# **REMITTANCES AND URBAN BIAS**

By

Ton Nu Thuy Duong

Submitted to

Central European University

Department of Political Science

CEU eTD Collection

In partial fulfillment of the requirements for the degree of Master of Political Science

Supervisor: Andrew X. Li

Co-supervisor: Gabor Simonovits

# Table of Contents

Abstract		4
REMITTAN	NCES AND URBAN BIAS	5
Chapter 1: 7	Theory	6
1.1. P	Political Economy of Urban bias	6
1.1.1.	What is urban bias	6
1.1.2.	The origin of urban bias	8
1.1.3.	What did the government do?	12
1.2. U	Jrban bias and Remittances: a theoretical framework	13
1.2.1.	Remittances and modification of Ahmed's model on governmental expenditure	13
1.2.2.	Further discussion	19
Chapter 2: H	Empirical Analysis	22
2.1. E	Explanation for proxy choices for urban bias	22
2.1.1.	Economic Policy	23
2.1.2.	Welfare aspect	25
2.2. L	Data Description	27
2.2.1.	Independent Variable	27
2.2.2.	Dependent Variable	28
2.3. L	Descriptive Analysis	29
2.3.1.	Independent Variable	29
2.3.2. I	Dependent Variables	31
2.4. P	Panel Data Analysis	34
2.4.1.	Controls	34
2.4.2.	Overview of Panel Data Analysis	36

# REMITTANCES AND URBAN BIAS

2.4.3.	Models	
2.4.4.	Analysis	
2.5. L	imitations and suggestions for further development	
Conclusion		
References		
Appendix		
Mathemati	cal Proof	
Figures		

#### Abstract

Remittances' impact on policymaking has been understudied in both political science and economics. This paper attempts to further the understanding of the role of the financial inflow on development by exploring its impact on urban-bias in policymaking. The formal modeling proves that remittances would propel the government to decrease welfare provision and increase the expenditure on patronage goods to build a strong voting coalition with its interest groups, i.e., the urban industrialists. These changes would result in urban-biased economic strategy and public policies, which, consequently, would widen the gap in development between urban and rural areas. Evidence from panel data analysis supports the claim that the rise in remittances would reduce the stimulus through trading policy to agricultural sectors and drives the rate of agricultural assistance negative.

Keywords: urban bias, remittances, development

### REMITTANCES AND URBAN BIAS

Economists have considered remittances as a prominent driver behind the economic growth of many developing countries. In the past 30 years, thanks to the accelerating globalization, there has been more mass-scale immigration, hence the rise in remittances to the original countries. Unlike the majority of foreign capital inflow like FDI, foreign aids, remittances go directly to the household instead of through intermediary, which is often the government. As a result, the impact of remittances on households' behaviors are more discerning and well-studied. Remittances have made a tremendous contribution to the household's welfare and investment. Due to its countercyclical characteristics, remittances act as the cushion against economic downturns and personal calamity (Kapur, 2005) (Yang & Choi, 2007) (Lucas & Stark, 1985). It also encourages investment in activities that yield long-term benefits in households like education and entrepreneurship(Yang, 2008). When aggregating the micro-behavior of the households, remittances would also advance the economy of the country on the macro-scale. However, since remittances direct to households instead of through the government, their effects on politics and policy choice are not as apparent as foreign aid, which is another form of unearned income. Many scholars have attempted to study the impacts of remittances on policy-making as well as other political decisions of the recipient countries. Singer (2010) has established the causal link between remittances and exchange rate regime choice. Doyle (2015) found that remittances would cut down the government's expenditure on social welfare due to the role of insurance remittances inadvertently assume. Some also have proved negative consequences of remittances on the politics of the country, like inducing corruption (Ahmed, 2012).

Speculating remittances might impact other sphere of politics, in this paper, I attempt to examine the link between remittances and political economy issue of the country - urban bias, a

set of policies that results in the widening gap in development between the urban and rural. Esteemed scholars (Bates, Varshney) have attributed the favoring policy towards the industrial sectors to interest groups whose central operational body is located in the city. The modification of Ahmed (2012)'s paper, which proves that remittances will lead to a rise in government expenditure on patronage goods and decline in welfare goods, implicates that remittances would enable the government in developing countries to benefit its winning coalition which is the urban-based interest groups and further its neglection of rural residents. By employing urban biased trading policy and delaying welfare provision in the country, the government exacerbates the gap in economic and social development between the cities and the country. Evidence from panel data analysis supports the claim that the rise in remittances would reduce the stimulus through trading policy to agricultural sectors and drives the rate of agricultural assistance negative.

## **Chapter 1: Theory**

### 1.1. Political Economy of Urban bias

# 1.1.1. What is urban bias

In the neoclassic Solow's model, the three components for economic growth are capital accumulation (K), labor (L), and productivity, commonly known as technology (Solow, 1956). However, during the onset of industrialization in developing countries, the story of development was more nuanced. Countries are going through the process of transitioning from an agricultural-based economy to an industrial economy, which still relies on the former's for resources. Agriculture provides three significant resources for industrialization: 1, labor force for the growing sectors, 2, savings for industrial investment, and 3, foods for the urban population. However, the three resources cannot grow at the same time, particularly food production and savings for industrialization (Varshney, 1993). As the population grows and the labor force increases, food

demand increases. A rise in food prices would follow as a consequence. However, if food prices would up, households' spending on purchasing would rise, and lower savings would ensue. The fall in savings would be an impediment to industrial savings and investment. The other way around also holds. To raise savings for industrialization, policymakers have to lower agricultural prices below the equilibrium price (natural prices), and prices for manufacturing products would increase. As a consequence of low agricultural prices, food production would decline.

The dilemma propels policymakers to weigh the two options: food price or investment for industrialization. Each of these two choices would have profound consequences that alter the countries' political and economic landscape. Artificially lowering the food price means suppressing the agricultural sector and economically marginalize rural dwelling farmers. Meanwhile, if policymakers choose not to interfere with food prices, they would unsettle urban dwellers, including factory workers, white-collar workers, teachers, and students. Hence, the choice also means a trade-off between urban and rural development. According to Varshney (1993), there are four options to deal with the dilemma. First is to squeeze the agricultural sector, which many African countries adopted and proved to be defeating. The second option is more lenient, which is to extract a surplus from the export but not milk the entire agriculture entirely so that there are investments left for agricultural development. Developing countries can also make use of foreign resources like FDI or extract surplus for natural resources such as minerals for funding industrialization. The optimal option is to invigorate the agricultural sector through the employment of technology. The surplus of agriculture would be transferred for industrial investments through taxation or terms of trade. In the long run, this option would promise a more sustainable and equitable economy, at the cost of an accelerating industrialization. In reality, most of the developing countries forwent the optimal solution but opted for the first and second strategy

which led to the weakened cultural sector and consequently the underdevelopment of rural areas. The This preference of urban development over rural development which leads to the suboptimal economic outcome is called urban bias (Lipton, 1993).

Overtime, the preferential treatment towards the urban areas does not only manifest through artificially lowered food price but also through the inadequate public services and infrastructure investment in the countryside in comparison to the cities, which exacerbates the marginalization of the rural areas. Because of the limited transportation network, the prices of urban products which have been already biased upwards would be even higher for final rural buyers. Failure to provide sufficient public goods and services to rural areas would also hinder the quality of life in the countryside. Rural children are depleted of equal educational opportunities due to the scarcity of schools and teachers. The dearth of medical facilities pose a higher healthrelated risks to rural residents. People in the countryside have difficulties accessing medical treatment in time of need, resorting to the groundless cures rather than relying on scientific methods (Banerjee & Duflo, 2012). The effect of the bias also stretches far more in the long run. Bias in provision and subsidization in infrastructure and other public goods in the urban areas also increases the appeal of the cities as a sound investment to enterprises and investors. This choice would result in a dire situation for the countryside. As there are more jobs generated in the cities, human capital would be pulled away from the country. Alongside with movement of resident is the outflow of capital savings to the cities for investment in education and properties. This process, known as urban migration, places an onerous burden to the cities which were not designed for the unprecedentedly growing population and poses serious challenges to national government.

1.1.2. The origin of urban bias

Urban bias scholars have offered various explanation and theories to this set of policy choices, which fit with political economy framework: ideology, interest, and institution. Lipton is the leading scholar advocate for ideologies to explanation for urban bias. In the book *Why poor people stay poor*? of his, he outlined two main ideologies which in the end converge in biased policy towards the urban areas. Marxism and (neo) classical economists. Two divergent schools of thought eventually converge in the discrimination against the rural sector.

Marxist countries have put weight on industrialization. The image of factory workers were ingrained in the mindset of policymakers, the people as the aspiration of the society. Marxists see industrial sectors would be the answer for the country's economic advancement, and prioritize rapid, large-scale industrialization as the national priority. Many post-Soviet countries like Russia, Ukraine have been found to be heavily urban-biased (Wegren, 2002).

Classical economists prefer manufactures in the belief that industry benefits more than agriculture from a larger market, because it gains from the specialization of labor, thus industry enjoys returns to scale. Meanwhile, agriculture suffers from diminishing returns. Because (1) land was fixed in quantity, hence an increase in mean of production cannot increase the output proportionately (2) farm output would not increase as fast as other factors of production since good lands are farmed first. Due to those reasons, Adam Smith's adherents believe that resources should be transferred from agriculture to industry.

Along with ideologies, the political institution also involves in shaping winning coalitions and allocating power to specific groups, hence determining whether the rural interest can have a say in politics. The institutional explanation for the rise of urban-bias revolves around the key feature of the country: democracy. Democracy plays a crucial role in shaping the urban-rural power dynamics. The more autocratic the government is, the more apathetic it is towards rural people. In some extreme cases in Africa, when the opposing parties raised concerns for the agricultural interest, they would face repercussions from the ruling parties. In Ghana, the National Liberation Movement (NLM) was organized to oppose the government's oppression on cocoa prices through various violent mechanisms. The party ended up banned since the government had total control over the court and the police. A similar story also happened in Kenya, the opposition party - Kenya People's Union - was silenced by the ruling party for voicing against the discriminatory pricing policy against agricultural products. The opposite holds: a competitive party system would make the government more responsive to rural interests. Some prominent instances are East Asian countries like Taiwan and South Korea, which have transitioned from urban to neutral and even rural biased (Moore, 1984). The level of democracy/autocracy manifests through the number of political parties in the government, whether the electoral system is a single candidate or multiple candidates. All these parameters of democracy will dictate how well-organized rural interests are organized. For instance, the vigorous democracy in Costa Rica has enabled the agricultural sector to defend its interest and promote rural growth.

The most crucial explanation for urban bias in this study is the influence of interest groups on the rise of urban bias. Robert Bates, one of the most prominent scholar in urban bias, has elaborated how interest groups in the cities were formed and how they gained such influence on the government(Bates, 2014). First, Bates argues that in the beginning, the politicians put forward urban biased policy in the genuine hope for an economic development. However, the policies which were initially aimed to promote public interests have engendered the entrenchment of enormous private interests, which clash with the welfare of the society as a whole. The logics is as followed. The government lowers the prices for certain markets for developmental purposes which would prompt an excessive demands. Scarcities arises due to the shortage, thus increase the value of that commodity which can be foreign exchange, capital for investments. Since the government is the public institution with the control over the market for the commodity, it has control over the new value. The government can either use the newly acquired capital for themselves, or apportion it to other whose influence they wish to secure. As Bates put it, "Government intervention, excess demand, and the conferral of privileges are thus all part of the political process by which public programs create vested interests in policies of social and economic reform." The apparent choice of whom the government voucher the rent to would be the urban-based rent-seekers whose interest is the government's priority in the first place. Having the initial market protection designed to protect them and gaining the privileged access to the valuable rent from the government, the urbanbased interest groups soon would dominate the economy as well as the political landscape of the country.

Another factor that undermines rural area' power is collective action. In order to form a strong and powerful enough coalition, the group needs strong incentives that can motivate them to pester the government. As for farmers who do not have sufficient capital at disposal for bribing as the industrialists, the power can only be obtained through collective action. However, given the large number of people at stake in the rural areas, as opposed to a handful of stake-holders at the city, collective action is much more of a problem in the country rather than in the city. The agricultural is large which means that each farmer would enjoy a small share of the power while the cost they bear to take part in the initiative is high. On the other hand, the share of benefits are much more significant for the industrialists if they rally for the urban-biased policy, making the pursuit worthwhile. Logistics also plays a role in hindering collective action in rural areas. Since the agricultural sector is much more disperse and farmers live far away from each other, it is more challenging for them to communicate and organize. Meanwhile, industrialists live in proximity to

each other and to the government, hence the advantage in forming coalition. Technology, which facilitates communication, is also more advanced in the cities than in the country.

1.1.3. What did the government do?

To invigorate the emerging industrial sector, the government of many developing countries, especially African states have gone a great length to set a favorable price for industrial products and suppress that of the agricultural sector (Bates, 2014). Various schemes the governments have intervened the market for the favorable price for the industrial interest groups are price protection in both forms of effective protection and nominal protection, adjusting foreign exchange rate, commercial policies, and manipulating the banking sector. The African government has imposed tariff and trade barriers on foreign products, thus making domestic products more competitive. Other than trade policy, the states also employ commercial policy to promote their manufacturing capabilities. Among those policies are the tools that cost the government money: tax credits, subsidized interest rate, preferential duties on capital equipment.

However, the government does not want to harm the countryside as a whole. Instead, African states divides up the countryside into different interest groups, and propose the subsidies and assistance to the pre-selected farmers who are often the wealthiest and elitist in the rural areas. This scheme disincentivizes the powerful individuals to rally against the urban-biased policy and pre-empt a union among farmers. For instance, by allowing land ownership, African governments have captured the support of the wealthiest in the rural areas who are wealthy enough for land ownership and powerful enough to dissemble any opposition against their status quo. Other preemptive measures against rural opposition are through agricultural agencies; incremental perks for some individuals or groups, like a project or job promotion. Through the set of manipulations, the African government have maintained their control in the rural population. They can secure cooperation through promise of benefits; they can punish the opposing individuals through their withdrawal.

1.2. Urban bias and Remittances: a theoretical framework

As explained in the previous section on urban bias and its roots, the government in developing countries would prioritize the development of the urban areas over that of the rural areas because of the government's ideology on development and the influence of the strong urban interest groups. I argue that remittances will act as a driver behind urban bias due to its influence on government's expenditure. Remittances will disincentivize the government to provide public goods and, at the same time, allow the government to allocate more resources to patronage goods, which in this case, will be directed to the urban interest groups. This section will present the proof of the argument built on formal modelling and explain how the changes in two kinds, public goods and patronage goods, induced by remittances, would affect urban bias.

1.2.1. Remittances and modification of Ahmed's model on governmental expenditure

Ahmed, in his work "The Perils of Unearned Foreign Income: Aid. Remittances, and Government", has modelled the framework in which how foreign income can affect government decisions in autocratic countries using formal modelling techniques. In his model, he conceptualizes the game in which there are two main players: a representative household and the government interact given the constraints in resources. Two players both aim to maximize their utility. The equilibrium found by deriving the utility function is used to explain how foreign incomes (foreign aids and remittances) impede governmental decisions. This paper will replicate Ahmed's model with one modification: omission of government's unearned income, since the focus of the paper is remittances. The setting is as followed. a. Setting

In this game, the two actors' goal is to maximize the utility derived from the set of two goods. For simplicity, Ahmed assumes the two goods are private goods and welfare goods. Goods are considered private goods in the setting are goods only purchased by households while welfare goods can be purchased and provided by both actors (the household and the government). Another assumption in the model is the quality of welfare goods provided by the government are the same with those that are circulating in the market, provided by private firms. The assumption implies that the utility derived from welfare services provided by the government and by private are the same, hence one category i.e. welfare goods. The assumption simplifies the model down to two goods: private goods and welfare goods.

The Cobb-Douglas utility function of the household over the two types of good is as followed.

$$U(c, p, g) = \lambda \log(c) + (1 - \lambda)\log(p + g) \quad (1)$$

Whereas, c denotes the consumption of private goods of household; p represents the household consumption of welfare goods while g is government provision of that good. The parameter  $\lambda$  denotes the weight households place on private goods in relation to welfare goods. The function means that household must strike a balance between consumption of private goods and consumption of welfare goods.

Household is subjected to the budget constraints whose function is denoted as followed.

$$(1-t)y + R = c + p$$
 (2)

Where y is family income, R is remittances the household receive, t is taxed. R is untaxed by the government. In other words, the consumption of welfare goods and private goods are financed by both of the income which is taxed by the government and the remittances the household receive. This function begins to introduce remittances into the interaction between household and government.

The household budget constraint function raises the question how increase in one type of income would lead to different pattern of consumption. In particularly, does unearned income induce more consumption of welfare goods or private goods? Dean Yang (2008) has answered this question in his paper "remittances can lead to household investment" in which he examines whether household use unearned income, like remittances, for activities that yield long-term benefits like children's education, entrepreneurial endeavors.

The government's survival function is as followed.

$$\emptyset(s, U) = \alpha \log(s) + (1 - \alpha)U(c, p, g) \quad (3)$$

Where  $0 < \alpha < 1$  is the parameter indicating the importance of patronage good in relative to welfare goods; s stands for patronage goods or what the government rations for its own use. For instance, buying more pollical power; rallying; protecting interest groups; while g indicates welfare goods, the U(c, p, g) is the utility function of household. The intuition of the assumption is that it is in the government's interest to keep their party in power, which can be obtained through two means: building a strong voting coalition and gaining mass public favor. Funding patronage goods is and extend the tenure of the party in power. Welfare provision, on the other hand, signal government's commitment, credibility and dedication to its citizens (Taydas & Peksen, 2012), which consequently helps contain social unrests and strengthen the country's stability (Yörük, 2012)(Piven & Cloward, 1972). Since government's budget is constrained within the government's income, there is a trade-off between the two types of expenditure.

Substitute function (1) into the survival function of the government, yield the survival function written in c, p, g.

$$\phi(s, U) = \alpha \log(s) + (1 - \alpha)(\lambda \log(c) + (1 - \lambda) \log(p + g)) \quad (4)$$

Given these parameters, the government chooses s to maximize its survivor function subject to its budget constraint as followed.

$$ty = g + s$$
 (5)1

Where y is GDP, t is tax rate, ty is the government's earned income,  $\omega$  is the government unearned income, for e.g. discovered resources or foreign aid. The budget constraint function indicates sources where the government generate income from: GDP and unearned income. While revenue coming from y is generative and beneficial to growth, unearned income is rather problematic. It promises moral hazard from the government, and further social and economic issues if the government fails to allocate the income in the proper rations. A question begs from the budget constraint function is whether the increase in each type of income would lead to the same consumption pattern from the government or whether an increase in one type of income will result in the rise in one type of consumption. For instance, supposed the resource curse holds true, unearned incomes would induce mismanagement in the government, leading to the rise in consumption in patronage goods (s) at a faster rate in relative to the rise in welfare goods (g).

As seen from both budget constraints, there are unearned income in both equation of the government and the household. The effect of those unearned income on government behavior will be discussed in the next section when the equilibrium is derived.

b. The equilibrium

Equilibrium is the state from which no players would want to deviate in term of strategy. The strategy in this setting is the allocation of incomes of each player. The equilibrium is the crucial

In the original model developed by Ahmed (2012), the government's budget constraint is as followed  $ty + \omega = g + s$  where  $\omega$  denotes government's unearned income, for instance, natural resources or foreign aid. However, since the paper is focusing the role of remittances, I assume away  $\omega$  from the equation. The budget constraint is modified as presented in the paper. The implication of the equilibrium stays the same.

part of formal modelling since it is used directly to explain the phenomenon and determine the dynamics between multiple factors in the utility function and budget constraints and how they come into play in shaping the outcome. In this model, Ahmed is trying to model the interaction between the household and the government as one-shot Stackelberg game, assuming full information between the government and the household. Stackelberg is a sequential game in which there are a first mover and a follower. In this game, the government is the first-mover and the household follows. Hence, the equilibrium can be solved by using backward induction. First step is to determine the household's payoff, from which we can choose which strategy the household would opt for to optimize the outcome. Since the game assumes full information between two parties, the government would know the household's payoff entitling with each strategy. The government also knows its payoff for each strategy the household would choose. Therefore, we can deduce which strategy the government would employ to maximize its payoff (utility) by calculating the household's decision first. The household provision of welfare good that can maximize the utility function of household is calculated by taking the first derivative of the Lagriangian form of utility function with respect to *p* (the household's provision of welfare goods). The value of p that makes the derivative equal to zero is the optimal provision of welfare from the household side that maximizes its utility under the budget constraint.

$$p^* = (1 - \lambda)[(1 - t)y + R] - \lambda g \quad (6)$$

As seen from the equation, (1 - t)y + R is the income of household or the budget constraint of the household. As incomes (both earned and unearned income) rise,  $p^*$  would increase alongside. Meanwhile, if g increases, p would decrease. This is self-explanatory and intuitive. If government is willing to provide more welfare goods for household, household would decrease its spending on welfare goods subsequently so that it can allocate resources to other types of goods which in this setting is private goods. The reverse holds. If the government decreases its provision of welfare goods, household would increase its expenditure on welfare goods and decrease that of private goods. This implies that the government, as the first player, can monitor household behavior through its decision on allocating welfare goods (g).

Following the logics of backward induction, the optimal g is computed by incorporating the optimal p of household into the government's survival function, equation (3). To determine the optimal g to yield the highest utility, I take the first derivative of the Lagrangian form of the survival function with respect to g, subject to its budget constraint ( $ty + \omega = g + s$ ), equalize the first derivative to zero to determine g, which is as followed.

$$g^* = y(t - \alpha) - \alpha R \quad (7)_2$$
$$s^* = \frac{\alpha(y + R)}{a - \lambda + \alpha \lambda}$$

The equations, similar to that of household, implies that as g follows the same direction with income, omega. In other words, as GDP (y) increases and/or unearned income (omega) increase, the government would raise its provision of welfare to household. However, it goes in the opposite direction with remittances. As R increases, g will decrease, and vice-versa. The equation shows that remittances would discourage the government to provide welfare goods to its citizen. Since the expenditures of the government in this setting revolves around two goods, if government decreases expenditures on welfare goods, it would increase that on patronage goods. This mathematical equation has partially accomplished the first half of the theoretical proof of the paper by explicating how remittances impact government's behavior, i.e. an increase in remittances

<sup>&</sup>lt;sup>2</sup> The optimal  $g^*$  in Ahmed's model with stricter assumption is  $g^* = (t - \alpha)y + (1 - \alpha)\omega - \alpha R$ , which conveys the same message on how remittances reduce government's expenditure on welfare goods.

would dissuade the government from providing welfare goods and allocate the resources for its private use (patronage use) instead.

In equilibrium, the government's expenditure on patronage good is as followed:

$$\Rightarrow \frac{s^*}{y} = \frac{\alpha}{1 - \lambda + \alpha \lambda} \left( 1 + \frac{R}{y} \right) (8)_{34}$$

As seen from the mathematical expression, in the equilibrium, s follows the same direction with R (remittances). The equation implies that, unlike expenditure on welfare goods, expenditure on patronage goods will increase regardless of which type of unearned income is increasing. Equation (7) and equation (8) tell the story about government's priority.

# 1.2.2. Further discussion

Since, the model does not specify whether the allocation of welfare expenditure decreased in the same rates, there are two scenarios on how the decrease of public goods due to the increase of remittances would play out in the urban-rural dynamics. One is that the government would favor the city, thus keeping the same welfare expenditure on the urban areas while reducing the expenditure on rural areas, which is a blatant form of urban-biased policy. This consequence is in accordance with Ahmed's model since the total expenditure on welfare spending would be reduced. It also aligns with various theories set out by Bates and Lipton on urban bias literature. It has been shown that the government tends to overspend on the cities while neglecting the countryside due to the political structure, the influence of interest groups in the cities, and rent-seeking behaviors of industrialists. One distinctive traits of remittances that makes it plausible is its advertent role as

<sup>&</sup>lt;sup>3</sup> The optimal equilibrium in the Ahmed model is  $\frac{s^*}{y} = \alpha(1 + \frac{\omega + R}{y})$ . The implication stays the same when modifying the budget constraint, which means the argument still holds even under stricter assumption. Increase in remittances will lead to increase in expenditure on patronage goods.

<sup>&</sup>lt;sup>4</sup> See appendix for the proof

insurance. In the study of Doyle (2015), remittances help households finance the welfare goods, hence reducing the perception of the needs from the government.

The second scenario would be that the government would reduce the expenditure on public goods nationwide with no discrimination towards the rural areas, which promise a better consequence for the rural than the first. However, it is still not at all an ideal scenario. For rural development, government expenditure plays a crucial role. As a result of the neglect of the agricultural sector and bias in governmental expenditure, the country side in developing states, are underdeveloped, deprived of job opportunities, insufficient of infrastructures. Unlike the cities where the market is robust, and there are a variety of private alternatives to public services on healthcare, education, community in the countryside are more dependent on the government for welfare. Hence, the cut on public goods would result in a dire situation in the country, regardless of its proportion to that of the city.

The second channel that remittances affect urban-rural dynamics is through the increase in finance for patronage goods. In the model, expenditure on patronage goods, defined by Ahmed as private goods the government paid to the interest groups or its winning coalitions to stay in power, will increase as remittances increase. The result has some significant implications on urban-rural dynamics. The previous section has discussed how urban-based interest groups have consolidated their power and how the government would go to protect the interest of those groups. In summary, what gives rise to the power of the industrial sectors include the economic and political ideologies of the government. The country's political structure also plays a crucial role in determining how winning coalition would be formed. Varshney argues that those countries that have urban bias are due to the low level of democracy and the governmental structure, which inhibits political competition. This pre-determined conditions fit with Ahmed's framework since the model applies

mainly to illiberal countries. In short, those urban-based interest groups have to power to influence the government's decisions. Moreover, the government would use the resources to protect their interest, in other words, financing their patronage goods, which will benefit the interest groups from the cities.

One problem arising here is that whether the welfare goods the government disproportionately allocate to the cities are also considered patronage goods since they are also what the government would do to buy the support from their winning coalition. If that is the case, then there is an incoherence in the logical proof. To address the problem, a clear definition of patronage goods in the context is needed. As discussed in the previous chapter, among the schemes the government may employ to empower city dwellers and silence rural residents in politics are manipulating the financial system, artificially lowering the price of agricultural foods, exerting overprotection over certain industrial goods, funding the elites in the rural areas to buy their support. The mentioned mechanisms are considered patronage goods in this context, in other words, what the government are willing to finance for the sake of the dominant groups in the cities. Public goods, infrastructures in the cities, even though, benefit those groups, are not considered patronage goods in the model of Ahmed as well as in this context.

In conclusion, the increase in remittances will be conducive for moral hazards and governmental corruption which will widen the pre-existing gap between the cities and the country in developing states. In the empirical analysis chapter, I will test two hypotheses: (1) the increase in remittances would lead to the discrepancy in welfare provision between the rural and the urban areas (2) remittances would enable the government to suppress the domestic agricultural sectors.

## **Chapter 2: Empirical Analysis**

## 2.1. Explanation for proxy choices for urban bias

In this study, the independent variable and the dependent are on different levels of abstraction. The explanatory variable: remittances, is on the low level of abstraction: concrete and measurable. The dependent variable: urban bias, on the other hand, is an abstract and complex concept which encompasses not only the process but also the outcome and can manifest itself through many facades: the policy choice in favor of urban interest groups; the discrepancy on the expenditure of government on welfare policy; the outcomes of the policy. Therefore, choosing measurable proxies to capture urban bias is a crucial decision for the analysis.

So far, the literature on urban bias in pollical science has focused on how the government has suppressed agricultural products' prices, in favor of the industrial sectors. Many renowned political scientists in urban bias like Bates and Varshney mainly dissect how the government leverages their power to the industrial sectors at the expense of the agricultural sectors. However, Lipton, an economist, has tried to put more emphasis on the welfare aspect of urban bias. He argues that many scholars have fixated on the economic aspect of urban bias and neglected the phenomenon's welfare policy. In his words, Why the poor stay poor, Lipton goes into detail on the unequal distribution of public services between the cities and the country: educational and medical services. The disparity between the inadequate roads, water access, and the internet in the countryside and well-built and maintained infrastructure in the cities also tells a story about the government's bias towards urban areas. Bias in welfare policy causes an impediment to the development of the countryside, as much as prices distortions do.

The choice of proxies for urban bias is, henceforth, challenging: overlooking one aspect might result in the mismeasurement of the whole concept. Hence, for this research, the indicators

for urban bias have to satisfy the criteria: quantifiable and capturing the essences of urban bias: bias in economic policy and welfare discrepancies between the city and the country.

# 2.1.1. Economic Policy

In a perfect competitive market, it is the optimal economic decision for a country to let the domestic prices on homogenous product to equal the international price multiplied by the country's exchange rate. However, in reality, many governments with various intention and agenda have imposed restrictions and other forms of intervention in attempt to shift the price from the equilibrium, which can be considered welfare-inducing (Anderson, 2010b). Many trade organizations and economic watchdogs have endeavored to develop indicators to monitor countries' trading behaviors and conscious economic actions to benchmark the policies that are in place. which serves the agenda of the government, not as a response to the economic circumstance. Agricultural policies in the paper are one of those said policies that many NGOs have tried to monitor since they are relevant to the international trading landscape and a government's intentional act of legislation, as opposed to a response to the economic circumstance.

How should one monitor such governmental actions? The standard approach is to measure the policies' impacts on the incentives of the intended actors, who, in this particular case, are farmers and agricultural producers, of the sectors of concern and their capacity to react to the change in the stimulus-induced by the new policies. Such incentives can be quantified into rate of protection or rate of assistance, or subsidies equivalent, which are the indicators of such economic policies

The development of monitoring indicator is an ongoing process. At first, most organizations and researchers employed the most straightforward approach based on the standard analysis of tariff: to measure the increase in revenue per unit given the presence of stimulus in relative to the revenue when there is no intervention from the government. The indicator is known as the National Rate of Protection. Other tariff-based indicators include the Adjusted Nominal Rate of Protection (ANR), which measures the change in net income per unit, taking into account taxes and subsidies, compared to that in the lack of subsidy and intervention. The effective rate of protection (ERP) considers the change in value-added per unit of output but relates it to the nopolicy value-added (*Food and Agriculture Organization of the United Nations.*).

However, in agricultural policy, as countries have gradually moved from price protection in forms of tariff on the border or subsidy to income protection, methods of measurement and the choice of the indicator also change accordingly. Researchers have tried to developed integral indicators which include direct payment and other forms of non-price subsidy. For instance, many OECD countries have used non-price subsidies to stimulate agricultural sector such as input subsidies, capital grants, and government expenditure. Hence, indicators that comprise such governmental outlays are developed. Nominal Rate of Assistance captures the change in income per unit induced by both price and non-price subsidy from the government as a proportion of the income without governmental support. Other indicators are the effective rate of assistance (ERA) and the producer subsidy equivalent (PSE).

In this paper, I would employ the Nominal Rate of Assistance (NRA) as the indicator for agricultural distortions and as the proxy for the economic policy aspect of urban bias. Nominal Rate of Assistance combines tariff on imports of competing commodities, direct subsidies to products, both of which are also covered in the Nominal Rate of Protection, and the non-price subsidy - subsidies to intermediate input. (Anderson, Croser, Sandri, & Valenzuela, 2009). By definition, NRA is that change in income as a proportion of the income when there is no intervention is in place. positive NRA represents essentially the percentage by which the

government policies raise gross returns to farmers of a specific agricultural commodity above what they would be without government intervention, showing preferential treatment towards the agricultural sector (rural bias). Negative NRA, on the other hand, shows the loss of income due to the intervention as the percentage of income in the non-intervention state, which implies that the government has employed policies that suppress domestic agricultural sectors. Hence, the negative NRA means urban bias is present.

#### 2.1.2. Welfare aspect

The welfare aspect of urban bias is also a complex and layered realm, which, in the context of rural development, consists of two main components: infrastructure and social services. Infrastructure includes roads, access to necessities like clean water, electricity, and access to the Internet, while social services refer to educational opportunities and adequate medical facilities and treatment.

There are two approaches to gauge the extent and effectiveness of welfare provision: observing the measurements the government has taken or measuring the outcomes of such action . For instance, to appraise educational provision in a village, we can either gauge the governmental efforts by keeping track of the number of schools that have been built the areas, student/teacher ratio or assess the outcomes through literacy rate or test scores. Both of the approaches have their pros and cons and different implications, especially policy evaluation setting. The process focused approach can isolate other factors from what the research intends to measure, reducing noise from other determinants.

On the other hand, the result-oriented measurement is a more holistic approach since it captures all possible aspects that might lead to the outcome. For instance, despite the adequate number of teachers in some African countries, the literacy rate in the area remains low. It turned

### **REMITTANCES AND URBAN BIAS**

out that instead of teaching in the class, teachers would spend time on unproductive activities (Poor economics). In that instance, the outcome might be what reflect the reality and the preferable variable. However, when conducting econometrical analysis, measurement by outcome can introduce or exacerbate the endogeneity problem. In short, the decision on which variable for analysis would depends on the researcher's intent and the availability of the dataset.

In this paper, I would focus on the infrastructure aspect of welfare provision and use a result-focused measurement as a proxy, i.e. the percentage of the population with access to clean drinking water. This indicator is also used as one of the proxy of urban bias in Bezemer & Headey's paper (2008). Access to clean water is a fundamental necessity and a crucial development indicator for underdeveloped countries. Essential as it is, in many African countries, clean water is a scarce commodity, which people have to travel afar to retrieve or rely on surface water as the alternative source. In Sub-Saharan countries, only half of the urban population has clean water at home. The situation is even more dismal in rural areas. According to WHO's estimation, only 16% of the rural population in Africa have access to potable water in their house through a pipeline connection. The discrepancy between the two numbers by a large margin can reflect the country's developmental level and the urban bias in welfare provision. The variable is an outcome-based indicator which, as previously discussed, might cause mismeasurement problem. In this particular case, households resort to other ways, for e.g., through the market median to obtain clean water. However, thanks to the data collecting procedure, which would be discussed in detail in the next section, the data set only reflects governmental efforts to improve water access, which is the main focus of the paper.

# 2.2. Data Description

## 2.2.1. Independent Variable

Independent variable is inward remittances as share of GDP, obtained through World Bank Open Data, across all countries from 1980 to 2018. Even though World Bank data is considered a reliable source for its officiality, there are still some pitfalls to World Bank data, particularly in the case of remittances. World Bank researchers can only record inward remittances through official channels like through bank transfers (Singer, 2012) while the reality is more nuanced and complex. Remittances is an extension of migration, hence, understanding migration, which is a complex picture with many grey areas, would further understanding about remittances. Aside from legal immigrants recorded in government's official data, There are illegal immigrants who also work abroad in attempt to send money back home. Due to their illegal status, they cannot send money through official channel, instead they would go for middlemen for money transfer, a process that is not recorded in governmental checkbook and even outlawed in some instances. In either case, a large proportion of migrants might send their money back to their family through unofficial channel. A prominent informal money transfer method in Middle Eastern and South Asian countries is Hawala, a system that is operated based on honor and involves multiple middlemen. Legal status might not be the only reason why immigrants opt for unofficial channels. For some people, it is the unfamiliarity of the rules and technology, the underdeveloped banking system in the receiving countries and the bureaucracy involved in the process, especially low income countries, that bar immigrants from using official ways of money transferring. Hence, if considering the remittances sent via informal channel, remittances inflows, especially in South Asia and Africa, should be higher.

### 2.2.2. Dependent Variable

# A, Nominal Rate of Assistance

I obtained the data set from World Bank database of "National and Global Distortions to Agricultural Incentives". The dataset is collected and created by Anderson et al as a part of an ongoing research project on policy bias against agricultural production in developing countries and trade protection policy for agricultural sector in developed states. Anderson et al has comprised data from 82 countries and a total for 75 products. The project is carried in two periods. In total, the recorded data is from 1955 to 2013. In the data set, Anderson and Nelgen (2012) have dissected the Nominal Assistance Rate (the major indicator of their study) into multiple indicators for different categories and for each commodity. For this paper, I use the aggregate Nominal Assistance Rate for all covered agricultural products.

# B, Access to clean water

I obtain data on percentage of the population with access to clean drinking water from lowmiddle income countries and low-income countries from 2000 to 2017 from a joint monitoring program between World Bank and UNICEF for water supply, sanitation and hygiene. By World Bank's definition, access to clean drinking water in the data set is defined as "the percentage of the population that obtain 20 liters per person per day from an improved source that is within one kilometer of the user's dwelling" which excludes water provided by market or individually discovered vendors, tanker trucks, unprotected natural water sources like unprotected wells or springs. The data collection procedure has captured the sheer focus of this paper, i.e., the government's role in welfare provision. Had the World Bank not exclude the market means of obtaining clean water, the data might not reflect the government's true efforts to provide clean water to its people in both urban and rural areas. World Bank provides separate data set on urban and rural population with access to clean water, which allows me to compute the discrepancy between the two areas across time.

## 2.3. Descriptive Analysis

### 2.3.1. Independent Variable

From 1970 to the middle of 1990s, remittances flows remained insignificant and began to increase from 1995 almost at an exponential rate onwards. For the past 30 years, remittances to developing countries has skyrocketed from \$31.2 billion to \$715 billion in 2019, with \$549 billion to developing countries. Among those, South Asian countries, two of which (India and Pakistan) are among the top receivers of remittances (by USD), have led the trend. Other top recipients in 2018 were US\$67 billion to China, US\$34 billion each to Philippines and Mexico, US\$26 billion to Egypt and US\$23.12 billion to Pakistan. With the ever-increasing rate, remittances have outgrown ODA and come second to FDI to be one of the most significant financial inflows to developing countries. (World Bank). The figure 1 illustrating remittances as a share of GDP give a more detailed account of how important remittances are to the countries' economy.

Despite some fluctuations, remittances as a share of GDP have continued to grow in developing countries, contributing to their economic growth. There are some significant trends among the developing countries that can unearth the nuances in the development stage in developing countries. In Asia (see figure 2), remittances as a share of GDP stand the highest at South Asian countries, namely Pakistan, Bangladesh, and Nepal; nonetheless, remittances inflows to those countries in absolute terms, with the exception of Pakistan, are not that considerable. The inconsistency between the two records and the commonalities among the countries can uncover insights about remittances recipients' traits. All three countries have a large population and an extensive network of diaspora, with Pakistan's population of approximately 200 million, Bangladesh of 160 million, and Nepal of 28.9 million. The economies in South Asian countries are stagnating with growing population, hence excessive labor and insufficient jobs.

Despite being among the top remittances receiver with an extensive diaspora around the world, China has a very low remittance relative to the country's GDP (2.5%), which comes as no surprise. For the past 30 years, China's robust and resilient economy has been grown to second place on a global scale.

In Africa (see figure 3), the wild and unpredictable fluctuation might suggest either an unstable economy or unstable remittances inflows. However, the importance of remittances on the continent economy has been growing. However, by remittances by absolute value and by the share of GDP, Africa is still below Asian countries. It might be due to the smaller population, the low mobility of African people, or it could be remittances sent by African diaspora are not recorded by official means.

As discussed in the previous section, the graph shows the trends of remittances recorded by the World Bank, which record bank transfer. However, South Asian, African, and Middle Eastern countries with underdeveloped banking systems rely on traditional and trust-based systems. If taking into account the existence of non-recorded remittances, the graph might differ, especially for African countries.

One aspect people might neglect is the remittances inflow into high-income countries. Even though, as a percentage of GDP, remittances seem insignificant in high-income countries which is self-evident and palpable, by absolute values, the financial inflows are higher than those of South Asian countries in total. This might be due to the high mobility of the countries' passport. It is also that when citizens of high-income countries migrate, they will take high-paying jobs in another developed state whose benefits can outweigh the cost of moving. Hence, we can see the dynamics and the differences between remittances in developing and developed countries, which is a telling detail about the migration pattern. Migrants from developing countries migrating on a larger scale, taking menial jobs while people from highincome countries are migrating to other developed countries to take high-earning jobs, hence the high remittances.

2.3.2. Dependent Variables

A, Discrepancy between percentage of rural and urban with access to clean water



Discrepancy between percentage of urban and rural population with access to clean water

Source: World Bank data

There is a striking difference between low income countries and lower middle income countries in the dependent variable. During the course of twelve years, the discrepancy between urban and rural areas in terms of access to water seems to diminish, from 20% difference to almost zero percent. The change is due to the increase in the percentage of population in the rural areas that can obtain water within 1 kilometers from the household, by definition of World Bank.

However, in low income countries, the difference has stayed the same for the twenty years, suggesting a sluggish improvement in the rural area.

# B, Nominal Rate of Assistance

The trends among the high-income countries are consistent. In general, most countries have shown preferential treatment and agricultural protectionism throughout 50 years, despite some fluctuation, which shows what is considered the opposite of urban bias, i.e., rural bias. In the recorded statistics, agricultural protectionism set off around the beginning of the mid 50s and stabilized between the 60s and the 70s. Since then, there has been a recurring cycle in the aggregate Nominal Rate of Assistance every five years, the rate continues to rise and the plunge. The trend reached its peak in the mid-1980s, with some countries having NRA at 4%. Towards the 2010s, it seems to come to a halt, suggesting that high-income countries might shift to a more liberal economic policy and gradually abandoning protectionism over agricultural products or modify its towards a more advanced model.



Among the high-income countries, some notable cases worth further analysis, namely East Asian countries and European countries. There are some shared drivers behind protectionism over agricultural sectors in developed countries, among which is the fear of agricultural import dependence (Thies & Porche, 2007). The pursuance of food security has propelled the countries to take various measures to promote agricultural growth. They include high tariffs on agricultural products relative to industrial products, import restrictions, discretionary phytosanitary regulations, arbitrary customs clearance procedures. The degree of protection and tariff varies country by country. In South Korea and Taiwan, tariffs imposed on high-value agricultural products range from 40% to 50%, alongside is the large discrepancy between agricultural tariffs and industrial tariff (Zietz & Valdés, 1993). These measures account for the trends observed from the graphs, in which Taiwan and South Korea deviate from the rest with the Nominal Rate of Assistance jumping to at 2% from 1970 as democracy in the two countries began to consolidate.



On the other hand, urban bias manifesting through trading protection or the lack of thereof is noticeable in developing countries by the negative Nominal Rate of Assistance. Despite the wild fluctuation, many African countries tend to keep the NRA below zero throughout fifty years. The rate is minus 0.5% for the majority of countries. The outlier in Africa is Egypt, which, for the brief five years from 1985 to 1990, artificially boost its agricultural sector. While the bandwidth of African fluctuation is from 0.0 to 0.7, Asian countries showed a more moderate flow, oscillating below the 0 threshold.



#### 2.4. Panel Data Analysis

#### 2.4.1. Controls

To account for endogeneity in the regression, I include a range of political and economic variables that are theoretically correlated with the explanatory variables and dependent variables, which are polity score, GDP per capita, Foreign Direct Investment as a share GDP, Official Development Assistance, trade as a share of GDP. For different dependent variables, there would be a different set of controls to include, depending on their correlation with the dependent variable (DV) and the explanatory variables. While both DVs have GDP per capita, Polity score, and Foreign Direct Investment (FDI) in the model, the water-access-as DV model(s) would have Official Development Assistance as an additional control variable and the model(s) with NRA as the dependent variable would have Trade as the share of GDP included. The rationale will be discussed as followed.

Polity Score, measuring countries' democracy level, and GDP per capita which reflects the wealth of the nation have been present in every political economy paper since the development level of the economy as well as how the citizen can voice their opinions can have pervasive impacts on many aspects of the country. It makes the two indicators correlated with many variables, and even with each other. Urban bias is no exception.

In urban bias literature, many scholars have identified the connection between democracy level and urban bias and how the transitioning towards a more democratic state also coupled with the rising power of rural groups (Moore, 1984)(Varshney, 1993). Asian countries like Taiwan, South Korea witnessed the transition from urban bias to rural bias. Farmers in those said countries have enjoyed favorable trade policy and tax rates. In Japan, due to the country's geography and the electoral system, it is the farmers who have kept the dominant party, the Liberal Democratic Party, in power since the 1950s. In return, the parties have promised numerous favorable trade policies for farmers and a raised tariff for imported agricultural foods. On the other hand, farmers in post-Soviet countries have suffered from urban bias. Hence, the democracy level captured through Polity Score will be included as the controls in both DVs. Polity Score is obtained from the Polity Project, available on Systemic Peace's website.

The second common control is the wealth of the country, captured through Gross Domestic Products per Capita. Since GDP and Democracy levels go in the same direction, rural bias is also observed in affluent countries, which is apparent in the descriptive analysis section. The reverse holds for developing countries. African states, developing Asian countries have kept NRA negative for decades, showing their favor for manufacturing sectors over agricultural sectors. GDP per capita is also correlated with the percentage of the population with access to clean water, which is evident from the descriptive analysis and intuitive from a theoretical standpoint. The country's affluence and the role of remittances in the economy go in the opposite direction, showing a negative correlation between the two variables. Data on GDP per capita from 1980 to 2017 is obtained through World Bank's open data bank.

In addition to the common controls, there are some control variables for each dependent variable. In access to clean water, the additional control is Official Development Assistance.

OECD defines Official Development Assistance as Flows of financial assistance which satisfies two conditions i, provided by official agencies and institutions, regardless of national or local level, ii. Concessional and administered with the promotion of the economic development and welfare of developing countries as the primary objective. OECD reports that Africa is the largest recipient of ODA. at 28 million USD, of which 21 million goes into Sub-Saharan countries. Therefore, on paper, an increase in ODA inflow should enable the government to promote the welfare and expand infrastructure in the countries. Hence, clean water provision should be improved as a result. It is possible that ODA would not serve its initial purpose but engender corruption in the government instead. However, to address potential Omitted Variable Bias, I would include Net ODA received in constant 2015 USD in the model.

### 2.4.2. Overview of Panel Data Analysis

When building an econometric model, one primary concern is endogeneity, referring to the situation when the error terms are correlated with the explanatory variables, which can cause bias in the estimator. In the presence of endogeneity, researchers cannot derive the causal effect from the estimator. Among the three primary causes of endogeneity (Omitted Variable Bias, Reverse Causality, Measurement Errors), omitted variable bias is the most common. Omitted Variable Bias refers to the bias in the estimator when leaving out determinants of the dependent variable that can be correlated to the regressor. The effect of those omitted determinants will then be captured by the regressors' estimator in the models, hence the inaccuracy. In cross-sectional data, there are two common ways to address Omitted Variable Bias: 1, finding a suitable proxy for the said omitted variable, 2, using instrumental variables (Wooldridge, 2002). Suitable proxy and a valid instrument might be challenging to identify. Furthermore, if the omitted variable is unobservable or unknown to the researcher, the problem might be more acute. The challenge, however, can be addressed by

adding another dimension to the data set: time. The data set with N units over T time units (years, quarters, months) is called panel data. The two dimensions of panel data give researchers more ways to address the omitted variable bias problem. The fundamental idea is as followed: we assume that the omitted variable is time-invariant, for instance, a candidate's intelligence, also known as a time-constant unobserved effect. If the omitted variable affects the dependent variable in this period, it should have the same effect in the following periods. Hence, the effects of the Omitted Variables we cannot observe or capture is constant, or "fixed". Having cross-sectional data allows researchers to remove the unobserved effects prior to estimation, hence an unbiased estimator (Wooldridge, 2002).

In panel data, there are various model-building methods: Pooled OLS, Random Effects, Fixed Effects. Each method of estimation relies on different sets of assumptions and have different matrix transformation. Pooled OLS is, in essence, OLS estimation running on panel data, which means it lumps all the observations across units and across time as a cross-sectional dataset and running the OLS estimation, built on the pre-existing assumptions of OLS. Since the Pooled OLS assumption is stronger than necessary, the estimator is more likely to be inconsistent.

To understand the differences between Random Effects and Fixed Effects in order to choose which model to use, we need to go into the technical details of the model. The unobserved effects model is as followed:

$$y_{it} = \beta x_{it} + a_i + u_{it}, \qquad t = 1 \dots T$$

Where  $a_i$  is the unobserved effect, or the time-invariant error while  $u_{it}$  is idiosyncratic error, which varies across time and individual. In Fixed Effects model, we allow  $a_i$  to be correlated with the explanatory variables. In other words, no assumptions imposed on the correlation between  $a_i$  and the regressors. However, to ensure that the estimators are consistent, we perform timedemeaning transformation, which means subtracting the mean of the individual i across T time periods. The  $a_i$  will be eliminated in the process, hence consistent and unbiased estimators. The process describes the intuition explained previously. Nonetheless, because of the process and the assumption, we cannot include time-invariant variables, such as sex, race of an individual, or the continent a country belongs to, in the Fixed Effects Model.

The key difference that distinguish Random Effects from Fixed Effects is the assumption that  $a_i$  is uncorrelated with all explanatory variables. Because of this assumption,  $a_i$  is kept in the composite errors. However, since it is a stronger assumption than no assumption in the case of Fixed Effects, Random Effects is only preferred when we have good reasons to believe that there are no unobserved for instance, when all the relevant time-invariant variables are included. We can obtained the estimator by a pooled regression after performing quasi-demeaning process on the data. Even though Random Effects imposes stricter assumption, it is asymptotically more efficient than Fixed Effects. In practice, to choose between the two models, researchers would perform the Hausman test statistics, a test against the null hypothesis that the unobserved effects  $a_i$  is uncorrelated with the regressors (Hausman, 1978).

## 2.4.3. Models

The Hausman test statistics indicates that there is correlation between the unobserved effects and the explanatory variables, thus the Fixed Effects is preferred over Random Effects. As such, I use Fixed Effects model for both of the dependent variables: Discrepancy in percentage of population with access to clean water and Nominal Rate of Assistance. In addition to Fixed Effects, I also develop Pooled OLS. The models and the results are presented in the table (1).

Results						
	Discrepancy in access to clean water		Nominal Rate of Assistance			
	<b>Fixed Effects</b>	Pooled OLS	<b>Fixed Effects</b>	Pooled OLS		
Remittances/GDP	-0.018	0.080	-0.012**	-0.012**		
	(0.049)	(0.149)	(0.005)	(0.005)		
GDP per capita	-2.053***	1.582	0.163***	0.162***		
(log)	(0.587)	(1.259)	(0.015)	(0.015)		
Democracy	-0.259***	-0.431***	0.006**	0.006**		
(Polity Score)	(0.062)	(0.163)	(0.003)	(0.003)		
Inflation	-0.009	-0.276**				
	(0.022)	(0.112)				
ODA	-0.000	-0.000**				
	(0.000)	(0.000)				
Trade			-0.001***	-0.001***		
			(0.0004)	(0.0004)		
FDI/GDP			-0.004***	-0.004***		
			(0.001)	(0.001)		
Inflation			-0.0003***	-0.0003**		
			(0.0001)	(0.0001)		
Constant		16.820		-1.166***		
		(10.873)		(0.123)		
Ν	391	391	1372	1372		
R-squared	0.125	0.048	0.207	0.205		
Adj. R-squared	0.049	0.036	0.191	0.202		
F Statistic	10.223*** (df = 5; 359)	3.888*** (df = 5; 385)	58.532*** (df = 6; 1344)	58.789*** (df = 6; 1365)		

Table 1

\*\*\*p < .01; \*\*p < .05; \*p < .1

As seen from the table, there is two contrasting result between two proxies. While there is no statistical evidence that remittances would affect the discrepancy in access to clean water between urban and rural areas, remittances is proven to have significant impact on economic policy aspect of urban bias. a. Access to clean water

In both models using discrepancy between rural and urban population with access to clean water as Dependent Variable, the effect of Remittances as a share of GDP is found to be insignificant. However, the direction is different in the two models. In the Fixed Effects model, the sign is negative, indicating that remittances reduce the disparity between the urban and the rural areas. The estimator in the Pooled OLS model, on the other hand, goes in the same direction as expected. To double check, I also run another regression using only percentage of rural population with access to clean water as the dependent variable, the result also returns against my hypothesis: remittances and rural access to clean water also go in the same direction. Even though there is not enough evidence to support this connection, the descriptive analysis have also shown the similar trend between remittances and access to clean water, which is palpable. Wealth, measured by log GDP per capita, and Democracy score have been statistically shown to reduce the gap between rural and urban population with access to clean water. The wealthier and more democratic the country is, the smaller the disparity in access to basic necessities between rural and urban dwellers.

Various factors, in terms of empirical and conceptual development, can explain the main finding. Empirical wise, clean water provision would only increase, not decrease since there is no reason for any entities to demolish already built infrastructure for water provision like pipeline. Investment in such infrastructure is a sunk cost, which cannot be retrieved. With increase in foreign aids and the country wealth, there is always a possibility that the government would improve infrastructure, even by a small increment. The graphs also show that remittances inflows have been steadily increase in developing countries, due to factors like globalization, the ease of international travels and the development in money transfer technology. Hence, the two would go in the same

### **REMITTANCES AND URBAN BIAS**

direction. The question should be whether the increase in remittances slow down the rate of improvement of infrastructure, which required a more sophisticated causal inference technique to address. A Difference-in-Differences research design, with control and treatment groups and well-defined the period when the treatment is applied, can be used to explore the question further.

One question that needs further speculation is that whether or not remittances would affect other aspects of welfare provision: other forms of infrastructure and social services. In other words, can this result be generalized to the whole welfare provision aspect of urban bias? Water and electricity both share fundamental similarities, both have high fixed cost and low marginal cost which comes as maintenance fees. Hence, one electricity cables are built, the cost has become sunk cost and the already-built infrastructure would not be demolished, implicating number of people with access to electricity can only increase. Therefore, on principle, the empirical result can be applied to other types of infrastructure and how they are different between the cities and the rural. However, the only way to reaffirm the hypothesis is to carry out other hypothesis testing on other proxies. There might be nuances in different types of infrastructure that can lead to the divergence on how they react to other socio-economic factors. Regarding social services, social services facilities might share the same traits with infrastructure, high fixed cost and moderate marginal cost. However, it is services providers (teachers and medical staffs), who have high marginal cost, that play the decisive role in determining how social services react to other socio-economic factors, which can only confirmed by a separate empirical testing.

# b. Nominal Rate Assistance

For NRA as the Dependent Variable, results are the same in both models. Countries with higher remittances Distortions to agricultural incentives have been statistically proved to have statistically significant impact on how the government choose to subsidize agricultural sector. The direction is consistent with the hypothesis, i.e. the higher the remittances inflow, the stronger the urban bias in the economic trading policy of the country. Pooled OLS has strict assumption on the correlation between the errors and the explanatory variables which can be easily violated, hence the estimator might be inconsistent and biased. However, evidence from the Fixed Effects model is also in the agreement. Furthermore, since Fixed Effects model has addressed Omitted Variable Bias problem caused by unobserved effects, the claim of Remittances' effect on Nominal Rate of Assistance can be causal. Nonetheless, despite the statistical significance, the substantive significance of remittances inflow on Nominal Assistance Rate is quite modest. Other things constant, 1 % increase in the Remittances as a share of GDP would result in the decrease in the Nominal Assistance Rate by 0.012%.

The relationships between the Dependent variable and the controls also go in the same way with prediction. GDP per capita and Polity score would shift the trading policy towards the rural bias direction, which is increasing subsidies and protection for agricultural sectors. The trend is also observed through descriptive analysis and in the case of welfare provision, using percentage of population with access to clean water as proxy: the wealthier and more democratic the country, the more higher the subsidies for agricultural products. Trade as a share of GDP and FDI as a share of GDP decrease the Distortional trading policy. All the estimators are statistically significant.

# 2.5. Limitations and suggestions for further development

Even though the result might return significantly, there are some drawbacks and limitations of the research in terms of both theoretical and empirical that need to be addressed in future research.

Theory wise, even though the mathematical proof on why remittances can enable the government to increase expenditure on patronage goods is concrete, the model does not specify which type of patronage goods. Hence, one shortcoming of the model is that it only explains how remittances allow the government to respond to interest groups in general, instead of urban interest groups in particular. It is possible to argue that remittances would increase the government's ability to meet the urban interest group's demands since they belong to the subgroup of the object in the argument. Nonetheless, The claim would be more convincing and strengthened if distinct characteristics of such groups, their types of demands, and how the government manages to get such requests met are included in the model, and proven mathematically.

n terms of empirical analysis, even though panel data structure can address the endogeneity problem caused by time-invariant unobserved variables. There are still problems that need further speculation and has to be dealt with Instrumental Variable. There is potential reverse causality between urban bias and remittances. Urban bias, as discussed in the previous chapter, discount values of farming jobs, delays the development process in the country, and slows down the living standard improvement, which, consequently, discourages investors from opening business in the countryside. The lack of job opportunities and poor living standards have propelled rural residents to migrate to the cities, causing mass urbanization that has spiraled out of control of policy makers. Due to the surge in urban migration, and metropolis in developing countries have reached its capacity, in terms of jobs, welfare provision, real estate, and even infrastructure, causing disruption in the city and lower the living standard in general. Many original rural dwellers who move to the city work in non-official sectors with unstable income and live in slums. Hence, with the acceleration of globalization and ease in international migrations, more people have chosen to move abroad to find better job opportunities. The surge in immigration would increase remittances. Hence, there is a strong possibility of reverse causality in this case.

Two methods that many researchers often adopt to address the issue of reverse causality are Randomized Control Trial (RCT) and Instrumental Variable (IV). Randomized Control Trial is not feasible in this context. Instrumental Variable is more preferable in this case to address the endogeneity problem caused by both reverse causality and measurement errors (Angrist & Pischke, 2008). Nevertheless, a good instrument is challenging to identify since it needs to satisfy two criteria: strong correlation with the explanatory variable (in this case, remittances) and can only influence the dependent variable through the explanatory variable. The multi-façade of urban bias adds more challenges to find an instrument variable.

Some potential Instruments can be the changes ignited in the host countries that affect remittances but do not taint the interaction among domestic economic and political factors of the original countries. Those variables can be an exchange rate shock or lottery immigration scheme like the HB-1 visa in the US. However, these instruments are country-specific, which means if using these instruments, we might lose the advantages of panel data.

Exchange rate shock or fluctuation can trigger the increase in remittances influx. In his "International Migration, remittances and household investment: evidence from Philippine migrants" paper, Dean Yang (2008) also uses exchange rate shock, induced by the Asian financial crisis in 1997, as the Instrument Variable for his study about the impacts of Remittances on household investment. Since the exchange rate shocks affect each host country differently, immigrants of each country would also behave differently, adjusting remittances accordingly to the exchange rate. If the exchange rate favors foreign currency, they would increase remittances sent back home. The exchange rate shock provides an ideal experimental scenario to draw causal inference. However, even though this instrument might not be correlated with welfare provision,

it is also possible that it might affect the economic policy aspect of urban bias since most macroeconomic factors are mostly intertwined.

Another possible Instrument is the immigration working hours policy in the host countries where the majority of the people from the country in the study migrate to. For instance, if the country in the case study is the Philippines, the instrument variable will be working hours in the countries most of Filipino diaspora reside, namely East Asian countries and Middle Eastern countries. The idea is inspired by the random selection process of the HB-1 visa in the USA: people who make the final cut of the selection process will be chosen randomly, often referred to as the lottery. This scheme makes an ideal IV since it is totally exogenous and correlates with remittances. There are two approaches for using that as the IVs. First is to look at various host countries since different countries would have different caps and policies. However, this might come with selection bias since working policies are one of the concerns immigrants must consider when deciding where to emigrate. Another approach is to examine the countries where most Filipino workers residing and track if there have been any changes in labor policy in those countries over the year. The sudden change, like exchange rate shock, provides a quasi-experiment situation for the study.

### Conclusion

As international immigration is on the rise, remittances have grown larger in volume and become more significant to the receiving country's economy and policymaking. Unlike other types of financial inflows that go through business entities or governmental agencies, remittances go directly to households and respond only to household demands, thus the difficulty of discerning their impacts on policymaking. Therefore, when studying remittances' macro impact, researchers would aggregate the changes in households' behavior and study how the government responds to such changes induced by remittances. Researchers have connected the link between remittances and exchange rate regime choice of the government, between remittances and governmental expenditure. This study also follows the same trajectory to explores the potential impacts of this particular capital flow on governmental decisions on one crucial development strategy: rural and urban development.

Urban bias poses a critical issue in the socio-economic development of many developing countries. It is fueled by urban interest groups who have a strong influence over the government's decision-making process. As a consequence, economic policy and trading strategy are distorted towards the favor of industrial sectors, while welfare provision is scarce in rural areas. By employing formal modeling, I establish a logical connection between remittances and governmental spending behaviors. The game set includes two players: the household and the government. Remittances, which go into the household, have altered its spending behavior, which propels the change in the government subsequently. In the equilibrium, remittances allow the government to decrease its spending on welfare goods and increase expenditure on patronage goods that benefit its allies and interest groups, thus helping the government stay in power. The formation and the power of interest groups are determined by the country's political landscape and economic agenda. In this case of developing illiberal countries, the interest groups are the powerful industrialists, politicians, white-collar workers in the cities while the opposite observes in developed countries, which have powerful allies in the agricultural sector. As remittances increase, the government is more likely to adopt urban-biased policies regarding economic trading and welfare provision.

Empirical evidence supports the claim that remittances affect the economic policy aspect of urban bias. Both Pooled OLS and the Fixed Effect model have found the impact of remittances as a share of GDP on Nominal Assistance to be statistically significant and go in the direction, confirming the hypothesis. However, in the case of using the discrepancy in the percentage of the population with access to clean water between urban and rural areas as the proxy for welfare aspect, the impact is found to be insignificant. In general, the study has outlined and proven a possible way of how this particular type of capital flow can affect policymaking decisions, contributing to the limited literature on the matter.

As politics around migration is evolving, and financial technology is becoming more developed, remittance flows might diverge from the current trends to take unexpected turns. The ongoing advance in this financial flow might distort incentives and interests at the individual and governmental levels, hence propelling subsequent changes in behaviors. On the individual level, it can influence migration decisions and navigate the migration flow in aggregate. On the governmental level, both host and receiving countries are driving governments to modify its financial regulations in response to the rise in remittances volume induced by continuing fin-tech development. It also begs other macro questions regarding brain drain, factoring in the trade-off between the country's high-skilled labor and the economic stimulus of remittances into the governmental decision.

### References

- AHMED, F. Z. (2012). The Perils of Unearned Foreign Income: Aid, Remittances, and Government Survival. *The American Political Science Review*, 106(1), 146–165. JSTOR. https://doi.org/10.2307/23275367
- Anderson, K., & Nelgen, S. (2012). Trade Barrier Volatility and Agricultural Price Stabilization. *World Development*, 40(1), 36–48.
- Angrist, J. D., & Pischke, J.-S. (2008). *Mostly Harmless Econometrics: An Empiricist's Companion*. Princeton University Press.
- Banerjee, A., & Duflo, E. (2012). Poor Economics: A Radical Rethinking of the Way to Fight Global Poverty. Hachette UK.
- Bates, R. H. (2014). Markets and States in Tropical Africa: The Political Basis of Agricultural Policies (1st ed.). University of California Press; JSTOR. https://www.jstor.org/stable/10.1525/j.ctt6wqb9c
- Bezemer, D., & Headey, D. (2008). Agriculture, Development, and Urban Bias. World Development, 36(8), 1342–1364. https://doi.org/10.1016/j.worlddev.2007.07.001
- Doyle, D. (2015). Remittances and Social Spending. *American Political Science Review*, 109(4), 785–802. https://doi.org/10.1017/S0003055415000416
- Glossary—Incentives and Disincentives | MAFAP | Food and Agriculture Organization of the United Nations. (n.d.). Retrieved July 22, 2020, from http://www.fao.org/inaction/mafap/data/glossary-incentives-and-disincentives/en/
- Hausman, J. A. (1978). Specification Tests in Econometrics. *Econometrica*, 46(6), 1251–1271. JSTOR. https://doi.org/10.2307/1913827

- Kapur, D. (2005). Remittances: The New Development Mantra? In a. D. eds. Samuel Maimbo, *Remittances: Development Impact and Future Prospects*. Washington, DC: The World Bank.
- Lipton, M. (1993). Urban bias: Of consequences, classes and causality. *The Journal of Development Studies*, *29*(4), 229–258. https://doi.org/10.1080/00220389308422301
- Lucas, R., & Stark, O. (1985). Motivations to Remit: Evidence from Botswana. *Journal of Political Economy*, 93(5), 901-18.
- Moore, M. (1984). Political economy and the rural-urban divide, 1767–1981. *The Journal of Development Studies*, 20(3), 5–27. https://doi.org/10.1080/00220388408421904
- Piven, F. F., & Cloward, R. A. (1972). Regulating the Poor: The Functions of Public Welfare. Vintage Books.
- Singer, D. A. (2010). Migrant Remittances and Exchange Rate Regimes in the Developing World. American Political Science Review, 104(2), 307–323. https://doi.org/10.1017/S0003055410000110
- Solow, R. M. (1956). A Contribution to the Theory of Economic Growth. *The Quarterly Journal of Economics*, *70*(1), 65. https://doi.org/10.2307/1884513
- Taydas, Z., & Peksen, D. (2012). Can states buy peace? Social welfare spending and civil conflicts. *Journal of Peace Research*, 49(2), 273–287. https://doi.org/10.1177/0022343311431286
- Thies, C. G., & Porche, S. (2007). The Political Economy of Agricultural Protection. *The Journal* of *Politics*, 69(1), 116–127. JSTOR. https://doi.org/10.1111/j.1468-2508.2007.00498.x
- Varshney, A. (1993). Introduction: Urban Bias in perspective. *The Journal of Development Studies*, *29*(4), 3–22. https://doi.org/10.1080/00220389308422293

Wegren, S. K. (2002). Democratization and Urban Bias in Postcommunist Russia. *Comparative Politics*, *34*(4), 457–476. JSTOR. https://doi.org/10.2307/4146948

Wooldridge, J. M. (2002). Econometric Analysis of Cross Section and Panel Data. MIT Press.

- Yang, D., & Choi, H. (2007). Are Remittances Insurance? Evidence from Rainfall Shocks in the Philippines. *The World Bank Economic Review*, 21(2), 219-48.
- Yang, D. (2008). International Migration, Remittances and Household Investment: Evidence from Philippine Migrants' Exchange Rate Shocks\*. *The Economic Journal*, *118*(528), 591–630. https://doi.org/10.1111/j.1468-0297.2008.02134.x
- Yörük, E. (2012). Welfare Provision as Political Containment: The Politics of Social Assistance and the Kurdish Conflict in Turkey. *Politics & Society*, 40(4), 517–547. https://doi.org/10.1177/0032329212461130
- Zietz, J., & Valdés, A. (1993). The Growth of Agricultural Protection. In *NBER Chapters* (pp. 115–146). National Bureau of Economic Research, Inc.

https://ideas.repec.org/h/nbr/nberch/8073.html

# Appendix

Mathematical Proof

Plugging  $p^* = (1 - \lambda)[(1 - t)y + R] - \lambda g$  into the government survival function

 $\emptyset(s, U)$ , yields

$$\begin{split} \phi(s,U) &= \alpha \log(s) + (1-\alpha) [\lambda \log(c) \\ &+ (1-\lambda) \log \left( (1-\lambda) \big( (1-t)y + R - \lambda g + g \big) \right] \end{split}$$

Lagrangian form:

$$\mathcal{L}(.) = \alpha \log(s) + (1 - \alpha) [\lambda \log(c) + (1 - \lambda) \log ((1 - \lambda)((1 - t)y + R - \lambda g + g)] + \gamma (ty - g - s)$$

First Order Conditions :

$$\frac{\partial \mathcal{L}}{\partial g} = (1 - \alpha)(1 - \lambda)\frac{1}{(1 - t) + R + y} - \gamma = 0$$
$$\frac{\partial \mathcal{L}}{\partial s} = \frac{\alpha}{s} - \gamma = 0$$
$$\Leftrightarrow \gamma = \frac{\alpha}{s}$$

and

$$\gamma = (1 - \alpha)(1 - \lambda) \frac{1}{(1 - t)y + R + y}$$
$$\Rightarrow \frac{\alpha}{s} = \frac{(1 - \alpha)(1 - \lambda)}{(1 - t)y + R + y}$$
$$\Rightarrow s^* = \frac{\alpha[(1 - t)y + R + y]}{(1 - \alpha)(1 - \lambda)}$$

And

$$g^* = \frac{s(1-\alpha)(1-\lambda)}{\alpha} - (1-t)g - R$$

Plug g = ty - s or s = ty - g to  $s^*$  or  $g^*$  to yield the final result

$$g^* = y(t - \alpha) - \alpha R$$
$$s^* = \frac{\alpha(y + R)}{\alpha - \lambda + \alpha \lambda}$$
$$\Rightarrow \frac{s^*}{y} = \frac{\alpha}{1 - \lambda + \alpha \lambda} (1 + \frac{R}{y})$$

Figures



Figure 1: Personal Remittances, received (current USD)



Figure 2: Source: World Bank data



Figure 3: Source World Bank