grip on power following the Lower House election in November 2021, its success can be attributed more to the shortcomings of the opposition rather than its own popularity and performance. The newly appointed Prime Minister, Kishida, has expressed a commitment to achieve new capitalism that addresses issues of income inequality and digitalization.

The crucial question is whether the government can implement substantial reforms to bring about these changes or if it will remain merely a political slogan. At present, Japan's parliament lacks effective mechanisms for governmental checks and balances. Parliamentarians should optimize their resources to create alternative legislative initiatives. The courts, media (including social media), and civil society movements should also enhance their capacities to monitor and provide checks on the government. It is crucial for the government to perceive media criticism not as an obstacle to its ambitions but as a necessary corrective measure (Kalinowski et al., 2022).

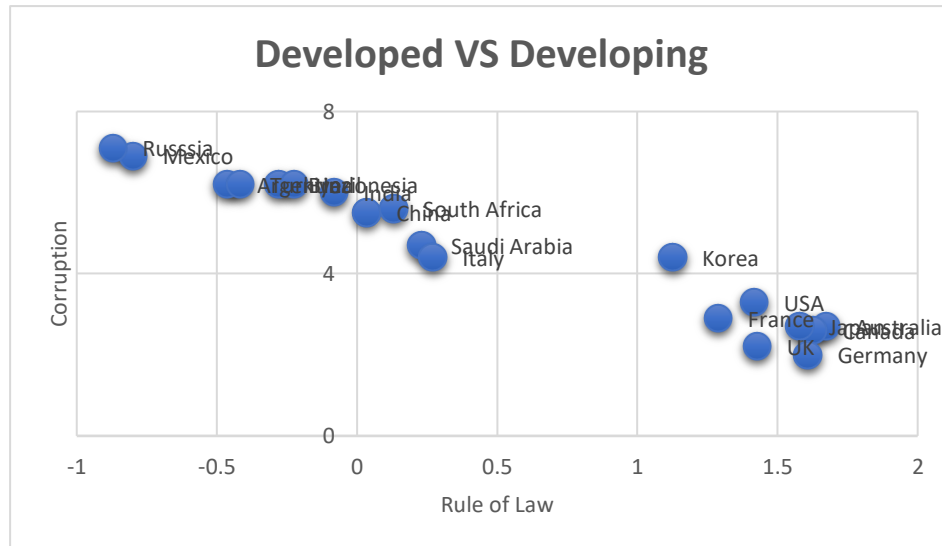


Figure 3.15 Positioning of G20's Rule of Law and Corruption

Source: World Governance Indicator and Transparency International, 2021

Based on figure 3.5, again, the positions of developed countries e.g., United States, France, United Kingdom, Australia, Germany, Canada, Japan unquestionably in first quadrant, they have good score in rule of law and lower corruption rate. Furthermore, Korea located in third quadrant which higher rule of law but at the same time the corruption rate still high. The rest of G20's member e.g. Russia, Mexico, Argentina, India, Indonesia, South Africa, Saudi Arabia, Brazil, Mexico, China, and Italy. still struggle in fourth quadrant which has higher corruption lower rule of law.

CHAPTER 4

METHODOLOGY

4.1 The Data

The main purpose of this paper is to examine the effect of women participation on corruption with economic development, and governance control variable. This research using panel data analysis from G20 countries including Argentina, Australia, Brazil, Canada, China, France, Germany, India, Indonesia, Italy, Japan, Republic of Korea, Mexico, Russia, Saudi Arabia, South Africa, Turkey, United Kingdom, United States excludes European Union over 1995 until 2021 period. Data of this study obtained by:

Table 4.1 The Variables

No.	Variable		Proxy	Source
1.	Dependent	Corruption	Corruption Perception Index	Transparency International
2.	Independent	Women Participation in Politics	Proportion of seats held by women in national parliaments (%)	World Bank
		Women Participation in Labour Market	Female labour force (%)	World Bank
			Female labour income share	World Inequality Database
			Female share of employment in senior and middle management (%)	World Bank
			Gender Inequality index	UNDP
		Women Participation in Education	School enrolment, tertiary, female (% gross)	World Bank
3.		Economic development	GDP per capita	World Bank
			Trade openness	World Bank

4.		Governance	Political Stability	World Governance Indicator
			Rule of Law	World Governance Indicator
5.		Dummy	0: Developing Countries 1: Developed Couns	

Source: Author, 2023

4.2 The Models

This reserach using panel data analysis as model estimation which corruption as dependent variable. Furthermore, the main estimation are Women participation in public space which represented by Women in politics, Women in labour market and Women whho pursued higher education. Second, the control variable of this estimation is economic development which has been proxied by gross domestic product and trade openness. Next, the governance variable has been represented by rule of law and political stability. Model estimation of this study:

$$\text{Corr}_{it} = \alpha_{it} + \beta_1 \text{GII}_{it} + \beta_2 \text{WIP}_{it} + \beta_3 \text{FLF}_{it} + \beta_4 \text{FLIS}_{it} + \beta_5 \text{FSMM}_{it} + \beta_6 \text{FSE}_{it} + \beta_7 \text{GDP}_{it} + \beta_8 \text{TRADE}_{it} + \beta_9 \text{PS}_{it} + \beta_{10} \text{RL}_{it} + \varepsilon_{it} \dots\dots\dots(4.1)$$

Where,

- Corr_{it} : Corruption index country i year t
- α_{it} : Constanta
- β : Coefficient of variable
- GII_{it} : Gender Inequality Index country i year t
- WIP_{it} : Women in Parliament country i year t
- FLF_{it} : Female Labour Force country i year t
- FLIS_{it} : Female Labour Income Share country i year t
- FSMM_{it} : Female in Senior Middle Management country i year t
- FSE_{it} : Female School Enrolment country i year t
- GDP_{it} : Gross Domestic Product Per Capita country i year t
- TRADE_{it} : Trade Openness country i year t
- PS_{it} : Political Stability country i year t

RL_{it} : Rule of Law country i year t

ε_{it} : Error term

a. Corruption index

Dependent variables of this research are corruption using corruption perception index from Transparency International. This research converts the Corruption Perceptions Index (CPI), which evaluates the perceived levels of corruption in 180 countries and territories worldwide, into a decimal scale ranging from 0 (indicating highly corrupt) to 10 (indicating very clean). To facilitate the interpretation of the analysis, the authors changed the corruption rate into:

$$\text{Corruption rate} = 10 - \text{CPI} \dots\dots\dots (4.2)$$

So, if the number getting lower or close to 0 indicating lower corruption in those countries. Contrary, if the number close to 10 it means that higher corruption rate.

b. Women Participation

The main focus of this research is Women participation variable which represent into women in politics, women in labour market, and education. Women in politics represented by percentage of proportions held by women in national parliaments in single or lower seats. Next, to specify the participation of women in labour market, first, this research using the percentage of female labour force as a proportion of the total labour force. The labour force includes individuals aged 15 and older who provide their labour to produce goods and services during a specific period.

Second, female labour income share obtained from pre-tax labour income share held by the population 100 group. Pre-tax labour income refers to the total amount of income earned by individuals through their labour before taxes and transfers are taken into account, but after taking into account pension contributions. This income includes all personal income streams received by individuals who provide labour as a factor of production. The main distinction between personal factor income and pre-tax income lies in the way pensions are treated, with the former counting them on a contribution basis and the latter on a distribution basis. The population studied consists of women aged 20 or above.

Third, female share of employment in senior and middle management. This metric measures the percentage of women who hold senior and middle management positions out of the total employed population. It falls under major group 1 in both ISCO-08 and ISCO-88, excluding category 14 in ISCO-08 (managers in hospitality, retail, and other services) and category 13 in ISCO-88 (general managers), as these categories mainly include managers of small businesses.

Fourth, gross tertiary school enrolment as measured by percentage for females. Tertiary education, also known as third-level, third-stage, or post-secondary education, refers to the level of education that follows secondary education. This includes universities, trade schools, and colleges, according to the definition provided by the World Bank. The gross enrolment ratio is calculated by dividing the total number of enrolled students, regardless of age, by the population of the age group that corresponds to the level of education being measured. Tertiary education typically requires successful completion of secondary education as a minimum condition for admission, regardless of whether the program leads to an advanced research qualification.

Fifth, gender inequality index by UNDP. The Gender Inequality Index (GII) ranges from 0 to 1, with a score of 0 indicating gender equality and a score of 1 indicating high levels of inequality between men and women. A low GII score implies that there is less inequality between men and women, while a high score suggests greater inequality

c. Economic Development

This research uses economic development as a control variable which is proxied by first GDP per capita based on USD. GDP per capita is a measure obtained by dividing the gross domestic product (GDP) of a country by its midyear population. GDP represents the total value added by all resident producers in the economy, including product taxes and excluding subsidies that are not accounted for in the product value. It is calculated without deductions for the depreciation of manufactured assets or for the depletion and degradation of natural resources. The data for GDP per capita is typically presented in constant 2015 U.S. dollars, which adjusts for inflation and allows for meaningful comparisons over time. Second,

trade openness of an economy is measured by the ratio of its total exports and imports of goods and services to its gross domestic product (GDP) in percentage.

d. Governance

Governance in this research has been measured by, first, rule of law obtained from World Governance Indicator. The estimate of governance refers to a measure of governance performance, which ranges from approximately -2.5 (indicating weak performance) to 2.5 (indicating strong performance). This measure reflects the perceived degree to which individuals and groups have trust in and comply with the rules and norms of society, with a particular focus on the quality of contract enforcement, property rights, law enforcement agencies, and the judicial system. It also considers the likelihood of criminal activities and violence.

Second, political stability and absence of violence. The estimate of governance is a measure of governance performance that ranges from approximately -2.5 (indicating weak performance) to 2.5 (indicating strong performance). Political Stability and Absence of Violence/Terrorism, on the other hand, is a measure that reflects perceptions of the probability of political instability and/or politically motivated violence, including terrorism.

4.3 The Estimation

4.3.1 Panel Data Regression Analysis

Panel data regression is a combination of cross section (N) and time series (T) data (Hsiao, 2003: 7). Panel data provides a variety of observations. If the number of time units is the same for each individual or observation, then it is called a balanced panel. If the number of time units is different for each individual, it is called an unbalanced panel. Based on this explanation, this research is included in the unbalanced panel because the time period with a total of 19 countries starts from 1995 to 2019-2021.

4.3.2 Panel Data Regression Assumption

In panel data regression, classical assumption tests are not needed because panel data can minimize the effects of bias that may appear in the analysis results. In addition, panel data provides more information, variety, and degree of freedom

(Gujarati, 2012: 237; Yafee, 2003). Panel data can provide more accurate analysis and prediction results than time-series data (Hsiao, 2003:7).

4.3.3 Advantages and Disadvantages of Panel Data

Hsiao (2007) was explained some advantages of panel data, first, panel data is able to provide more accurate inference of model parameters. This is because panel data contains more degrees of freedom and varied samples than cross section and time series data which will increase the efficiency of econometric estimation. Second, greater capacity to explain the complexity of human behaviour because it is formed and tested through more complex behavioural hypotheses. Third, controlling for other effects of other variables that are not included in the estimate. Fourth, simplification of calculations and statistical inference. Fifth, minimizing the resulting bias when regressing individual data into broad aggregations.

Furthermore, some of disadvantages of panel data are occurring if, first, problems in obtaining data or information for each individual and references that can be used to determine the observation period to be used. Second, selectivity problems or data selection errors, some or all of the questions were not answered, the data collected was incomplete because the respondents disappeared, moved, or disappeared. Third, panel data can cause distortion due to measurement errors. Fourth, cross-sectional dependence which can lead to misleading inference because it does not consider the relationship between individuals. And the challenge of panel data is controlling the impact of heterogeneity on unobserved variables.

4.3.3 Panel Data Regression Stages

This section describes panel data regression analysis using the Eviews 12 application. In this study, annual data starts from 1995 2021.

4.3.3.1 Determination of The Estimation Model

Baltagi (2005) in his book entitled "Econometric Analysis of Panel Data" third edition explains that in determining the estimation model on panel data through two approaches, namely:

1. Fixed effect model

The fixed effect model assumes that the intercept of each individual is different. While the slope between individuals is fixed. To distinguish one object from another, a dummy variable is used. In summary, the fixed effect model assumes that there is no time effect and only focuses on individual-specific effects. The regression equation of the fixed effect model is:

$$Y_{it} = \alpha + \alpha_i + \beta X_{it} + \varepsilon_{it} \dots\dots\dots(4.4)$$

2. Random effect model

The random effect model is a panel data estimation model assuming that the specific effect of each individual is treated as part of the random error component and is not correlated with the observed explanatory variables. In this model the parameters that differ between individuals and between times are included in the error, because of this this model is often referred to as the error component model. The assumption is that the individual errors and the combined errors are not correlated. The regression equation of the random effect model is:

$$Y_{it} = \alpha + \beta X_{it} + W_{it} \dots\dots\dots(4.5)$$

Where:

$$W_{it} = \varepsilon_{it} + u_i \dots\dots\dots(4.6)$$

4.3.3.2 Determination of The Estimation Method

According to Baltagi (2015) determining estimates in panel data regression only requires the Hausman test. The Hausman test aims to test as a determinant of the most appropriate approach between the fixed effect or random effect in estimating panel data. In the Hausman test, the random effect model is used as a reference. If the Hausman test shows rejection of the null hypothesis, then the fixed effect model is more appropriate to use than the random effect model. The hypothesis tested is:

$$H_0 = \text{Random effect model}$$

$$H_1 = \text{Fixed effect model}$$

The assessment criteria are if the results of the Hausman test show a p-value greater than 0.05 or 5% then H_0 is accepted. If the p-value is less than 0.05 or <5% then H_0 rejected.

4.3.4 Hypothesis Testing

Hypothesis testing is intended to determine how much influence the independent variables have on the dependent variable in the study.

4.3.4.1 Partial test (t-test)

Partial test or t-test is used to determine the significance of the effect of each independent variable on the dependent variable. Tests were carried out using a significance level of 1%, 5%, and 10% or $\alpha = 0.01$; 0.05; and 0.1. If the t-test value < 0.01 ; 0.05; 0.1, the independent variable has a significant effect on the dependent variable. Conversely, if the p-value > 0.01 ; 0.05; 0.1, the independent variable has no significant effect on the dependent variable. The hypothesis formula is:

H0 = independent variable has no significant effect to dependent variable

H1 = independent variable has significant effect to dependent variable

4.3.4.2 Statistical F test (simultaneous)

According Ghozali (2013), the purpose of the F test is to show whether all the independent variables have a simultaneous effect on the dependent variable. If the significance level of F is less than 5% or $\alpha < 0.05$ then the effect of the independent variable on the dependent variable has a significant effect simultaneously. Conversely, if the significance level $F > 0.05$, the effect of the independent variables on the dependent variable has no significant effect simultaneously. The F test hypothesis formula is as follows:

H0 = independent variable has no significant effect to dependent variable simultaneously

H1 = independent variable has significant effect to dependent variable simultaneously

4.3.4.3 Determination coefficient test (R^2)

The coefficient of determination aims to measure how 'much the model's ability to explain the independent variables. R^2 values range from 0 to 1. The closer to 1, the better the model's ability to explain the independent variable and can provide almost all the information needed to predict the dependent variable. Vice

versa, if it is close to 0 then the model's ability to explain the independent variable is still limited.

CHAPTER 5

FINDINGS

5.1 Data Analysis

In the description section, the results of the research will be explained regarding descriptive statistics. Descriptive statistics include the mean or average value of the research objects, min describes the minimum or lowest value of the observations, max describes the maximum or highest value of the observations, and standard deviation for each variable. The results of the descriptive statistics are as follows.

Table 5.1 Descriptive statistics

Variable	Mean	Std.Dev.	Min	Max	N
Corruption Index	4.73798	2.135448	0.8	8.3	505
Female Labour Force	40.08869	8.541572	12.33676	49.33808	513
Female Labour Income Share	0.2985998	0.0891551	0.060	0.4225	455
Female School Enrollment	66.21752	26.47196	15.05774	143.0235	374
Female in Senior Middle Management	28.91888	9.262321	9.2	43.8	233
Log GDP Per Capita	9.565499	1.099912	6.426713	11.03256	511
Gender Inequality Index	0.2914363	0.1715088	0.09	0.701	502
Political Stability	0.013726	0.7708389	-2.1	1.41	437
Rule of Law	0.5045724	0.9334106	-1.08	1.92	437
Trade Openess	50.23505	17.70682	15.63559	105.5663	513
Women in Parliament	19.96565	10.84543	4.36	48.2	459
Dummy	0.5263158	0.4997944	0	1	513

Source: Stata 14 (processed data)

Based on table 4.1, descriptive statistics in common sample estimation, shows that average score of corruption rate G20 member countries approximately 4.73798 over period 1995 to 2021. Minimum score of corruption rate 0.8 which belongs to Canada in 1998-2000 period means that at those moment Canada

experienced fascinating control of corruption. Vice versa, the maximum value of corruption rate has been experienced by Indonesia during 1995 with score 8.3 during 1999-2000. On the other hand, standard deviation of corruption rate among G20 is 2.135448.

Talking about Women participation couldn't be separated from Gender Inequality Index (GII) which has been implying how far the gap between women and men. It ranges from 0, where women and men fare equally, to 1. A low GII value indicates low inequality between women and men, and vice-versa. The average value or mean among G20 countries is quite high in 0.2914. Toward the maximum value of GI index, India got 0.701 in 1995 means that India has big gap toward the representation of Women in public or private business. Otherwise, the minimum value of gender inequality index was 0.09 has been experienced by Germany. Standard deviation of gender inequality index from is 0.171 which means that there are still differences between male and female representation among G20 quite high.

First, to represent women participation in politics, these research using proportions of seats held by women in national parliaments. The representation of Women in parliament among G20 countries has been reached average score or mean 19.96 percent, this number quite low. The maximum number of women in parliament is 48.2 %referred to Mexico from 2018 to 2020. Otherwise, the minimum number of women in parliament is 4.36 %and standard deviation 10.84 percent.

Next, women participation in labour market represented by female labour force based on percentage from total labour force which has average value or mean in 40.08 means that from G20's has been slightly reach equality toward female labour force participation from 1995-2021. The minimum value of female labour force of G20's countries 12.33 %from Saudi Arabia in 1995 while the maximum value 49.33 %belongs to Russia in 2006 and the standard deviation is 8.54.

Beside female labour force, this research has been including female labour income share before tax which has average value 0.298 among G20. The minimum value of it 0.06 which referred to Saudi Arabia in 1995 means that only 6% of

female paid and received formal income. Meanwhile, the maximum value of female labour income share of G20 belongs to Russia in 2007 approximately 0.422 or 42.2 %. The standard deviation of female labour income share among G20 quite low in 0.089.

Furthermore, to represent women in labour market this research using female who hold positions in senior and middle management. The mean of women who has these positions remains low approximately 28.91 %among G20 member countries. While the minimum number of female representations in senior and middle management in 9.2 %referred to Japan in 2001 and the maximum value of its 43.8 %had by Russia. This data shows that not all developed countries have been concerning to the Women existence toward strategic roles. Regarding the standard deviation, G20 had slightly low around 9.26 percent.

Looking forward to women participation toward tertiary/higher education, this research using female school enrolment as successful completion of education at the secondary level. The average number of women who pursue higher level of education among G20 is slightly high in 57 percent. Surprisingly beyond this condition, G20 has a huge gap within countries, it reflected through the minimum number is just 3.97 %happened in India in 1995 while the maximum value of female school enrolment approximately 143.023 %referred to Australia in 2016. Almost 1/3 or 30% around 28.74 %the standard deviation of female who pursued higher education in G20.

Economic development as control variable in this research referred to gross domestic product per capita annually which G20 has been obtained in average approximately 9.56 respectively toward 1995 until 2021 period. Moreover, G20 has been punched during Covid-19 pandemic which affected economic downturn. But the minimum number of GDP per capita growth has not been resulted from those crises. The minimum number of GDP per capita growth reached 6.42. Furthermore, the maximum value of GDP per capita growth during 1995-2021 within G20 countries is 11.03 percent. Standard deviation of economic growth in G20 countries remains low in 1.09 %during research period.

Second measurement, trade to percentage of gross domestic product which has quite high mean approximately 50.23 %respectively means that all G20 member countries has been relying on trade to drive the economic performances. The maximum trade among G20 countries is 105.56 percent, the minimum share of export import around 15.63 percent, standard deviation is 17.7 %toward 1995 to 2021.

Another index to measure political conditions toward G20 is political stability and absence of violence from World Governance Indicator which has been estimated regarding the probability of political instability and/or politically driven violence, such as acts of terrorism ranges from approximately -2.5 (weak) to 2.5 (strong) governance performance. The average value or mean of G20 remains low at 0.013 which imply quite strong political instability. Meanwhile the minimum score of political stability index is -2.1 experienced by Turkiye and maximum score of it 1.41 belongs to Germany. Regarding the standard deviation of political stability, the score has been reaching at 0.77 among G20 countries.

Moreover, to specify governance performance, this research using Rule of Law to look up the measurement of perceptions regarding the degree to which individuals have trust in and adhere to the norms and regulations of a society, particularly concerning the effectiveness of contract enforcement, protection of property rights, law enforcement agencies, and the judicial system, as well as the likelihood of criminal activity and violence. Similar with political stability index, the ranges from approximately -2.5 (weak) to 2.5 (strong) governance performance. The average value or mean for rule of law among G20 is 0.5, minimum -1.08, maximum 1.92, standard deviation 0.933.

5.2 Results

This research using panel data analysis with Ordinary Least Square, Fixed effect and Random effect as model estimation. Corruption rate as dependent variable, followed by women participation, economic development and governance as independent variable, the results shows that all variables significant simultaneously with probability of F value < 0.05 in OLS, fixed and random effect. The coefficient of constant value from OLS estimation is 6.574 means that if all

variables are not taken into account or zero so the corruption rate is 6.574. on the other hand, the coefficient value of fixed effect in constant is not significant while in random effect model, the coefficient of constant is 6.809 means if all variables are not taken into account or zero so the corruption rate is 6.809, higher than OLS model.

Table 5.2 Baseline model

Variable	OLS	FEM	REM
Gender Inequality Index	1.105 (0.935)	6.019*** (1.996)	2.366* (1.24)
Women in Parliament	-0.001 (0.004)	0.006 (0.011)	-0.004 (0.007)
Female Labour Force	-0.077*** (0.016)	-0.012 (0.056)	-0.091*** (0.025)
Female Labour Income Share	9.994*** (1.854)	19.070*** (3.564)	14.210*** (2.656)
Female in Senior Middle Management	-0.036*** (0.01)	-0.001 (0.018)	-0.034** (0.014)
Female School Enrolment	0.001 (0.002)	-0.006 (0.006)	-0.002 (0.003)
Rule of Law	-2.038*** (0.087)	-0.537* (0.302)	-1.654*** (0.16)
Political Stability	0.190* (0.109)	0.063 (0.159)	0.165 (0.137)
GDP Per Capita	-0.018 (0.135)	-0.333 (0.601)	-0.183 (0.227)
Trade Openness	0 (0.004)	0.025*** (0.008)	0.005 (0.006)
cons	6.574*** (1.623)	-0.097 (7.387)	6.809*** (2.347)
R-squared	0.9654	0.4472	0.9500
Prob F sig.	0.0000	0.0000	0.0000

Source: Author's estimation, 2023

Based on table above, the R squared of OLS estimation is greater than fixed effect and random approximately 0.9654 which mean the variables in OLS model can explain this research as much as 96% and the rest of 4% will be explained by other variables. Similar with OLS, the random effect estimation has high R squared around 95%. Meanwhile in fixed effect model, the value of R squared has been decreased around a half to 0.4472.

This research using gender inequality index from United Nations Development Program (UNDP) from 0 to 1, the closer to 1 then higher gender inequality within country. Starting from ordinary least square model, the coefficient of GII has the lowest value at OLS model at 1.105 with -0.935 of standard error which this model has been not significant at all levels (1%; 5%; 10%). Meanwhile in fixed and random effect model, GII has positive significant effect to lead greater corruption rate. In fixed effect model, GII's coefficient has the higher value approximately 6.019, significant at 1%, standard error at -1.996, means that if gender inequality index increases by 1 point of the index, it is associated with an increase in the corruption rate by 6.019 point. In random effect, the coefficient of GII decrease to 2.366, significant at 10% and standard error at -1.24.

The main estimation of this research is women participation in public space which represented by, first, women in politics using women in parliament (WIP) by World Bank data. The coefficient of Women in parliament by OLS, fixed and random effect estimation has not been significant. WIP has negative insignificant effect at OLS and random effect in -0.001 and -0.004, while in fixed effect has positive insignificant in 0.006. From this estimation, Women in parliament doesn't have significant impact to reduce corruption rate in G20 countries.

Second proxy of women participation in public space represented by female labour force has negative significant effect corruption in G20 at 0.01 significance level. In OLS and random effect estimation, the improvement of female labour force by one percentage point will reduce corruption rate by 0.077 and 0.091 point. Vice versa, in fixed effect model, female labour force doesn't have significant impact on corruption eradication.

Third, female labour income share (FLIS) has consistent result at all model estimation which positive significant at 1%. In OLS, the coefficient of FLIS has been reached 9.994 means that 1 unit increasing in female labour income share will lead greater corruption perception rate around 9 points. Interestingly, the coefficient become higher in fixed effect approximately 19.070 and random effect by 14.210 due to the error term in fixed effect is greater than OLS estimation as well as the random effect estimation.

Fourth, the position of female in senior-middle management (FSMM) has taken into account for this estimation. The effect of Women who hold the strategic position in institution or corporation has negative significant impact to decrease corruption level. An increase in 1 %of female senior-middle management will lead to decrease corruption by -0.036 (OLS) and -0.034 point (REM). Unfortunately, the effect doesn't significant in fixed effect estimation. Fifth, this study also explores the effect of female school enrolment in tertiary education which the result shows insignificant impact. The coefficient of OLS finds positive insignificant at 0.001, while in fixed and random effect, the effect is negative insignificant at -0.006 and -0.002.

Economic development in this research has two proxies those are gross domestic product per capita and trade openness. First, gross domestic product per capita has insignificant effect toward corruption level at all models. In OLS estimation, the coefficient of GDP per capita has positive insignificant effect (0.018) while in fixed (-0.333) and random effect (-0.183) has negative insignificant. Next, trade openness in G20 countries has positive significant effect to corruption perception level (in fixed effect model). The increasing volume of trade 1 %will lead to increase the corruption perception by 0.025 point. While, in random and OLS estimation, the effect is insignificant.

The governance variable which has been representing by rule of law has consistent result to reduce corruption level among G20 countries, in this research. In OLS estimation, the coefficient is -2.038 higher than fixed and random model which means the improvement from rule of law in 1 point will decrease corruption by -2.038 point. Furthermore, in fixed effect estimation, the enhancement of rule of law in 1 point will decrease corruption level by -0.537 and in random effect decrease by -1.654 point. On the other hand, political stability has insignificant impact toward G20's corruption level from fixed and random effect model. While in OLS estimation the impact has positive significant.

Based on Hausman test, this research using fixed effect model which means reject H₀ (see appendix 1). Moreover, this research investigates the effect of

women participation to corruption in G20's developing and developed countries whether there are differences between estimation.

Table 5.3 Developed VS Developing

Variable	Developed	Developing
Gender Inequality Index	-1.163 (1.932)	14.592*** (3.088)
Women in Parliament	-0.018 (0.011)	0.040* (0.019)
Female Labour Force	-0.115 (0.125)	0.029 (0.062)
Female Labour Income Share	31.793*** (7.049)	6.851* (3.265)
Female in Senior Middle Management	-0.006 (0.064)	0.018 (0.014)
Female School Enrolment	-0.006 (0.015)	0.012 (0.014)
Rule of Law	-0.011 (0.616)	-0.726* (0.365)
Political Stability	0.318 (0.233)	-0.317 (0.262)
GDP Per Capita	-2.586** (0.976)	0.083 (0.673)
Trade Openness	-0.004 (0.026)	0.024** (0.008)
R-squared	0.7383	0.3005

Source: Author's estimation, 2023

5.3 Discussions

5.3.1 Relationship Between Corruption and Women Participation

The world needs balance to counter the issues and problem toward development specifically in corruption. Multi perspectives and comprehensive point of view from behaviour and gender specific approaches may consider addressing moral hazard problems. Hence, this research using three women proxies to represent participation toward countries which are women in politics, in labour market, and education respectively. Before jumping into the relationship in female representation, the effect of gender inequality to corruption rate was positive statistically significant in fixed effect model. The coefficient shows that the enhancement inequality will lead to greater corruption by 6.019 point which similar from previous research by (Jha & Sarangi, 2018; Salari & Noghanihambari, 2021)

since gender inequality arises due to a combination of complex factors that are interconnected with the functioning of social, institutional, and economic aspects within a specific society (S. Y. Kim, 2021). This result is linear with random effect model which has lower coefficient by 2.366. Meanwhile, in OLS model the effect doesn't significant. The effect of gender inequality has been worsening in developing countries which can lead the corruption score up to 14.592 point. This result is making sense due to greater inequality in developing countries and the corruption rate remains higher than advanced economies so the term of 'wasting human capital' lead to ineffectiveness economic performance.

Table 5.2 shows women in politics has been represented by the seats Women hold in parliaments which has insignificant effect toward corruption rate in G20 countries. These results might be occurred because of the disparities and different characteristics data of G20. The constitutional form and the lack maturity of democracy of developing countries has been impacted the ineffectiveness of corruption eradication. Some of the G20's member was Asia Pacific countries which referred to Huang (2016) there are limited values for Asia Pacific countries to adopt anti-corruption policies to promote economic development. For instance, Saudi Arabia which has absolute monarchy in the context of constitutional form, so there is no Women representation in parliament.

Another determinant which might be influenced to insignificant presence women in parliament is cultural attributes (Debski et al., 2018). Taking culture into account is a crucial aspect in examining the correlation between female participation in society and corruption. Neglecting cultural characteristics can lead to a misleading association between higher rates of female participation and decreased levels of corruption. Debski et. al. also argued power distance and masculinity exhibit a strong correlation with both female representation and levels of corruption. The increased presence of women in the public sphere through substantive representation can potentially have a significant impact on shaping societal values and beliefs over an extended period of time instead of merely emphasizing the numerical representation of women in politics.

The existence of women in parliament must be followed by press freedom and democracy to boost the effectiveness of corruption eradication (Chowdhury,

2004). Democratization and press freedom have a complementary relationship rather than a substitutional one. Democratization and press freedom enhance the likelihood of detecting corrupt behaviour, thereby reducing the expected benefits of corruption (Bhattacharyya & Hodler, 2015; Kalenborn & Lessmann, 2013). Press freedom help to minimize asymmetric information general election more democratic and efficient (Rose-Ackerman, 1978).

Different condition has been raising in developing countries due to positive significant effect of women in parliament to corruption. According to (Bhattacharyya & Hodler, 2010) resources are one of the determinants of corrupt behaviour. The exploitation of resources tends to increase corruption, unless democratic institutions are functioning well, as abundant resources encourage the government to engage in rent-seeking practices. One of interesting findings that might triggered unique results from Goel & Nelson (2023) found countries that implemented some form of female quota (mandatory or voluntary) for participation in the legislative branch of government displayed higher levels of corruption. This indicates that while quotas may contribute to increased participation in the legislative process and indirectly discourage corruption, their implementation may also be linked to greater nepotism, graft, and higher levels of corruption associated with these activities.

In this research, women in labour market has been representing through, first, female labour force which has negative significant effect to corruption. By increasing the number of female workers 1%, it will lead decrease the rate of corruption 0.091 point. These findings similar with (Debski et al., 2018; Jha & Sarangi, 2018). If rate of female participation contributes to labour force it will shape the economics to growth and room of improvement for policy maker to always consider and make a balance labour policy between male and female. On the other hand, it will shape more transparency of governance system. So, fraud, bribe and whistle-blower actions can minimize as long as the consistency of policy maker, in this case labour market as well.

These findings supported by (Fišar et al., 2016) which examined the interplay between gender variations in corrupt behaviour and gender disparities in

perceptions about the behaviour of others. Additionally, it aims to analyse how these beliefs influence actual actions and the subsequent relationship between them. They found that female individuals exhibit a decreased propensity to partake in costly forms of punishing corruption, and they hold a higher perception of corruption prevalence in comparison to their male counterparts. When taking into account beliefs and accounting for gender differences in sensitivity to beliefs, our findings indicate that males, in numerous cases, demonstrate a higher tendency to offer bribes. On the other hand, females exhibit a lower inclination to adhere to the norm of engaging in bribery (Swamy et al., 2001). Furthermore, for developing and developed countries, these effect of Women participation in labour market doesn't play significant impact toward corruption.

As the world goes more advance and uncertain, female nowadays help to contributes to economic activity because of livelihoods. Livelihoods play a crucial role in enabling individuals to meet their basic needs and encompass aspects such as access to employment. However, when women face limited access to essential resources for livelihoods, it significantly diminishes their ability to negotiate and exert influence. Therefore, it is imperative to ensure a balanced gender participation to foster sustainable development continuously.

Solow and Swan, the developers of neoclassical growth theory, argued that the initial stages of economic development follow a similar pattern. This pattern involves maximizing the utilization of affordable and plentiful labor, capital, and technology to meet the growing supply and demand (Kagan, 2019; Ferguson, 2008). This pattern has been observed worldwide. During periods of economic development from the 1960s to the 2000s, a significant number of female workers have made substantial contributions to the manufacturing industry in order to meet high demand. This phenomenon has been a primary driver of increased income for female workers in many countries (Charles, 2011; Seguino, 2000; Swamy, 2004). From this evidence, it can explain why female presence matters in labour force participation to address different area of development stages and filling the gap of unobserved estimation that male couldn't find out.

Furthermore, this research estimates the representation of female in senior middle management which looking forward the effect of women in decision-making process. The results find negative significant which reflected the existence of female in decision-making process matters to combat corruption which 1% increasing will lead to corruption eradication by 0,034 point. It means that more women involve strategic positions in corporate or complex institution it will drive to sound the female voice through policy making process. After these circumstances shaped, it will enhance the quality of institution toward the good governance and transparency system as well.

These findings similar with previous study by Audretsch et al. (2022) who explores various forms of widespread and arbitrary corruption have diverse impacts on firm exports, and female CEOs provide a unique and dual mitigation effect in response to corruption. Furthermore, the political representation of women fosters both aspects of financial development, although it has a more pronounced impact on the development of financial institutions (Mougnol A Ekoula et al., 2023). Different with S. Kim et al. (2022) who investigated the effect of women's firm ownership on firm bribery, the results have no significant impact. When the assessment of female in senior and middle management evolved in developed countries of G20, the effect is negative insignificant likewise with developing countries.

Female labour income share has positive statistically significant effect toward corruption. The greater share of income which obtained in countries impact increasing perception of corruption which implied more advanced economics has more sensitive sense to corruption issue. Boehm (2015) argued women demonstrate a greater inclination towards opportunistic behaviour, whereby they may accept bribes but are less inclined to engage in corrupt practices in return. Both males and females tend to offer higher bribe amounts when dealing with males, as opposed to females. Moreover, due to their role in undertaking more unpaid domestic work, women often prioritize values and norms over material gain. Consequently, they tend to exhibit lower inclinations towards dishonest behaviour and corruption. Rheinbay and Chêne (2016) support this perspective by presenting empirical

evidence that sheds light on the variations in how men and women perceive, experience, and tolerate corruption.

Contrary, some evidence suggests that women exhibit greater sensitivity to social cues, are less competitive, and more inclined towards cooperation. However, they also tend to display lower levels of trust, hold more flexible ethical standards, and may refrain from engaging in norm-breaking behaviour due to concerns about potential negative consequences and punishment (Esarey and Chirillo, 2013; Esarey and Schwindt-Bayer, 2018). In a related context, Rheinbay and Chêne (2016) highlight that women face harsher penalties compared to men when involved in corruption cases, which inevitably influences their likelihood of engaging in corrupt activities.

Last but not least, to examine the effect of Women participation on corruption perception, this research also involves female school enrolment in tertiary education. The impact of female who pursued higher education has negative but not significant toward corruption. The supply of higher education in public and private has to distributed equally while due to the fact that there is still gap especially in developing countries. These conditions might be affected the results of estimations.

5.3.2 Relationship Between Corruption and Economic Development

Gross domestic product per capita doesn't have significant impact toward corruption. Saha et al. (2009) elucidate that economic freedom and democracy play pivotal roles in combating corruption. Economic freedom acts as a mitigating factor for corruption within any political milieu. On the other hand, democracy tends to exacerbate corruption in situations characterized by low levels of economic liberalization. Jetter et al. (2015) put forth that democracy can reduce corruption, but only at an economic or income level that has surpassed a per capita GDP threshold of approximately USD2000. However, for poor countries, democratization may increase corruption. This serves as one of the determinant factors explaining why per capita GDP in G20 countries does not determine the level of corruption. Meanwhile, in developed countries, the impact of it is negative

significant in 5% (Dzhumashev, 2014; Nguyen & Bui, 2022; Saha & Gounder, 2013; Song et al., 2021).

Moreover, regarding trade openness, the effect is statistically significant in fixed effect model in 1%. Interestingly, the effect of trade toward corruption in developing countries has positive significant effect. These findings linear with Gossel (2018) stated that corruption practices are utilized by foreign investors to overcome weak regulations and institutional status as a 'helping hand' to ensure the achievement of their investment interests. Some of G20 member countries are developing countries who has abundant in natural-resource-rich countries, which can lead increase in income is associated with a rise in corruption levels (Saha & Ben Ali, 2017).

5.3.3 Relationship Between Corruption and Governance

Looking forward to governance indicator, this research estimates political stability and rule of law from World Governance Indicator by World Bank. Political stability doesn't have significant effect to reduce corruption in G20 both developed and developing countries respectively. The impact of corruption on political stability is contingent on the presence of a youth bulge in the population. Corruption acts as a destabilizing force for political systems, particularly when the proportion of the youth population within the adult population surpasses a critical threshold of approximately 20% (Farzanegan & Witthuhn, 2017). Decades-long traditions of democracy and political stability have been effective action to in reducing corruption (Nur-Tegin & Czap, 2012).

The level of corruption tends to be lower in unstable democracies compared to stable dictatorships. Strong institutions have the potential to control corruption during periods of political and civil violence, as well as economic slowdown. However, their effectiveness in combating corruption diminishes during other types of crises, such as democracy breakdowns, coups, armed conflicts, civil wars, and currency, inflation, and debt crises (Saha & Sen, 2023).

Furthermore, rule of law has negative significant in OLS, fixed, and random effect model. The effect more effective and efficient in developing countries rather

than developed with increase 1 point of rule of law will decrease corruption by 0.726 point. Improvements in electoral accountability led to a decrease in bribery, as individuals are held more accountable for their actions through the electoral process (Schumacher, 2013). Inefficient economic institutions contribute to local corruption, which, paradoxically, can lead to increased productivity.

However, this corruption also generates rents that flow through the party-state hierarchy, reaching up to the provincial level, thereby posing a threat to the central government's control, particularly during potential crises (Li et al., 2022). Research by Lindberg et al. (2022) provide empirical support for a detrimental association between political clientelism and governance outcomes. We observe that higher levels of clientelism correspond to an increase in political corruption and a weakening of the rule of law.

5.4 Robustness

When discussing corruption, it is essential to acknowledge that there are at least two distinct aspects of behaviour that need to be taken into account. Firstly, it involves an individual's attitude towards corrupt behaviour, specifically whether they are willing to tolerate it or not. Secondly, it entails the inclination to engage in corrupt acts, such as offering or accepting bribes. Therefore, it is crucial to examine both the attitudes and actual behaviours of individuals when confronted with opportunities for corruption (Chaudhuri, 2012).

It is important to consider that gender-related discussions in the context of corruption often rely heavily on sex-related data. However, there is a need to distinguish between sex and gender, as gender is a complex concept that is challenging to measure and quantify. Gender-disaggregated data collection poses challenges, and in many cases, sex-disaggregated data is used as a substitute for gender-disaggregated data (although some countries are now collecting data on both sex and gender). Nevertheless, relying solely on sex-disaggregated data can obscure the nuanced gendered dynamics that underlie corruption processes (UNODC, 2022).

In addition, since countries vary across different spectrum of culture and economics, this may result in heteroscedasticity of the error term. To address these

issues, I compute the model with the robust variance estimator (or typically it is called as Huber-White variance estimator). The results are presented below:

Table 5.4 Robustness

Variable	OLS	FE	RE
Gender Inequality Index	1.105 (1.012)	6.019 (3.895)	2.366 (1.85)
Women in Parliament	-0.001 (0.004)	0.006 (0.012)	-0.004 (0.008)
Female Labour Force	-0.077*** (0.02)	-0.012 (0.069)	-0.091 (0.055)
Female Labour Income Share	9.994*** (1.832)	19.070** (7.881)	14.210** (5.654)
Female in Senior Middle Management	-0.036*** (0.011)	-0.001 (0.026)	-0.034* (0.021)
Female School Enrolment	0.001 (0.002)	-0.006 (0.008)	-0.002 (0.002)
Rule of Law	-2.038*** (0.095)	-0.537* (0.3)	-1.654*** (0.126)
Political Stability	0.190* (0.109)	0.063 (0.211)	0.165 (0.154)
GDP Per Capita	-0.018 (0.171)	-0.333 (0.95)	-0.183 (0.299)
Trade Openness	0 (0.004)	0.025* (0.012)	0.005 (0.007)
cons	6.574*** (2.117)	-0.097 (11.572)	6.809* (3.828)
R-squared	0.9654	0.4472	0.9500
Prob F sig.	0.0000	0.0000	0.0000

Source: Author's estimation

From robustness check, variable gender inequality index become insignificant in three models from OLS, fixed and random effect model. The other way around, it obviously robust explained that participation of female labour force and women who hold positions in senior-middle management has negative significant effect to reduce corruption in G20 while the representation of women in parliament neither way. The coefficient of female labour force still consistent significant in OLS estimation, while in random effect estimation become insignificant. The participation of female in higher education matters but the effect not significant.

Moreover, the presence of governance variable from rule of law has robust through all estimations. By increasing rule of law in 1 point will lead to decrease corruption by -0.537 point fixed effect estimation and -1.654 in random effect, while the greater coefficient has come up in OLS with -2.038 point. The consistent results from political stability which has positive significant has been occurred surprisingly with 0.19 point in OLS estimation while the effect become insignificant in fixed and random effect model. This research using economic development as control variable which consist of gross domestic product per capita and trade openness as well. The effect of GDP per capita consistent from beginning was insignificant in three models. Second, trade openness to percentage of GDP has consistent result from baseline models. The differences are the level of significance in fixed effect model changes from 1% to 10%.

CHAPTER 6

CONCLUSION

6.1 Conclusion

This study examines the effect of Women participation to corruption rate within G20 member countries exclude European Union. Using panel data estimation from 1995 to 2021 period, this study using three instrument of Women participation which are Women in politics, Women in labour force, and Women who pursue higher education as main estimation. Gender inequality index, economic development (GDP per capita and trade openness) and governance represented by rule of law and political stability has been including as control variable.

The results shows that Women in parliament doesn't have significant effect to decrease corruption in G20. Contrary, in G20's developing countries, the presence of Women in parliament has positive effect to lead corruption level up to 0.04 point. While female participation in labour market has negative significant impact toward corruption. The robust estimation through female who has strategic position from senior-middle management has been serving as key emphasis and significant findings in this research to reduce corruption level in G20.

Furthermore, this research finds that greater inequality in developing countries of G20 will lead to higher rate of corruption up to 14.592 point than developed one. This result similar with rule of law, the increasing quality from it will reduce corruption rate higher than developed countries by -0.726 point. From economic development point of view, gross domestic product per capita matters to considers as a tool to minimize corruption rate, and it works on developed countries. But still there is a unique condition in certain cases, for instance, in this research, trade openness can be a trigger and chance for business do forbidden transaction e.g., bribe, nepotism that will bring higher corruption rate in G20's developing countries, specifically.

6.2 Policy Recommendations

Based on result and analysis, policy recommendations of this research encourage of G20's board to enhance female participation toward labour market,

specifically in decision-making process in micro and macro management as well as senior and middle positions, it robust to contribute to decreasing corruption level. At the same time, the law and enforcement in every level of structure and institution must be the first prioritize to boost the effectiveness of governance as well as the roles of institutions, norms, and culture.

In order to break the cycle of women's initial low human capital endowments and their inferior labour market outcomes compared to men, the G20 board needs to take several measures. These include providing greater access to education for girls and training opportunities for women, implementing enforceable legislation for equal pay and employment opportunities, establishing a taxation and benefits structure that recognizes reproduction as an economic activity and treats women as equal partners within households, and improving the recognition of women's work by accounting for invisible production. These actions are essential for promoting gender equality and empowering women in both education and the workforce (Tzannatos, 1999).

The interesting point about G20 are they have working group to commit address corruption issue among member countries. But the sherpa track through Anti-corruption Working Group remains low progress and still need more improvement to acknowledge the strength and weakness from policy implementation. The homework toward commitment and consistency of G20's leaders has been spotted to prove integrity and compatibility of the leader.

Next policy agenda of G20 member board countries must consider and prioritize the equity and the justice to get robust results toward country and governance quality performance. Equity, to make sure everyone gets the support they need. Justice, all females can participate and contribute to same stage as well as male, taking notes that the systemic barrier has been removed.

6.3 Limitation of Study

This study explores the relationship of women presence in public space through several variables which women who hold seats in parliament, female labour force through strategic positions from senior-middle management, and women who pursued higher education in Group of 20 countries, except European Union. To

distinguish the differences of developing and developed member countries of G20, this research using dummy variable to estimates the interrelationship. This study also considers political and rule of law conditions from World Governance Indicator and economic development from GDP per capita and the volume of trade. The estimation of this study still needs room of improvement to enhance point of view and the comprehensiveness.

Moreover, for further research, it will be interesting if next study investigates how much the threshold of women in parliament that G20 has to obtained to get optimum condition to help reduce corruption rate with the composition of female representation in executive branches as well. Additionally, it can be more specific to consider country specific conditions from characteristics of constitutional, political parties, institutional form.

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APPENDIX

Appendix 1: Hausman test

hausman fe re, sigmamore

	Coefficients		(b-B) Difference	sqrt(diag(V_b-V_B)) S.E.
	(b) fe	(B) re		
gii	6.019386	2.365546	3.653839	1.929824
wip	.0064856	-.0044599	.0109454	.009666
flf	-.0120637	-.0910013	.0789376	.0593072
flis	19.07019	14.21014	4.860051	3.118446
fsmm	-.0005666	-.0338369	.0332703	.0150491
fsetgross	-.006139	-.0021625	-.0039765	.0059011
rl	-.5365285	-1.65441	1.117882	.3080026
ps	.0629	.1646046	-.1017046	.1211309
lngdpc	-.3329997	-.182665	-.1503347	.6519121
trade	.0253833	.0051225	.0202608	.0075585

b = consistent under Ho and Ha; obtained from xtreg
 B = inconsistent under Ha, efficient under Ho; obtained from xtreg

Test: Ho: difference in coefficients not systematic

chi2(10) = (b-B)' [(V_b-V_B)^(-1)] (b-B)
 = 39.37
 Prob>chi2 = 0.0000

Appendix 2: Multicollinearity test

vif

Variable	VIF	1/VIF
gii	17.92	0.055795
flis	14.45	0.069226
lngdpc	13.81	0.072433
flf	8.53	0.117176
fsmm	8.04	0.124316
rl	6.14	0.162797
ps	5.42	0.184641
trade	3.75	0.266656
fsetgross	3.71	0.269752
wip	2.33	0.429865
Mean VIF	8.41	