CONFLICTS AND WINDFALL RENTS: SOME EMPIRICAL EVIDENCE

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CERTIFICATE

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Dedicated to My PARENTS

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LIST OF TABLES

Table of Contents

ABSTRACT

The study provides the impact of windfall on the civil conflict in developing economies empirically, by covering the time span of 31 years from 1985 to 2016. Panel data has been used for 8 developing countries of Asia (Bangladesh, India, Indonesia, Myanmar, Mongolia, Pakistan, Philippines and Sri Lanka). The model is estimated to clarify the conflict occurrence can be attainable from aid schedules, resource rent and set of control variables, which are identical to the control variables used in the literature. By using a dichotomous variable and panel data, the study considers a quantitative methodology of panel probit estimation technique. The panel probit results conclude that both windfall rents foreign aid and resource rent significantly affect the conflict onset. Where, resource rent is positively influencing the conflict. While, foreign aid is negatively effecting the dependent variable. In order to avoid upcoming conflict, foreign aid is regarded as an essential instrument for politicians and aid organization. The condensed conflict probability not only eliminate the economic and social issues caused by conflict but, it influences the economic development positively, also. The policy implication states that the donors who intended to support a country for development, should also take notice of those countries that restrict unnecessary rent-seeking behavior. When the foreign aid is given in a huge amount or when the donors select the countries where the productive sector has been taxed larger than the foreign aid is anticipated to be less productive.

Keywords: Foreign Aid, Resource Rent, Military Expenditure, Conflict type, Conflict Intensity, Panel Probit

CHAPTER 1
INTRODUCTION

Windfall rents are described as rents that are not determined by the efforts of domestic land, capital or labor. Foreign aid and natural resource rent have the properties of windfall gains that influence economic activities either directly or indirectly. The indirect effect work through institutional quality. This study provides the combine analysis through which way aid and natural resource causes conflict through rent seeking behavior. Tullock (1972) introduce the concept of rent seeking. Rent seeking helps to attain economic rents by influencing the social and political environments. Conflicts and civil wars have a tendency to encourage more foreign aid flows. The study of Montinola (2007) indicates that aid is beneficial only for the economies with higher institutional quality. Identical to natural resources, more foreign aid provide motivations for civil war. Abundant resources have harmful impacts on the country's fighting ability (Fearon and Laitin, 2003).

Collier and Hoeffler (2004) introduced the notion of conflict as financing tool for rebels. Natural resource dependence has a negative impact on the state, institutions and on the economy. Collier and Hoeffler (1998) played a vital role in underlying the economic stimulus behind civil conflicts, and claimed that rebel motivation is like any economic object, individuals compete for the better source of income. The future resource incentives encourage rebels to join the association, rising their strength to protect revenues (Lujala, 2010).

Natural resource are the primary inputs to be used for the production of all the products of the world. The natural resources that are extracted from the Earth worth trillions of dollars. The whole world depends on natural resources in order to maintain their lives, local and national economies. All countries does not have access to the same types of resources in same magnitude. Different natural resources that are available in one country may not be available in other parts of the world. There are two categories of natural resources: One is stated as renewable and the other as non-renewable resources. Renewable resources can be slowly reversed after sometime e.g. air, sunlight, wind etc. While, nonrenewable resources cannot be replaced even after certain period of time e.g. fossil fuels and clean water etc. Exploitation of resources placed in soil or rock formation is certain to a particular location and the transfer is impossible. So, the revenues' are accessible for

those who has control over such location and have proper weapons (Addison et al., 2003; Weinstein, 2007).

China is on top of the countries that have excess of the natural resources having around dollar 23 trillion worth of natural resources. Rare metals of earth and coal covers ninety percent of natural resources. Other natural resources that are found in the country are zinc, antimony, vanadium, coal, graphite, gold, lead, tin, phosphates and molybdenum, timber, gem diamond and chromium. China is among second, in the manufacturer of silver, bauxite, manganese, copper and cobalt. In 1938, oil was discovered in Saudi Arabia and the nation become oil exporter since then, 20 percent oil reserves of the world are in Saudi Arabia. Large amount of natural gas, copper, zinc, phosphate, sulfur, tungsten, silver, and timber are also found there. Dollar 14.3 trillion of natural resource are found in Venezuela. It is the largest producer of oil, bauxite, iron, coal and gold. If oil reserves of Canada, Mexico and United States are combined, they are still lesser then oil reserves of Venezuela. The country is the second largest in case of gold reserves and eighth largest in case of natural gas.

After Saudi Arabia and Venezuela, Canada is the third largest country having oil deposits. The country has dollar 33.2 trillion worth of resources. 11 percent of mining sector contributes to the industrial GDP of India and 2.5% to total GDP. India is the fourth largest on the list of top natural resource country. Biggest mining industry of the world is in Russia producing metals, mineral, fuels and industrial minerals. Russia is the second largest in the export of rare earth minerals. Overall, its natural resource worth dollar 75 trillion. Brazil is second largest oil manufacturer of the world. It produces more than 12.3 percent timber of the world. Brazil has dollar 21.8 trillion worth of natural resources including uranium, oil gold and timber. The United States has almost dollar 45 trillion worth of natural resources, 90 percent of which are coal and timber. It is on top for manufacture of coal. Copper, oil, natural gas and gold are the other natural resources that are produced in the country

Democratic Republic of Congo has the leading industries of mining. More than dollar 24 million of mineral resources were in the country in 2009. Country has largest deposits of lithium, tin, copper, gold and diamond. Australia has excess reserves of rare earth minerals, coal, nickel, iron, ore, copper, timber and oil shale. Mining is the leading industry of the country and it make dollar 19.9 trillion worth from mining. It supplies about 46 percent of uranium and 14 percent of the gold on the world's demand.

As a factor of production, natural resource are regarded as a blessing. However, it can be a curse for resource rich countries due to poor economic environment. The natural resource exhaustion has become main issue for the organizations and governments of many countries. Low income causes to raise the conflict severity (Collier and Hoeffler, 2004; Miguel et al., 2004). Wennmann (2011) considered natural resources as financing tool such as drugs and diamonds are emerged to be influential sources of conflict financing as their revenues are comparatively maximum and instant. The resources such as gemstone and diamond are easily extractable and can be misused by the rebels. Gemstones that are spread over a larger area is a challenge for the state's forces and needs to be protected. So, the regions where gemstone can be easily accessed by the rebel, the conflicts tends to last longer there (Fearon and James, 2004).

Lujala (2010) finds that occurrence of conflicts are 2.5 times higher for the countries with natural resources. He states that natural resources rise the conflict tendency by two ways: those which directly influence the rebel activities and the other that affect the institutions, government and the economy. Under the natural resource environment bad governance is the main cause for intensifying conflict risk. Rising scarcity of resources make a contribution for conflict onset. This hypothesis was tested by Hauge and Ellingsen (1998) and found that issues like dreadful land conditions, water scarcity and deforestation with and without rising population raises the conflict possibility. Dixon (1991) introduced the concept of environmental scarcity. This inadequacy consists of three scopes: demand side scarcity, supply side scarcity and the organizational scarcity. Where demand side scarcity is caused due to increasing population. When resources are depleted more than they are produced with amplified consumption then' there is supply side scarcity. Organizational scarcity occurs when resources are scattered in such a way that they are concentrated under the control of limited people whereas, other population has to face resource scarcity.

Growing environmental scarcity with one or more of these dynamics create environmental scarcity then there occur number of outcomes that lead to internal armed conflicts. Sekeris (2014) states that conflict rises in the countries where resource starts to deplete, thus, not enough for country's residents' requirements. By considering the transactions of oil and diamond deposits, (Ross, 2006; Humphreys, 2005) indicates positive relationship among natural resource and civil war risk.

The conflict severity is influenced by many factors such as, state's army size, rebel force, comparative proficiency of both, and the military policy implemented by the rebel group. When state approaches to resource revenues they are able to employ more defense force and improve their equipment quality. Similarly, when natural resources are exploited by rebel's group then, they are able to employ more members and purchase sophisticated weapons that are more operative (Lujala, 2010). Mandatory role for the administration of natural resource has been played by powerful civil league. Lujala (2010) claims that countries with abundant natural resources tend more toward armed civil conflicts as compared to the countries with scarce natural resources. Two outlines have been developed in this regard. Firstly, natural resources which can easily manipulated to stimulate the rebel's activities and used by the rebels to fulfill their material goals. Resource access boost the possibilities of rebel's achievements and existence, as they offer finance for rebels. Secondly, resource rich countries have been directed to the poor policy selection with a weak economy that lead towards violent conflicts.

The interests of rebel in some of the studies are due to their dependence on oil and gas, which is substantial for conflict onset (Ross, 2004). Agriculture dependence is significant cause of resource conflict directing towards low conflict intensity (Hymphreys, 2005). Conflict duration has been influenced by dependence on lootable resources e.g. timber, alluvial diamonds, drugs and gemstone (Collier and Hoeffler, 2005). Each resource create diverse effects on conflicts (Le Billon, 2013). It has been stated that natural resources does not have the power for war funding but started from 1980's to the mid of 2000, there has been increased trend among natural resource and war (Ross, 2006). Dukes and Burton (1990) analyzed various reasons and stages of conflicts. Conflicts depict the situations where there are N broadly familiar statements in state, numerous parties may be concerned. Which might be different in policy, principles, goals and rank of organizations. So, various complicated issues frequently occurs (Smith, 1985).

Lujala (2010) found that natural resource and conflict association is influenced by existence of nature in natural resources (point or diffuse), geographical location (adjacent or distance from capital), characteristics (loot able or non-loot able) and exploration way (labor or capital intensive). Three diagonals of resource base conflicts since mid-1990 were observed by David and Gagne (2007). These diagonals are: environmental[1], economic[2] and the political

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[1] The grievance formed by growing scarcity of renewable resources.
[2] The greed's incentives as the central cause of conflict.

factors[3]. All the mentioned approaches have various determining factors as the civil conflict onset is strongly related to weak states in which oil indicates nation's wealth. Such states are considered as weak, exhibiting weak armed volume and incompatible to control the whole country. In such situation, comparatively weak rebel activities can emerge in the areas that are geologically less essential as the hurdles from government are lower (Fearon and Laitin, 2003; Hymphreys, 2005; De Soy Sa and Neumayyer, 2007). While, economic factors determine the conflict durations (Stijns, 2007). Lujala (2009) empirically studied the impact of natural resources on armed civil conflicts severity and found weak association with the drug farming in the conflict zone. While, there exist strong correlation between oil and gemstone mining with conflict severity in conflict area.

1.1. WINDFALL RENTS AND CONFLICTS

Windfall rents are expected to be the tools to improve the economic situations. However, both foreign aid and resource rents have been unsuccessful for the economic development. They affect the political environment[4] badly. For aid receiving countries, the aid flows contributed as a larger share of government's budget. During 1999, 17 Sub-Saharan African countries mostly depend on aid and spent more than 50% of government expenditures (Brautigam and Knack, 2004). Due to scarcity of natural resources, economic return is higher than total expenditure required for fulfilling the cost of labor, capital opportunity cost[5] and the input cost, such returns are known as resource rent[6]. The deficiency of government policies to control this rent is regarded as windfall gain to the manufacturer of the resource based business (Lange and Motinga, 1997). Poverty and environmental scarcity provides the basis for conflict-poverty trap[7]. The starving international market is not the trouble for Africa rather the policies in such countries that prevents resource rents to be a part of economic development.

Two challenges has been faced after conflicts. One is to recapture the economy and the other is to eliminate the risk of further conflict. The predominant relationship among resource rents

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[3] Institutional fragility.
[4] As Ross (1999) states: "Windfalls produce myopic disorders among policymakers that can weaken state institutions that are necessary to foster long-term economic development."
[5] that is engage in the industry
[6] Resource rent is measured by taking the difference among the returns attained by resource selling and opportunity cost of resource extracting.
[7] Where according to Neo-Malthusians poverty is associated with deficiency of environmental assets.

and economic growth are controlled by institutions and politics (Martin and Subramanian, 2003). Aid and natural resources rents are considered as one of the income source in theoretical framework (Torvik, 2001). The basic difference among the two types of windfall gains is to know how these are distributed around the world. Aid is given to the countries with low GDP per capita. While, the resources are randomly distributed across the planet. The ability of generating rent depends on the level of development (Stijn, 2001).

When natural resources are in profusion then, it becomes a challenge for developing economies. The developing countries have a plenty of natural resources, but they usually get more foreign aid then there actual ability to produce revenues and thus' provides assistance to the low GDP per capita countries to use their resources in order to maximize the profit and minimize the risks which are produced by resource rents (Keutiben, 2014). Hence, economic activities take place instead of contributing to productivity or making new wealth. Aid and resource rents brings the externalities for few sectors of the society. For example, a dam which is constructed on the basis of aid support might bring more electricity but the people live in the river valleys have to face the serious environmental consequences. Similarly, the large scale projects as mining and oil extraction brings environmental hurdles. However, current aid has stopped to finance large scale tasks. The developing countries rich in resources frequently observe property rights to be defective or omitted markets and negligent legal structures, making the rent seeking more easier for the bureaucrats and statesman (Gylfason, 2001).

1.2. FOREIGN AID AND CONFLICTS

Foreign aid comprises of the transfer of funds to the governments of developing nations provided by one or numerous government of the developed states with the motive of development for the various sectors of the country like public sector, administrative sector and the economic sector. The crucial reason the donors consider while arranging aid, is the recipient country's need. However, there are many other aspects which can affect the aid stream, for instance the recipients' reputation[8], regional conflict[9] and economic circumstances of the donor country (Berthelemy, 2006; Neumayer, 2003; Alsina and Dollar, 2000). Collier and Hoeffler (2002) argue that aid reduces the conflict risk by boosting economic growth and promoting state's capabilities. Berman

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[8] For the donor country.
[9] Like those which lead to cold war.

et al. (2013) found that 20% to 40% of official development assistance goes to the conflicted countries[10]. This proves that aid allocation to conflicted area remains higher.

Egypt is the country that received the largest amounts of foreign aid with the influx of foreign aid equal to 5.5 dollar. Luckily, this country has recorded economic growth with the help of foreign aid. Afghanistan received 5.3 billion dollar and it is the second largest aid recipient country. Vietnam received 4.1 billion dollar of foreign aid annually. Myanmar is the fifth largest aid recipient country that received 3.9 billion dollar of foreign aid. Kenya, Ethiopia, Tanzania and Syria are the countries that receive 3 dollar US dollar annually. Regional conflicts of Israel is the reason that it receive approximately dollar 3.1 billion of foreign aid from USA. In case of Pakistan, huge inflows of foreign aid cannot reduce the conflict intensity. While the country received net ODA of 117.6 billion of US dollar in 1970-2017, but, all the amount was spent on security and defense.

Two approaches have formed while discussing the influences of aid on conflict. On one side, the researchers (Grossman 1991; Azam, 1995) state that aid rises the reward gained from the rebels. While, the government can use aid to prevent conflict. Generally, this anticipation is not effectual and rebels may choose to go for conflict to gain control over aid instead of becoming peaceful with the government's proposal. While, the other approach claim aid to be the influential variable for reducing the possibility of civilian conflict.

After World War II, aid was given to war- overcome countries so that they can reconstruct themselves in the form of Marshall Plan. In early 1950's, foreign aid was used to support the armed ability and political ideologies. After 1989 cold war, the aid was taken at a larger scale in order to stimulate growth and wellbeing of the society. For the period of 1990's, the goal of aid giving was to rise economic growth. 9/11 attacks in US has changed aid giving strategy. So, the US started giving massive bilateral aid to countries that work together with US with its fight against terrorism. US spent billions of dollars to newly constructed countries like Pakistan, Afghanistan and Iraq. That aid has been given without the concerns of government quality and other economic conditions of receipt countries.

Ree and Nillesen (2009) introduce GDP level of donor countries as an influential variable for foreign aid provision to the conflicted countries. Aid amount is obtained by the fraction of donor's GDP. Exogenous shock to foreign aid is created because of the fluctuations in donor

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[10] Where UK and US contribute more for conflicted zone as compare to European Commission.

country's GDP. Most of the findings indicate negative relation among aid and civil conflict possibility and predicts a rise of 10% in aid, when conflict reduces by 6 to 9%[11]. The developed states used foreign aid in years 1950's to 1970's as a tool for boosting national growth investment, structural development and to fix the issue of resource gap with the anticipation that foreign aid would support developing states to escalate to lift off into the self-sustained development, due to the production of innovative national investment (Rostow, 1960; Waterston, 1965)

There are two central hypothesis in the research of foreign aid influence on the conflict possibility. Where the first hypothesis test is that the government budget restrictions are reduced by aid flows in the way that it increase the armed expenses of the government. Then, a powerful military disappoints the rebels to follow any risky way. Consequently, the conflict possibility reduces (Rajkumar et al., 1999). While, the second hypothesis inspects that the foreign assistance boost the access of government to monetary assets, thus encouraging the rent seeking activities of the rebel's group. This practice suggest a weakening influences of assistance in the way of rising the conflict possibility (Grossman, 1991).

The mounting gap among developed and developing countries is crucial reason for international relations and cooperation for a long period of time. The gap has been directed to persistent capital inflow from developed countries to developing countries. The aim of developed countries is to provide help to the developing economies, in order to eradicate their problems. Thus, there is indication that decades of foreign aid have been sorted out little in altering the fates of developing countries. The countries are still facing the small growth rates. The central idea of aid is to transfer resources on the discounted terms. For example, on the terms lenient than loans attainable in the worlds capital market (Nafzier, 1990). The test on the time period 1980 to 2000 determines disappointing consequences of aid on the market liberalizing reforms (Heckelman and Knack, 2007).

De Ree and Nillesen (2009) finds a negative impact of foreign aid on the possibility of civil war duration. They found highly insignificant association among aid and civil war conflict onset. Decreasing returns to aid is the reason that it effects growth differently in different countries (Dalgaard and Hansen, 2001; Lensink and White, 2001; Hansen and Tarp, 2001). The association of aid, economic growth and economic policies variables have been checked by Collier and Hoeffler (2004) for the countries where civil war arose and concluded that aid abbreviated the risk

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[11] Usually, Sub Saharan African states get 5% amount of aid ratio of GDP.

of conflict reoccurrence. While, Villanger et al. (2005) found aid to be effectual after fifth to eighth years of peace. However, it has no impact throughout the first four years of conflict.

The effects of various forms of aid has been checked by Demekas et al. (2002) and depicts that post conflict humanitarian aid improve the wellbeing in the short run. But, aids are not helpful for the long run economic growth or capital accumulation. Francois and Sud (2006) states that donors should provide aid to the countries where security situation is developed. As giving aid to the countries with corrupt government is futile. Feeny and Mcgillivray (2009) empirically prove this finding and states that weak nations or those persistently immersed in conflicts cannot use aid efficiently. So, such nations attain lesser amount of aid as compare to the similar safe states.

1.2.1. DYNAMICS OF FOREIGN AID

All forms of financial flows, resources and manpower provided by organizations, states and people of rich countries to help individuals in developing countries is foreign aid. Foreign aid is mostly based on basic requirements of progressing economies. It can take any form; military, economic or emergency humanitarian as discussed below.

i) Economic Aid

The economic aid provide helps to countries friendly alliance in order to prevent them from the impact of other malicious countries.

ii) Military Aid

Military or armed support is designed to provide help to fighting alliance.

iii) Emergency Humanitarian Aid

 This type of aid is designed to provide help to defenseless and weak people and also provides them with basic necessities of life like food, shelter and clothing for those who are being affected by wars and other natural calamities.

1.3. OBJECTIVE AND SIGNIFICANCE OF THE STUDY

The conflict situation and war has terrible consequences. They destroy the institutions, exploit the infrastructure, weaken the social trust and murder the individuals. All these lead the inhabitants to

worse situation of corruption, risk of cureless diseases[12], political instability and thus causing conflict again. A significant amount of literature has used different continents and countries to investigate the stated issue. The large work has been done for African countries. Asia has received less attention in case of natural resources, resource rents and conflict. The central contribution of the study is to detect the conflict prevalence by controlling the undetected reasons for the irregular pattern of civil conflicts for developing countries of Asia. Asia is the largest region of the world and rich in natural resources i.e. coal, rice, forest, copper petroleum, iron, fish, uranium, water silver and copper. Asia has approximately three-fifth of the world's reserve. It has large number of coal reserves. Largest coal reserves are found in Siberia. While Central Asian republics, Siberia, India, Indonesia, China, and Japan have reduced but substantial amount of reserves. India and China have their own deposits of uranium. While the richest one fields for uranium are found in Kyrgyzstan. There are deposits of iron ore in many countries of Asia. India and Indonesia have enormous deposits of iron ores that are significantly distributed. Pakistan, Myanmar and Thailand also have rational amount of iron ores.

The thesis will help us to investigate

- Whether there exists association among windfall rents and resource conflicts empirically or not?

    The resource rich developing countries has to face the conflicts over natural resources throughout the history. These conflicts has most adverse impact on the economy that prevails for several years. The study is devoted to investigate the determinants of conflicts, its measures and policies that can be used to eradicate the conflicts. To investigate the impact of resource scarcity, resource rents on the resource conflicts.

1.4. HYPOTHESIS TESTING

The study is planned to test the following hypothesis

H_0: There is no relationship between windfall rents and the resource conflict.

H_A: There is a relationship between windfall rents and the resource conflict.

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[12] The study of Russet et al., (2003) investigated a significant impact on the occurrence of disability and death caused due to infectious diseases.

1.5. ORGANIZATION OF THE STUDY

Following the discussion of this chapter, rest of the study present the literature review, highlight the research design, examine their results, reflect conclusion and establish some policy implication. The study is organized into further four chapters. Chapter 2 review the literature in the area of conflict, its determinants and foreign aid and resource rents. Empirical evidence is present in chapter 3 providing detail about theoretical framework, data sources, econometric methodology and variables construction. Results and discussion is described in chapter 4 and the last chapter cover the conclusion and policy implication. The association among resource conflict and windfall rents is an empirical issue of concern.

CHAPTER 2
REVIEW OF LITERATURE

2.1. INTRODUCTION

As observed from several case and cross country studies, the resource abundance are inclined to violent conflicts. The literature for natural resources is divided in two categories of economics and political literature. In economics literature, the resource curse indicate low rates of growth and income level. This established lower opportunity cost for rebels and create civil war. Political literature focused on the association among natural resource and weak institutions. Countries with natural resources mostly depends on a system of sponsorship. So, a democratic state based on elections and civil rights cannot be established.

The states with political unpredictability is the reason for the conflict consistency. The conflicted countries have to face difficulty in order to stimulate their political structure relative to the countries without conflict. As Persson and Besley (2011) explores a history of internal conflicts and investigates that nation going through these types of conflicts usually face tax portion and a decline of 7% GDP as compared to other conflict free nations. The trade sector of the country also get disrupted by conflict occurrence. As Hess and Blomberg (2006) stated that conflicts influence the trade similarly as a huge tariff effect it. There is a 40% determined reduction in trade for the countries facing severe civil war whereas this percentage reduces to 20% for the less severe civil war countries. Thus' effecting trade partners equally[13] (Martin et al., 2008). In this chapter we will further discuss concepts and determinants of conflicts mention above.

2.2. CONCEPTS AND DETERMINANTS OF RESOURCE CONFLICT

Ayling and Kelly (1997) stated the main cause of natural resource conflict is growing population, the conflict among various value of system, the larger demands of economy and environmental dependence on the inadequate resources. The causes of conflicts are complicated because of the associating factors to the concerned parties, development stage of economy and the performance of resources. When people are unable to approach resources and when they are persistently marginalized by resource planning methods. An essential requirement for realistic techniques are

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[13] By using the data of COW, they consider war to be severe when there are greater than 50,000 deaths.

required so that conflicts can be recognized and solved. A model was developed by Maxwell and Reuveny (2000), empirical result depicts essential relation among renewable resource scarcity and conflict. Model illustrate that in the non-existence of efficient civilized intervention, frequent cycles of peace and conflict can be observed because of renewable resource scarcity. The model also represents value of system feedback by using simultaneous equation model. One equation take conflict and the other equation take resource scarcity as dependent variable.

The quantitative analysis of Rustad and Binnigsho (2012) obtained significant correlation among conflict reappearance and conflict on natural resource returns circulation. He further state that the peace period after resource conflict is 41% smaller as compare to non-natural resource conflicts. Hoeffler and Soderbom (2004) used widespread dataset from the year 1960-2000 of large scale violent civil conflicts. The regression analysis they used is maximum likelihood estimation. A broad series of hypothesis are checked by the econometric measure hazard function. The conflict period is found to be related both to structural situations earlier to conflict and to a situation through conflict. The central conditions responsible for conflict is modest level of racial division, high inequity and low per capita income. The major variables which can abbreviate conflicts is decrease in the price of primary exported commodities. Normally, the post conflict pace is inelastic and approximately more than half civil wars are caused due to post-war deteriorations and the economic progress can significantly decline that risk. However, this is time consuming (Collier and Hoeffler, 2008).

The analysis of numerous qualitative and 14 cross sectional studies found the association among natural resources and civil war (Ross, 2004). It recommends three features of conflicts: agriculture commodities are indifferent to both to the initiation and time period of conflicts, oil dependence provide the ground for the beginning of the conflicts but, they are not related to the conflict interval, loot able commodities do not play role for initiating of conflicts. However, they are inclined to extend the conflicts. Lujala (2010) argue that oil significantly extends conflicts if, it is situated in the conflict space. Study also found that secondary diamond construction rise the possibility of conflict onset by greater than 40%. Collier and Hoeffler (1998) examined the universal reasons of civil war by establishing a model on utility theory. Their findings states that rebels will direct civil war only if the observed advantages are to be greater than the costs of the rebellion. They have used probit and logit model to check the said theories. According to their empirical findings the variables natural resources endowment, initial income, population size and

ethno-linguistic fractionalization are found to be significant and they are also found to be the factor of time period and possibility of civil wars.

Resource dependence is the cause of onset of civil war (Brunnschweiler and Bulte, 2009). They test the relationship among civil war and resource dependence. Their main findings have found to be contradictory to orthodox knowledge. Resource abundance is positively related to income and help to shrink the risk of war. They estimate it and found that by rising the resource abundance from one standard deviation decreases the war possibility from 7.1% to 6.7% or 4.5%. Contrary to this, they found that resource scarcity might be the cause of conflict. Thus, the resources are not at all the cause of curse for the economic growth. Koubi et al., (2014) studied the theory of relating natural resources (both renewable and non-renewable) scarcity to the initiation of intrastate and interstate conflict. They find that renewable natural resources lead to conflict through scarcity .While, the non-renewable resources are associated through resource abundance to the conflicts. These two findings oppose to the scarcity idea. The impacts of exogenous variation of increasing natural resources on civil conflict has empirically tested (Fetzer and Kyburz, 2017). They noticed that authorized natural resources rents stimulate civil conflicts among political groups and army.

2.3. WINDFALL RENTS AND CONFLICT

Hodler (2006) introduce rent seeking and foreign aid in the barrow growth model. Aid usefulness is discovered to influence by magnitude of aid inflows, fiscal policy and the worth of institutions, which confine the adoption of public funds by rent seeking directors. Certainly, poor performance of aid in several countries is due to the rent seeking behavior. Dalgaar and Olsson (2012) review on the prevailing literature of direct and indirect influences of windfalls indicate that more natural resources means more corruption, while aid is negatively associated with corruption, even both correlations are found to be non-linear.

Tax revenues is not the only factor to support the public funds, it is also found that foreign aid also plays a vital role to influence the public funds too. Public funds are not completely used for public goods. Though, there is generally rent seeking competition over the public funds (Hodler, 2006). When there prevail rent seeking behavior in any country then the foreign aid have a tendency to raise a corruption in a country (Knack and Keefer, 1995; Bauer, 1981; Mauro, 1995). The repeated games of Svensson's (2000) enlighten that the progressive consequences of foreign

aid inflows might be cancelled by growing rent seeking events. Foreign aid will be well organized when the institutes confine the rent seekers' behavior to exploit foreign aid. Collier and Hoeffler (2002) state that as the assistance cannot be easily obtainable by the rebels, so, they choose to the other accessible rents. For instance, the lootable resources like diamonds, timber, gems and rubies etc. Even, when rebels are lucky enough to be successful in taking the governments' authority, the possibility captures about less than 20% for doing is still little coupled with an extended industrious work (almost seven years). It signifies that the rebels would prefer to go for the instant resource rent rather than the aid rents which are highly discounted. The complete anticipation of the second viewpoint is that aid will decrease the possibility for conflict occurrence.

The study of Svensson (2000) indicates an association of foreign assistance and windfall rent with high level of corruption, where there is a presence of rival social groups and thus give raise to rent seeking behavior. He determined foreign aid to be different from other factors of windfalls therefore, foreign aid is influenced by the donors' behavior and by the receivers' requirements (Dollar and Burnside, 1997). Svensson (1998) investigated the association among foreign aid and rent-seeking which is also effected by the administrative structure by using democracy as a control variable. Democracy appears as a significant variable with negative sign, states that more democratic nations often leads to less corrupted societies. Sometimes aid distribution has been passed by the capital and government of the state entirely (Powell et al., 2011; Addison et al., 2002). Consequently, aid distribution has been responsible for aggressive groups to be involve in robbing (Collier and Hoeffler, 2002).

2.3.1. FOREIGN AID AND CONFLICT

Alesina and Dollar (1998) analyzed the formation of foreign aid distribution for numerous donors to receipts countries. Political cooperation is considered to be the main factor of foreign aid. Panel data regression checks the aid effects on growth in typical growth models of neo-classical and found that aid does not have any influence either on growth or on the investment level (Boone, 1996). Moss et al., (2006) find identical results and comments that immense foreign aid may reduce the tax revenues of the recipient government and it also disappoint government to invest on the public organizations. Aid inflows are linked with minimum tax revenues and generally results in poor performance of government (Brautigam and Knack, 2004). Foreign assistance provides help to the corrupted government and also to inefficient administration. However, the followers of

foreign aid claimed that efficient government can be awarded by foreign aid. While, Alesina and wedar (2002) found no evidence and states that least corrupt government get more foreign aid.

The World Bank (2011) report shows that foreign aid have more emphasis on reconstruction than on conflict deterrence. The foreign aid for post-conflict countries significantly go beyond then the aid for fragile countries, so that the conflict countries may avoid further conflict to occur[14]. The economic growth is considered as the perfect policy for preventing conflict. For developing countries, aid is defined as a direct tool for growth. Hence, aid has no direct effect on the conflict risk rather it is helpful for conflict prevention by effecting the country's development (Collier and Hoeffler, 2002).

Collier and Dollar (2001) studied the allocation of foreign aid that makes a reduction in poverty and then match it to the actual allocation. Their main outcome is that the influence of aid for poverty reduction increases to double if the donor countries starts practicing research on aid impacts in determining their aid distribution. Tavares (2002) empirically estimate the influence of foreign aid on corruption by using the cross sectional data of developing countries. Graphical and traditional distance are used as an instrumental variable to measure the causation. The estimation implies that the corruption is declined by foreign aid. One aspect is that, foreign aid is linked with laws and conditions that bounds the decision of receipt country and causes to reduce corruption. The other prospect is the liquidity effect, when foreign aid reduce public revenue. So, the salaries of government employs rise and it reduce the corruption from public official's side.

Researchers identify that resource and fund distribution to the conflicted zone may increase the conflict possibility (Sollenberg, 2012; Murshed and Gates, 2005; Collier and Hoeffler, 2007). Other researchers (Younger, 1992; Rajan and Subramanian, 2011) state that the foreign aid could reduce the development because of dutch disease that indicates that development of some sectors shrink in the countries where aid is the huge part of the state's economy. The aid intensities and magnitude could raise the possibility of aid to stimuli the violent conflict (Sollenberg, 2012; Collier and Hoeffler, 2007; Chauvet and Arcand, 2001). Hence, the issues are not only with huge aid levels but also with the shortages of aid.

Ndikumana (2015) depicts that the international development aid performs a vital and supporting role for the post conflict country by narrating their organizational limitations and it will limit or slightly reduce the possibility of further conflict. Their paper illustrate that the progress

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[14] For instance, the West Africa in the 2000s.

for reconstruction is conditioned on the presence of skilled nation that is able enough to provide its essential assignments such as law and order, formation of civil services and revenue utilization. Even with the financial support from global community, developing countries still face the hazards that are caused due to the damage of the economic sector and throughout the conflict destruction to the state's institute remains. The extensive fragility sustain there, illustrating that the risk of conflict onset stay there. Post conflict nations require support for reestablishment, as they do not have ability to utilize their resources[15]. Thus, such countries need foreign aid to support the reconstruction program (Ndikumana, 2015).

Levine (2003) found that whenever the donors are looking for increasing money worth in managing assistance they met by three types of risk. These risks are more in the post conflict states as compared to the stable states. First is project risk, the risk occur when projects purpose is not met. Hence in the post conflict situation, the risk is anticipated to be greater because of the challenging circumstances that destabilize execution of project. Second risk is the growth risk, this risk is associated with the deterrence surrounding of fund recipient states in the period of execution of the received aid[16]. Third is the institutional risk that hit the donor's reputation caused due to the ineffectiveness of the support.

The literature illustrate three methods in which aid can affect conflict tendency. Firstly, aid which is provided by the government might be averted to the private hands that is expected to raise the worth of the individual for holding the government (Murshed and Addison, 2001). Hence, the rebels will possibly anticipate to acquire aid rents by controlling the state's authority (Grossman, 1992; Azam, 1995). Grossman (1992) stated this fascination of rents to influence the insurgents' head when the predicted payments for accessing the governments benefit be greater than the expenditures, at that point the insurgents decides to involve in brutal conflict. There are the factors like unsatisfactory performance of institutions, accountability deficiency, fragile rule of law and corruption that eliminate the advantages of aid for African states (Brautigam and Knack, 2004). Aid by stimulating the economic development may slow down the civil war by decreasing the government's dependence on exporting the primary goods[17] (Collier and Hoeffler, 2002). The transitory aid shock would force rebels to break out the agreement when the situation become

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[15] Generally, the case with resource rich countries having the conflict over natural resources.
[16] The donors prefer to provide aid to the post conflict countries, but the country's circumstances at that time that could be worsen because of the dynamics that aid does not and cannot identify.
[17] Exporting the primary commodity is the most possible cause for rebel's finance.

normal. Whenever the anticipated cost of government for contesting with insurgent for eradicating them is greater than whatever the insurgent's offer, the conflict blow up once again (Nielsen et al., 2011).

Positive outcome of aid can be observed only in the well-organized nations (Collier and Dollar, 2004; Burnside and Dollar, 2000; Collier and Dollar, 2001). Chandy (2011) suggests that in order to intensify the efficiency of aid in the tough surroundings of post conflict and unstable state, donors have to center their interferences relative to struggling to look after whole thing. Thus' the donors have to focus on the exact motive of the aid distribution. The achievements of post conflict re-establishment depend on the ability of the country to achieve its primary role particularly resource utilization, law and order, formation of public service and security. Hence' the main concern of donor should base on country's structure. (Linn and Chandy, 2011; Manor, 2007) gives the idea that aid can be operative in the challenging situations, the unstable and post conflict states, when donors adjust their methodologies with the local environment.

2.3.2. RESOURCE RENTS AND CONFLICT

Several studies explored negative influence of rent seeking and corruption on economic growth (knack and Keefer, 2007). Rent seeking behavior becomes harmful for the economy (Ali and Aziz, 2017). Corruption and loss of social cost are the consequences of rent seeking behavior. Lambsdroff (2002) claims that conventional rent seeking theory is ineffective to detect the successful impacts of corruption. Arezkia and Gylfason (2013) by selecting 29 Sub Saharan African countries for the time period of 1985-2007, investigate the relation among resource rent, democracy and corruption. Study shows that resource rents and corruption are positively related and severe case is mostly observed in democratic nations. While, the probability of conflict increases in such nations. Knack (2001) finds that the rent seeking is the possible way by which foreign aid might adversely affect the government quality.

In developing countries, aid and resource rents both have worse impact on domestic taxation. They crowd out domestic taxation (Benedek et al., 2014). Industrialists might decide to prefer rent seeking over normal industrial production, establishing a major alteration of production ability away from manufacturing sector (Torvik, 2002).

2.4. CONCLUSION

The existing literature for conflicts shows contradictory views about conflict onset and its determinants as growing population, high inequality, low per capita income, resource dependence, resource scarcity, decrease in price of export commodity and the resource rents which stimulate the conflicts. Rent seeking is not a beneficial move for the country. Researchers have found positive relation among resource rents and corruption. While, the poor performance of aid in several countries is due to rent seeking behavior. Maximum scholars come to an understanding that ever-growing aid will not benefit any country. Foreign aid is effective in some cases but with diminishing returns.

CHAPTER 3
METHODOLGY AND DATA DESCRIPTION

3.1. INTRODUCTION

The main purpose of the study is to empirically justify the matter of conflicts and resource rent, and other determinants of conflicts with the help of regression analysis for Asia. The selection of time period and countries is based on the data availability. Complete description of variables and data source is reported in table 1. The panel probit technique is used for the panel of 8 developing countries of Asia (Bangladesh, India, Indonesia, Myanmar, Mongolia, Pakistan, Philippines and Sri Lanka). This Chapter will cover the following sub sections: first section will cover discussion on theoretical framework. Second section will explain the model. Third section will provide description and source of the variables used for estimation.

3.2. THEORATICAL FRAMEWORK

Number of authors have noticed that the foreign aid and resource rents have some aspects in common. Yet, they contributed to the nature of windfall gains. Conflicts might become a positive source of alteration when they are managed to attain understanding and collaboration. But if, they are left unnoticed and unsolved, it might shoot up and turn out to be destructive. In such environment, the aid performed vital role to reconstruct the economy but only when there is a reliable political system in the nation. The study attempts to cover the main reasons for the conflict onset which desperately effect the economy for many years. Two types of windfall rents foreign aid and resource rents are the more focused variables of the study. To empirically found the impact of two forms of windfall rents on conflict.

3.2.1. DEPRIVATION THEORY OF CONFICTS

According to Gurr (1971), relative deprivation theory provides the gap between individual wants and what they actually gain[18]. He argues that people become more rebellious when they failed to achieve their expected values and thus' the amount of anger and frustration leads them to extreme depression and pretentions. Intensity of relative deprivation differs strongly in terms of average

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[18] The difference between their expectations and their increasing capabilities.

degree of observed divergence among values capabilities and values expectations. He believes that people are more likely to be rebellion when they lose hope of acquiring their social values, so, the intensity of frustration fluctuates with the severity of depression among groups.

The groups or individuals who feel themselves to be omitted from advantages of natural resources wealth are expected to initiate armed conflict so that they can get their share by force (Oyefusi, 2008). Economic deprivation is the cause of conflicts and aid can be used to manage the conflicts. Where conflict is a dispute among two or more groups when people perceive their identity to be targeted. Conflict can occur in various ways, such as it can be over resources or territories. In states where minorities face economic inequalities, discrimination and unequal distribution of resources such as resource wealth and land, conflict is more likely to occur there. Conflict arises when the dominating groups in the country experiences a prejudicial rights overall economic opportunities leaving all others members of the society deprived from it. The profit of one group is an automatic loss for all others.

The failure of state to meet its citizen's expected values which they consider are rightfully entitled can ultimately lead to confusion among citizens and anger of people toward the state. Social conditions that are responsible for increasing the expectations of people without increasing their skills rise the intensity of dissatisfaction. That dissatisfaction leads to some form of conflicts. The intensity of relative deprivation differs strongly with the degree of difference among value capabilities and value expectation. As greater the gap is, the greater will be the conflict intensity. Relative deprivation theory states that any difference between people's expectation and their skills to achieve those expectations create a gap between the state and the deprived group. The greater the deprivation intensity is greater will be the magnitude of conflict.

3.3. ECONOMETRIC MODEL SPECIFICATION

Following the discussion in preceding chapters, I undertake this section to investigate the impact of foreign aid and resource rents on conflict occurrence. Following is the model for concerned empirical evidence.

$$\text{Conflicts}_{it} = \alpha_0 + \alpha_1 \text{ resource rents}_{it} + \alpha_2 \text{ foreign aid}_{it} + \alpha_3 \text{interaction term} + \alpha_4 \text{ X}_{it} + \epsilon_{it}$$
…eq. (1)

Where resource rent and foreign aid are independent variables here. X indicates a set of control variables comprised of GDP per capita, population, resource depletion, military expenditure and trade openness. i indicate panels (countries here) and t is the time period (measured in years here). The interaction term captures the interaction of democratic accountability and resource rent. Here the effect of right side variables is checked for three types of dependent variable one by one.

3.3.1. PROBIT TEST ESTIMATION FOR THE CONFLICT INTENSITY

This model is constructed to identify the impact of windfall rents on the conflict intensity.

Conflicts (intensity)$_{it}$ = α_0 + α_1 resource rents $_{it}$ + α_2 foreign aid $_{it}$ + $\alpha_3$interaction term + α_4 X $_{it}$ + ϵ $_{it}$ ...eq. (2)

Where the conflict intensity variable is coded as 1, when there are at least 25 death in country due to conflict during one year, otherwise it will be zero.

3.3.2. PROBIT ESTIMATION FOR THE CONFLICT INCOMPATIBILITY

Any country can face numerous conflict simultaneously. So, they are categorized differently in PRIO's data to differentiate among them. There are two categories of conflict incompatibility. One is concerned with the government and other is concerned with the territory. Where the former is related to the political structure[19], while, the latter is related to the territory's status[20]. So, the model is develop to examine the impact of windfall rents on conflict incompatibility.

Conflicts (incompatibility) $_{it}$ = α_0 + α_1 resource rents $_{it}$ + α_2 foreign aid $_{it}$ + $\alpha_3$interaction term + α_4 X $_{it}$ + ϵ $_{it}$ ...eq. (3)

The dummy variable takes the value of "1" if the right side variables has effect on conflict on government level, otherwise it will take the value "0" when independent variables have the impact on territory level.

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[19] The replacement of the central government, or the change of its composition.
[20] The change of the state in control of a certain territory (interstate conflict), secession or autonomy (internal conflict).

3.3.3. PROBIT ESTIMATION FOR THE CONFLICT TYPE

PRIO define four types of conflict such as extra systematic, interstate armed conflict, Internal armed conflict and internationalized internal armed conflict. Whereas, the study take two conflict types of interstate armed conflict and internationalized armed conflict. When there is conflict among two states, then there is interstate conflict. Whereas, the internationalized internal armed conflict arises when there is a conflict among state's government &/or additional resistance group through the involvement from some other country on both or from one side. This model is constructed to check the effect of windfall rents along with a set of control variables on the conflict type.

$$\text{Conflicts (type)}_{it} = \alpha_0 + \alpha_1 \text{ resource rents }_{it} + \alpha_2 \text{ foreign aid }_{it} + \alpha_3 \text{interaction term } + \alpha_4 X_{it} + \epsilon_{it} \quad \text{...eq. (4)}$$

The dummy take value 1 for the interstate armed conflict and 0 for the internationalized internal armed conflict.

3.4. ESTIMATION TECHNIQUE AND DATA DESCRIPTION

To examine the influence of windfall rents on conflict onset by probit regression, the other variables that effect the conflict occurrence are taken as control variable in the model are: GDP per capita, population, resource depletion, military expenditure and trade openness. The panel dataset has been used for selected 8 developing Asian countries in the study for the time period of 1985 to 2016. Economic growth selection is the significant element for deterring armed conflicts. Maximum armed conflicts for the period of 1980's and 1990's occurs in the developing nations. The study of Flamagen et al., (1970) for the period from1800 to 1960 with 65 countries determine that developed states have to face reduced amount of internal conflicts. So that's the reason for including developing countries in the study. The data for conflict is taken from Upsala conflict data project-international peace research institute Oslo (UCDP-PRIO). The data for democracy is taken from International Country Risk Guide (ICRG). The data for GDP per capita, population, resource depletion, natural resources, military expenditure and trade openness is taken from World Development Indicator (WDI).

3.4.1. NATURE OF PANEL DATA

There is a variety of data that are obtainable for empirical study for instance time series data, cross sectional data, pooled data and panel data. The use of panel data is becoming increasingly common in applied work. The central differentiating aspect of panel dataset was detected by Baunn (2006) and contains several observations for the same element over time. Hence dataset of study falls in the type of panel data, as it has information of countries over time. Operating panel dataset has numerous advantages along with shortcomings. First one is that by rising the data volume, Hsiao (2003) detect panel dataset to permits for more degree of freedom and decrease the collinearity between the independent variables. So, the additional data facts are particularly advantageous for the conflict onset as conflict occurrence is occasional and the cross sectional data deprived of time measurement deliver insufficient conflict onset events. Moreover, the amplified degree of freedom permits an individual to take in more independent variables, these merged with the condensed collinearity could provide motivation to improve confidence interval in the estimation model (Hsiao, 2003).

Second point is that, the panel dataset permits to fix the heterogeneity problem (Baltagi, 2008). So, anyone may fit in the model statement that the elements in the analysis are not identical because of some unnoticed structure of the stated units. As panel dataset covers the information not only of individual elements but also on the time so, one is able enough to explain the impact of some variable exclusion by altering the estimation techniques. Explanatory variable exclusion may have considerable impacts on the model estimation, the worst situation occurs when it leads to a model that does not express the phenomena of study. Whereas, the panel dataset eliminate this issue to some extent.

Thirdly, panel dataset is more appropriate to study the alteration dynamics (Baltagi, 2008). So, it permits the researchers to inspect the unit changes over the time period, and in what ways this will influence the concerned consequences. As panel dataset allows to examine the dynamics, so it provides automatic implication in the social sciences.

Lastly, the panel dataset allows for estimation of more accurate and complicated models, as compare to other types of estimation technique (Baltagi, 2008). Hence the social science studies are mostly criticized because of too impractical and unsophisticated. Thus, panel dataset using a proper statistical model appears to be appropriate for dealing such critique.

3.4.2. NATURE OF ESTIMATION TECHNIQUE

In the data there are some variables which does not include quantitative numbers but, they have some qualities or attributes to express them. To incorporate such qualitative variables in empirical studies, these variables are represented by the numerical numbers called dummy variable. A dummy variable is not an actual variable but sometimes we construct to define qualities or categories. Dummy variable can be on both sides i.e. either on independent side or on dependent side (Gujarati, 2009).Whenever the nature of variable changes, means that if dummy variable appears to be on dependent side, it also changes the estimation technique, but if the dummy variable is on independent side it does not matter. There are four distinct possibilities for dependent dummy variable; binary dummy[21], ordinal dummy[22], nominal dummy and count dummy[23]. Techniques of estimation involved with dummy variables include ordered logit, logit, and multinomial logit and Poisson techniques. In case of binary dependent variable logit/probit is used, for ordinal dummy ordered logit has been used, if it is nominal dummy then multinomial logit and in case of count dummy Poisson model is used (Baltagi, 2008).

As the study is concerned with the binary dummy, the suitable method for dummy dependent variables are linear probability model, logit model and probit model. However, linear probability model contains few issues because of which it is no longer used for estimation. One of the problem is of difference in distribution of error terms and dummy; as dummy variable follow binary distribution whereas, error follows normal distribution. The problem arises when t-statistic or F-statistic is used because underlying assumption of these tests is normality and if normality is violated the value do not match with the tabulated t or F values. In large samples, the problem of difference in distribution does not matter much, so' linear probability model can be solved using robust regression. Next problem is that due to binary dummy R^2 becomes invalid because either the values are at level 1 or zero which means R^2 will either be 1 or 0. Another problem is the problem of interpretation. By estimating dummy variables there occur positive and negative values in the series of estimated dummy. Where positive values may be interpreted correctly but negative values cannot be interpreted as the limit ranges from 0 to 1, less than zero does not refers to

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[21] Which have only two choices such as 0 or 1.
[22] In which there is some logical ordering such as do not agree, agree and strongly agree etc.
[23] In nominal dummy there is no logical ordering but there are different choices available for different instances. While, in count dummy data cannot be expressed in the ratio format like some discrete number.

anything. This is the only problem that cannot be addressed in a probability model and it is known as the problem of bounded-ness. Problem of bounded-ness can be solved by logit model. A logit function is given by ln D / (1-D) and the expression D / (1-D) is called the odd-ratio. Since a dummy variable can assume two values, so "D" can either be 1 or 0. In case D = 0 we have ln (0) = ∞ and if, D = 1 then we have ln (∞) = -∞. So, now, the limits have been increased from "0 and 1" to "-∞ and +∞". The problem mentioned before that the values are getting outside the limits of 0 and 1 is now solved as values are now staying inside bounds.

Probit model is also used for the dependent dummy variable. The difference between logit and probit model is that logit model comes from logistic distribution and probit model comes from probability or normal distribution. Technical explanation for choice between use of logit and probit model is that for large sample probit is used otherwise logit model is used. The coefficients of logit model are a tiny bit smaller from the coefficients of the probit model and that is the only difference between them. There is no difference in the marginal effects of both models but just the odd-ratio. Since properties of logit model are dependent upon small sample and properties of probit model are dependent upon large sample so if our sample is of good size then results from logit model converge to results from probit model. Here large sample size does not mean we have large number of observation but the span we cover (Chamberlin, 1984).

3.4.3. CONSTRUCTION OF VARIABLES

The definition of Variables, their expected signs and data sources are presented in table 3.1.

Table No. 3.1. Variable Specification

Variables	Variable Nature	Definition	Data Source	Sign
Conflict	Dependent variable	Dummy variable with values 1 for conflict onset and 0 otherwise.	UCDP-PRIO	_
Resource rent	Independent variable	Total natural resources rents (% of GDP)	WDI	Positive
Aid	Independent variable	Net official development assistance and official aid received (current US$)	WDI	Negative
Democratic accountability*resource rent (interaction term)	Independent variable	Product of resource rent and democratic accountability for each panel	Author's calculation	Negative
GDP per capita	Control variable	GDP per capita (current international $)	WDI	Negative
Population	Control variable	Population, total	WDI	Positive
Resource Depletion	Control variable	natural resources depletion (% of GNI)	WDI	Positive
Natural Resource	Control variable	Agriculture, forestry, and fishing, value added (% of GDP)	WDI	Positive
Military Expenditure	Control variable	Military expenditure (current USD)	WDI	Negative
Trade openness	Control variable	Import plus export as a percentage of GDP.	WDI	Negative

3.4.4. VARIABLES DESCRIPTION

i. Conflicts

Resource conflicts are caused due to inadequate as well as with abundant resources. The organized exploitation of natural resources to attain profit from resources ending with severe violation of law and human rights. Lujala (2010) states that conflict tendency raises due to natural resources by two ways, those which directly influence the rebel activities and other that affect the government. The data for conflict has been taken from Upsala conflict data project-international

peace research institute, Oslo (UCDP-PRIO)[24]. The PRIO databank is crystal clear in its construction as compare to the COW data as it account the conflicts using 25 battle related deaths as a threshold, hence counting additional minor conflicts in the study. There are certain limitations in PRIO data that it does not contain the statistics of sub-country or data at monthly level. Moreover, it does not arrange for the precise number of conflict related deaths limiting certain features of the quantitative study.

ii. Resource Rents

The sum of natural resources rent such as mineral rents, oil rents, coal rents, natural gas rents is total natural resource rents. Study of Arezkia and Gylfason (2013) shows that resource rents and level of corruption are positively related and observed severe impacts for democratic nations. While, the probability of conflicts has been increased in such nations. The total resource rents for a country is taken as percentage of GDP. The data source is world development indicator.

iii. Foreign Aid

Foreign aid is the amount of money that developed countries willingly transfer to developing countries in the form of gift, donation or loan. De Ree and Nillesen (2009) found the negative association among aid and civil war duration. The data indicate net official assistance and official aid received in current US $. Source of data is world development indicator.

iv. Interaction Term (democratic Accountability*resource rent)

The democratic accountability reflect the accountability of the government to its public on the basis of government type[25]. The ICRG data consider 6 points where the lowest point is inclined towards autocracies and the higher point indicates the democracy. Several studies had used the interaction of resource rent with democracy on corruption (Arezki and Bruckner, 2009; Bhattacharyya and Hodler, 2009; Mehlum et al, 2006; Arezki and Gylfason, 2011).

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[24] "A contested incompatibility which concerns government and/or territory where the use of armed force between two parties, of which at deaths."

[25] Five types of governance reflect the existence of free and fair elections, a legitimate political party system, government terms limits, a balance of power, political competition and personal liberties.

v. Control Variables

Conflict literature proves that there are many other factors than resource rents and foreign aid which can affect conflicts. But here our focused variables are windfall rents, so we use control variable in order to avoid the mix up with the focused independent variables. The control variables used in the regression are:

a. GDP per Capita

The data has been take from WDI. GDP per capita is obtained by dividing the country's gross product by its population. It is the finest practice for measuring country's life pattern. It is measured in US dollar. Conflict theory of Collier and Hoeffler (1998) state that the conflict prolong where per capita GDP is lower.

b. Population

Population is total figure of individuals residing in a country. The data of population in WDI is constructed on the basis of actual definition of population and it counts all inhabitants of the country without considering their citizenship and social status. Increasing population increases the demand of the economy for inadequate resources. So, the major cause of resource conflict is growing population (Collier and Hoeffler, 1998; Ayling and Kelly, 1997). World development indicator is the source of data extraction.

c. Resource depletion

Quicker consumption of resources than they can be recovered is consider as resource depletion. It is used as proxy for resource scarcity. Literature review of several studies found resource scarcities to be the fundamental reason for conflict. The empirical study of Maxwell and Reuveny (2000) found frequent cycles of peace and conflict because of renewable scarcity. The data is presented in US dollar. The data has been taken from world development indicator.

d. Military Expenditure

The military expenditure is indicated in current US dollar. The data for military expenditure consists of all types of present and capital expenses on the army[26]. These expenses contain country's expenditure on the military and civil workforce[27]. The data has been taken from WDI. De Ree and Nillesen (2009) found the skills of government to rise the military expenditure from other source through which aid preclude the conflict[28].

e. Trade Openness

The data for trade openness is taken as import[29] plus export[30] as a percentage of GDP. Solomon (1980) states that the mutual dependence of two trading partners increase the cost of conflict for both countries.

3.5. METHODOLOGY

By using a dichotomous variable and panel data, panel probit estimation technique is productive here. If the independent variables have any effect on the dependent variables then the value of dependent variable is 1 otherwise it will be zero. According to (Xie and Powers, 2008; Lemeshow and Hosmer, 2000) the general regression techniques become inappropriate while discussing the dummy variable. Thus, distinct regression methodologies are necessary for estimation of dummy as dependent variable. Probit regression is amongst the more sophisticated and extensively used methodology for model estimation with dichotomous dependent variable (Freese and Long, 2006).

The overview of probit regression is discussed in the start of the chapter. The performance of probit estimation model is represented by a discussion on the advantages and disadvantages related to applying panel data when reviewing civil conflict occurrence. Since the study purpose

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[26] Including peacekeeping forces; defense ministries and other government agencies engaged in defense projects; paramilitary forces, if these are judged to be trained and equipped for military operations; and military space activities.
[27] Including retirement pensions of military personnel and social services for personnel; operation and maintenance; procurement; military research and development; and military aid (in the military expenditures of the donor country).
[28] The assumption for aid in such studies is that aid is distributed evenly and it is definite
[29] Imports of goods and services represent the value of all goods and other market services received from the rest of the world.
[30] Exports of goods and services represent the value of all goods and other market services provided to the rest of the world.

is if and how the windfall rents influence the conflict occurrence by using quantitative analysis. Lameshow and Hosmer (2000) investigates a reason behind discrimination among probit regression and linear regression with continuous dependent. In the quantitative literature of conflict onset, the probit regression is the most widely used technique. The significance of windfall rents and inspecting mechanism has been argued in the preceding chapters. This chapter concentrate by what means it can be done using available quantitative techniques.

3.6. DESCRIPTIVE STATISTICS OF VARIABLES

Table 3.2. Summarizes the statistic description of the main variables for 8 developing Asian countries during 1985 to 2016. The mean shows the central or average values in the data. The average for the variables GDP per capita, population, resource rent, resource depletion, foreign aid, military expenditure, trade openness are 3.0907, 7.8008, 0.5661, 0.0539, 8.8318, 11.1581, 1.6745 respectively. Standard deviation of the data represent how much data is scattered from its central value. The greater the standard deviation is the more scattered it will be from the central value. While, the smallest values of standard deviation indicate that they are not far from the central values of the data. The data of the variables GDP per capita, population, resource rent, resource depletion, foreign aid, natural resources, military expenditures, trade openness are scattered by 0.0328, 0.0333, 0.0533, 0.0652, 0.0265, 0.1185, 0.0111 standard units from their mean values. The column 3 renamed as minimum represent the minimum values of the data for stated variables whereas column 4 indicate maximum values of the variables.

Table No. 3.1. Descriptive Statistics of Variables

Variables	Mean	Standard Deviation	Minimum	Maximum	Observations
GDP per capita	3.1612	0.0384	2.0489	4.5768	256
Population	7.8422	0.0404	6.6266	9.1221	256
Resource rent	0.5433	0.0645	-3.1006	1.7867	256
Resource depletion	0.0746	0.0741	-1.8425	4.5199	256
Foreign aid	8.82611	0.0319	7.0581	9.6099	256
Military expenditure	11.2071	0.1466	1.5353	14.5781	256
Trade openness	1.6704	0.0741	-1.8425	4.5199	256

Note: The log of values is taken for the variables GDP per capita, population, resource depletion, foreign aid and military expenditure.

The variables resource rent and trade openness are taken as percentage of GDP.

CHAPTER 4

ESTIMATION AND DISCUSSION OF REULTS

4.1. INTRODUCTION

Empirical findings for the impact of windfall rents and other control variables on the conflict occurrence are included in this chapter.

4.2. ESTIMATION RESULTS

The effect of the focused variables and control variable is checked for three strategies of conflict one by one. These strategies involve first the conflict intensity, incompatibility and the type of conflict. Five models are estimated for each strategy by including various control variables. The significance and relationship of the explanatory variables are described in next section.

4.2.1. WINDFALL RENTS AND CONFLICT INTENSITY

The influence of explanatory variables have been checked for conflict intensity and their results are presented in table 4.1. Here the model 1 is constructed to check the influence of resource rent and foreign aid on conflict by using population and GDP per capita as control variables. Model 1 depicts significant and positive impact of resource rent on the conflict. The value of coefficient shows that as resource rent increase by 1%, the conflict intensity will increase by 40%. This positive association is in line with Arezki and Gylfason (2013). Foreign aid shows a negative and significant impact on conflict. The reason behind negative sign of aid is a potential concern that foreign aid will boost the economic development and when there is economic growth then there is no reason left behind to raise conflict. Ree and Nillisen (2009) found negative impact of foreign aid on the possibility of civil war duration. They have not found substantial association among aid and civil war onset. The coefficient is significant at 5% level of significance and its value shows that when foreign aid increase by 1%, conflict intensity will increase by 48%. Decreasing returns to aid is the reason that it effects growth differently in different countries (Dalgaard and Hansen, 2001; Lensink and White, 2001; Hansen and Tarp, 2001). Population and GDP per capita shows the significant negative relationship with conflict intensity. Where population is significant at 5% level of significance with a positive sign and GDP is significant at 1% level of significance. Positive relationship of population with conflict intensity is line with Ayling and Kelly (1997). As

the demand increases from the economy side and there are inadequate resources to fulfill the required demand then conflict would emerge. An essential requirements for realistic techniques are required so that conflicts can be recognized and solved.

Resource depletion is included as a control variable in model 2 to check its influence on the dependent variable. Foreign aid shows negative but insignificant impact on dependent variable, while, resource rents shows the same significant effect on conflict at 5% level of significance. Now, coefficient indicate that as resource rents increase by 1%, conflict intensity increase by 48%. Population and GDP are now showing insignificant relationship with dependent variable. The value of coefficient shows its significant impact with 10% level of significance. 1% increase resource depletion will cause 15% increase in the dependent variable. Foreign aid, population and GDP per capita indicate insignificant association while the resource rent shows significant relationship with dependent variable at 10% level of significance. Overall, this model show that resource depletion is the most influential variable for conflict intensity.

Model 3 is developed to check the influence of resource rent in the presence of democratic accountability. Interaction term of resource rent and democratic accountability is constructed here. The interaction term appears to be significant at 10% level of significance and it is negatively associated with conflict intensity. The value of its coefficient shows that increase of 1% in the value will cause a decrease of 18% in the dependent variable. Arezkia and Gylfason (2013) by selecting 29 Sub Saharan African nations for the time period of 1985-2007, investigated the relation among resource rent, democracy and corruption. Resource depletion and resource rent shows positive a significant impact on the dependent variable.

The impact of military expenditure on conflict intensity is checked in model 4. The results indicate significant effect of military expenditure on conflict intensity at 10% level of significance. The coefficient signifies that increase in military expenditure by 1% cause 19% decrease in the dependent variable. The reason for this negative sign is that through higher military expenditure the government is able to be successful to discourage the rebels. This finding is similar to Chauvet and Arcand (2001). All other variables shows same signs as they were in the previous models, but here they are showing insignificant relationship with dependent variable except resource rents.

Trade openness plays a vital role in countries for their economic development for trading partners. To detect its impact on the conflict intensity, it is included in model 5 along with resource rent, foreign aid and all of other control variables. The negative effect of trade openness on conflict

intensity is identical to the findings of Solomon (1980). The variable is significant at 1% level of significance. Solomon (1980) explains the probability of inverse relationship among trade and conflict by a microeconomic theory of comparative advantage. Theory states that economies take full advantage of their material ability for their wellbeing. The dissimilarities in resource and capital endowments is the reason that each country specialize in the goods manufacturing in which it has comparative advantage than their trading partner and trade emerge for goods which are produced with higher domestic cost and less efficiently. Due to the mutual reliance of the trading partners cost of conflict is high for both. Highest levels of trading is found to be related with minimum size of violence. Higher volume of trade is associated with greater conflict price hence, economies with maximum trade have minimum conflicts keeping other variables constant. Whereas, the findings of Nadikumana (2015) support the negative association of foreign aid with dependent variable. Study depicts that the international development aid perform a supporting role for the post conflict country by reporting their organizational limitations and it will confine or slightly reduce the possibility of further conflict. Military expenditure, foreign aid and interaction term are negatively related with conflict intensity, where, military expenditure and interaction term is significant at 1% level of significance and foreign aid is significant at 5% level of significance. These variables shows that 1% increase of foreign aid, interaction term and military expenditure decrease conflict intensity by 49%, 11% and 24% respectively.

Table No. 4.1. Probit Regression Results for Conflict Intensity

Dependent variable	Conflict intensity				
Variables	**Model 1**	**Model 2**	**Model 3**	**Model 4**	**Model 5**
Foreign aid	-0.4855** (0.2435)	-0.4723 (0.2471)	-0.3191 (0.2380)	-0.3842 (0.2391)	-0.4922** (0.2361)
Resource rent	0.5039** (0.2236)	0.4855** (0.2276)	0.5090** (0.2397)	0.5241** (0.2428)	0.5866** (0.2446)
Population	0.4038** (0.2629)	0.1070 (0.2782)	0.1884 (0.2380)	0.2816 (0.2719)	0.0583 (0.2321)
GDP per capita	-0.9365*** (0.2476)	-0.3055 (0.4125)	-0.7291*** (0.2461)	-0.1870 (0.3958)	-0.2642 (0.2448)
Resource depletion		0.1543* (0.0832)	0.1449*** (0.0840)	0.1285 (0.0832)	0.1856** (0.0847)
interaction			-0.1827* (0.0987)	-0.1583 (0.1103)	-0.1146*** (0.0343)
Military expenditure				-0.1917*** (0.0646)	-0.2433*** (0.0579)
Trade openness					-1.7916*** (0.5774)

Note: parenthesis represent the values of standard error. *** 1% level of significance, **5% level of significance and * 10% level of significance.

4.2.2. WINDFALL RENTS AND CONFLICT INCOMPATIBILITY

PRIO describe two categories of conflict incompatibility. One is concerned with the government and other is concerned with the territory. Where the former is related to the political structure while, the latter is related to the territory's status. The dummy will take value 1 if the right side variables has effect on conflict occurrence, otherwise it will take value 0 for the territory. Empirical findings are presented in table 4.2.

Table No. 4.2. Probit Regression Results for Conflict Incompatibility

Dependent variable	Conflict Incompatibility				
Variables	Model 1	Model 2	Model 3	Model 4	Model 5
Foreign aid	-0.4202	-0.2935	-0.1340	-0.0717	-0.3141
	(0.3206)	(0.3364)	(0.3363)	(0.3323)	(0.3389)
Resource rent	-0.2311	0.7822**	0.7922**	0.5919*	0.7357**
	(0.2338)	(0.3473)	(0.3352)	(0.3022)	(0.3356)
Population	-1.0569**	-0.3148	-0.1709	-0.0361	-0.4633
	(0.5162)	(0.6800)	(0.7086)	(0.7359)	(0.6933)
GDP per capita	-0.6885**	-0.0243	0.2349	0.5413	0.1931
	(0.3353)	(0.4955)	(0.4552)	(0.4660)	(0.4750)
Resource depletion		0.2490**	0.3205***	0.2289***	0.2342**
		(0.1035)	(0.0964)	(0.0931)	(0.1053)
Interaction term			-0.2646**	-0.2684**	-0.1334***
			(0.1173)	(0.1168)	(0.0478)
Military expenditure				-0.2962***	-0.2521**
				(0.1008)	(0.1010)
Trade openness					-1.5103**
					(0.8236)

Note: parenthesis represent the values of standard error.

*** 1% level of significance, **5% level of significance and * 10% level of significance.

In model 1, Foreign aid and resource rent both shows insignificant but negative relationship with incompatibility which indicate that these variables cause the conflict at territory level. Researchers identify that resource and fund distribution to the conflicted zone may increase the possibility of conflict. (Sollenberg, 2012; Murshed and Gates, 2005; Collier and Hoeffler, 2007). However, the control variables represent the significant relationship with dependent variable. Population and GDP per capita are negatively related with incompatibility. Higher level of GDP per capita indicate higher level of external chances, influencing the possible rebels' size and policy related grievances negatively (Miguel et al, 2004). Population growth is anticipated to increase with technical corrections and fixed land space (particularly in Asia and Africa). If such population growth is established to associate with conflict then there is expectations for disputes rising conflicts in such regions as proposed by Dixon (1991) that growing population intensify scarcity

conflict of water and agrarian land could break out conflict among Syria and Turkey. Such predictions recommend either to work on resource scarcity or to bound increased population.

The findings of model 2 represent that resource depletion and resource rent have significant positive effect on the dependent variable, where, 1% increase in resource rent cause 78% increase in the dependent variable, while, 1% increase in resource depletion cause 24% increase in the dependent variable. The study of Lujala (2010) supports our conclusion that conflicts are 2.5 times higher in such situations. The empirical study of Maxwell and Reuveny (2000) suggest the finding of current study that frequent cycles of peace and conflict to be observed because of renewable scarcity. Growing environmental scarcity, when one or more of these dynamics create environmental scarcity then there occur number of outcomes leading to internal armed conflicts. Sekeris (2014) depicts that conflict rises in the countries where resource become scarce and they are not enough for the need of country's people.

When interaction term is injected in model 3. It represents negative and significant effect on conflict incompatibility at 5% level of significance. It indicates that when democratic accountability increase by 1% then it decrease conflict at government level by 26%. The coefficient of resource depletion identify that when there is 15% increase in resource depletion , there is 32% probability that it will increase conflict at government level. The variable is significant at 1% level of significance. Foreign aid shows insignificant but positive relationship with the dependent variable. The World Bank (2011) reports' consider the international aid to have emphasis on the reconstruction relative to the conflict deterrence. The foreign assistance for post-conflict countries significantly go beyond then the aid for fragile countries, so that the conflict countries may avoid further conflict events. Resource rent is significant at 5% level of significance. Its coefficient value shows that 1% increase in resource rent produce 79% increase in conflict at government level.

Military expenditure is included in model 4 to check its effect on the dependent variable. Here, military expenditure indicate significant and negative impact on the dependent variable which can be interpreted that due to 1% increase in trade the conflict at government level will be decrease by 29%. Murshed and Mamoon (2010) studied the effect of democracy, globalization and reduced military among Pakistan and India, in order to check their impact on conflict and proposed that military expenditure of India has discouraging influence for conflict while military expenses of Pakistan are conflict encouraging. Such results does not mean that Pakistan is the major player

that initiate regional conflict among both countries. However, there are many other national and global issues to which India direct its defense expenditure. Total military spending is at the peak in both countries, averting limited resources away from growth expenses, for instance, lessening poverty and on education progress. Model 4 depicts that military expenditure has significant negative effect on conflict at government level. This conclusion is supported by the study of Collier (2009) that aid supported about 40% military expenses of Africa. Similarly, (Chauvet and Arcand, 2001) found that through better military quality, the government is able to be successful in discouraging the conflict. Other indication of model 4 is that interaction term have negative and significant impact on the dependent variable which is significant at 5% level of significance. It shows that 1% increase in democratic accountability cause 26% decrease in conflict at government level. Here, resource rent and resource depletion both are significant and positive at 10% and 1% level of significance respectively. The coefficient of resource rent specify that by using military expenditure as control variable, it will increase conflict at government level by 59%. 1% rise in resource depletion increases conflict by 22% at government level.

Model 5 includes trade openness to check its impact on the conflict at government or at territory level. Here negative association of trade openness with dependent variable can be justified with comparative theory. Consumers prefer to protect their supply so trade in consumer commodities is the reason of collaboration of dyads (Domke, 1988). Polachek (1980) indicates that conflicts has been influenced by trade of strategic goods. Particularly, trade in heavy productions, oil, mineral deposits and raw material are most sensitive reasons for causing cooperation (Polachek, 1992; Polachek, 1980). While some other researchers (Tyson, 1992; Sen, 1984; Sayrs, 1989) state that trade in such goods encourage conflict. As trading countries have competition on limited resources and restricted markets, so, mutual political conflict has intensified by trade (Lenin, 1916). Angell (1911) briefly states that economies involve in trade would be peaceful as they are not willing to experience possible decline in trade because of conflict. Here interaction term indicate negative and significant impact on the dependent variable. The value of coefficients shows that 1% increase in resource rent with democratic accountability will result in 13% decrease in conflict at government level.

4.2.3. WINDFALL RENTS AND CONFLICT TYPE

PRIO define four types of conflict extra systematic, interstate armed conflict, Internal armed conflict and internationalized internal armed conflict. Whereas, the study take two conflict types of interstate armed conflict and internationalized armed conflict. When there is conflict among two states then there is interstate conflict. Whereas, the internationalized internal armed conflict rises when there is a conflict among state's government &/or additional resistance group through the involvement from some other country on both or from one side. The dichotomous variable takes value "1" for the interstate armed conflict and "0" for the internationalized armed conflict. Table 4.3.

The findings of the first model depicts that aid and GDP per capita are significantly related with conflict type indicating that they both have effect on the conflict type. Where foreign aid is negatively and GDP per capita is positively related with dependent variable at 5% and 1% level of significance respectively. Collier and Hoeffler (2004) justify this association through the channel of low opportunity cost of war for the deprived people of poor countries. If a state has needy citizens then they do not tolerate the expenses to fight, as they can hardly feed themselves. De Ree and Nillesen (2009) found the skills of government to rise the military expenditure to be the source through which the aid preclude the conflict. Consequently, preventing the rebels as well[31]. Coefficients specify that increase in 1% of foreign aid and GDP per capita decrease dependent variable by 88% and 59% respectively. The insignificant relationship of the resource rent and population indicate that they have nothing to do with the interstate or internationalized conflict.

In model 2, resource depletion is included in model to check how it will affect the conflict type. Here, resource depletion also become the significant reason for effecting the conflict type. Wolf (2005) state that global resource conflict possibly rise when resource scarcity and inadequate institutional quality occur. Conflict take place in regions where resource control is not well defined and where political instability discouraged the institutional rules. Koubi et al., (2014) studied the theory of relating natural resources (both renewable and non-renewable) scarcity to the initiation of intrastate and interstate conflict and investigated that renewable natural resources leads to conflict through scarcity. While, the non-renewable resources are associated through resource abundance to the conflicts. These two findings oppose to the scarcity idea. The impact of exogenous variation of increasing natural resources on civil conflict was empirically tested (Fetzer

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[31] The assumption for aid in such studies is that aid is distributed evenly and it is definite.

and Kyburz, 2017) and noticed that authorized natural resource rents stimulate civil conflicts among political groups and army. The coefficient of resource depletion is significant at 10% level of significance. 1% increase in resource depletion increase the probability of dependent variable by 19%.

Table No. 4.2. Probit Regression Result for Conflict Type

Dependent variable	Conflict Type				
Variables	Model 1	Model 2	Model 3	Model 4	Model 5
Foreign aid	-0.8824** (0.4027)	-0.9516*** (0.3545)	-0.7121** (0.3547)	-0.7968** (0.3430)	-0.9340*** (0.4004)
Resource rent	0.1692 (0.2769)	0.2352 (0.2446)	0.3298 (0.2373)	0.1311 (0.2338)	0.1173 (0.1918)
Population	0.2966 (0.3674)	0.0621 (0.3173)	-0.0119 (0.3782)	0.2622 (0.3437)	-0.0024 (0.4387)
GDP per capita	0.5990* (0.3229)	1.0987** (0.4516)	0.5700* (0.3261)	1.2880*** (0.4628)	-0.1295 (0.4062)
Resource depletion		0.1977* (0.1032)	0.1794*** (0.1014)	0.1677 (0.1041)	0.1941** (0.1086)
Interaction term			-0.0170 (0.0117)	-0.0101 (0.0104)	-0.0208* (0.0115)
Military expenditure				0.2301*** (0.0664)	0.2104*** (0.0753)
Trade openness					-2.9239*** (0.8065)

Note: parenthesis represent the values of standard error. *** 1% level of significance, **5% level of significance and * 10% level of significance.

Interaction term is included in model 3 and it shows negative relation with dependent variable. This is similar to the findings of Svensson (1998) who found that the association among foreign aid and rent-seeking is effected by the administrative structure. The aid distribution sometime has to pass by the capital and government entirely (Powell et al., 2011; Addison et al., 2002). Consequently, aid distribution has a vital role for the aggressive groups to be involve in robbing (Collier and Hoeffler, 2002). The association of democracies and civil violence is of the view that the democratic states experience low level of violent conflict as compare to autocracies

(Rummel, 1995). In this model foreign aid indicate negative effect. The studies of Svensson (1999) supports our conclusion that foreign aid have progressive effects for democratic nations while for the autocratic nations aid is usually disappeared into non-productive activities.

Model 4 is constructed to identify the role of military expenditure on conflict type. Military expenditure is statistically significant at 1% level of significance and it shows positive relationship with conflict type. The reason behind positive sign can be justified with the view of Collier et al (2003), who depicts that military spending rises during the conflict time period. Generally, throughout the peacetime the military spending of GDP is around 2.8%, while, this spending has been raised to 5% during the civil war, indicating that other sector of the country strive during the war time. Collier et al., (2003) found positive association among military spending and conflict time period. Population, resource depletion and resource rent specify positive but insignificant effect on the dependent variable. Foreign aid shows significant negative effect on the dependent variable. Foreign aid shows it significance at 5% level of significance.

In model 5, trade openness is included to identify how it will effect dependent variable. It shows significant negative effect on the dependent variable. It can be justified with the comparative theory of trade as found by Solomon (1980) that higher size of trade is related with greater conflict price. Thus' economies with maximum trade have minimum conflicts keeping other variables constant. Negative association of trade openness is identical to Reuveny and Kang (1998) who found interdependent relation in conflict and trade. Organizations of the state is the reasons for altering the association of conflict and trade (Polachek and Gasiorowski, 1982).

CHAPTER 5
CONCLUSION AND POLICY RECOMMENDATIONS

5.1. CONCLUSION

It is a general observation that countries with abundant natural resources go down on a path of underdevelopment, corruption and conflict. So, natural resource curse signifies hurdles in the way of development. However, it is vital to understand that, it is not the resource rents that create difficulties rather, lack of institutional quality is the reason for underdevelopment and conflict. Foreign aid is given to the countries with low GDP per capita while reserves of rare and valuable natural resources are randomly distributed over the earth. The study aims to inspect the windfall rents influence on the conflict occurrence for selected developing Asian countries. First the study emphasis on the history of the nexus among the explained and explanatory variables and possible determinants of the dependent variable. Theoretical framework explains the structure of association of windfall rents and other control variables to support the stated purpose of the study.

As there is a panel of Asian countries and conflict is dichotomous variable. So, panel probit regression is used. The effect of the focused variables and control variable is checked for three strategies of conflict one by one. Five models are estimated for each strategy by including various control variables. The panel probit results considered that both windfall rents foreign aid and resource rent significantly affect the conflict onset. The empirical results indicates that resource rent is positively associated with conflict. While, foreign aid is negatively effecting the dependent variable. It means that increase in resource rent significantly increase conflict. Whereas, The interaction effect of resource rent and democratic accountability negatively affect the conflict, which means that by improving democratic institutions, corruption can be reduced and thus' the conflicts. Negative association of aid and conflict implies aid as an influential variable in order to reduce the probability of civilian conflict. The analysis of trade openness illustrate its effectiveness for avoiding conflicts. This give support to the policy of more trade openness. The negative effect of military expenditure on conflict shows that the better military quality enables the government to be successful in discouraging conflicts. Positive relationship of resource depletion and conflict illustrates that conflict is most likely to occur, where resources are not enough to meet the requirements of its inhabitants.

5.2. POLICY RECOMMENDATIONS

The policy implication for study is that donors who intended to support a country for development, should emphasis on those countries that limit unnecessary rent-seeking behavior. In the long run around 15 to 29 years, the consequences of war eliminated for the conqueror and failure. The instance of Germany and Japan represented the post war recoveries (Barro and Sala-i-Martin, 1995). Yet' there are requirements for reconstruction and development for the conflicted economies. Institutions are required that can prevent large flows of aid money into the hands and onto the accounts of rent seekers. For the reduction of upcoming conflict, foreign assistance is regarded as an essential instrument for politicians and aid organization. The reduced conflict probability not only eliminate the economic and social issues caused by conflict but it influences the economic development positively. But, when the foreign aid is given in a huge amount or when the donors selected the countries where the productive sector has been taxed in the huge amounts then the foreign aid is anticipated to be less productive.

It cannot be denied that natural resources are misused instead of arranging them to be used for some productive investment. Some developing countries with abundant resources (like Nigeria, Angola and DRC) might be the most developed countries of the Earth if there resources are managed correctly. Government should emphasis on the improvement of the resource rent, so that it can be used for the progress of the state. The essential objective in this regard is rents of the renewable and non-renewable resources be devoted to the productive sector of the economy that might substitute the earnings and employment of resource based industries when they are deteriorated. Along these line, resource exploitation could be turned into stable economy. As it generate long lasting income source.

The design of foreign aid and their projects should be created in such a way that they are specific to the circumstances of resource rich developing countries and the governments should use their resources productively without causing the risks for rent-seeking activities.

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