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The Impact of Official Development Assistance on Conflict in Afghanistan

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Abstract:

The success of development assistance is critical for various reasons including global and regional stability and the resolution of civil conflict. While international aid is recognized for its importance, scholars debate the effectiveness of aid efforts. This research extends and tests economic theories on the relationship between conflict and price shocks to labor-intensive and capital-intensive goods to see if these theories similarly apply to development aid. This is conducted through a quantitative analysis on official development assistance (ODA) in Afghanistan. Results indicate that the economic theories hold true for the application of aid. At a macro-level, aid towards labor-intensive sectors significantly decreased both conflict intensity and incidence. Although aid towards capital-intensive sectors only had a significant effect for conflict incidence six years after the aid was dispersed, aid towards-capital-intensive sectors still had a positive relationship with conflict. This indicates that future aid may want to focus on shoring up labor-intensive sectors as opposed to capital-intensive sectors.

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Introduction

The success of official development assistance (ODA) is critical for various reasons including global and regional stability, the resolution of civil conflict, and sustainable humanitarian relief. Indeed, post-World War II, over half of all countries have been involved in civil conflicts, which has created devastation including over 16 million deaths, fewer education opportunities, lower levels of economic growth, and adverse health outcomes (Crost et al. 2016; Blattman and Miguel 2010; Mansour and Rees 2012). While international aid to ameliorate and improve these conditions is recognized as being critical for human and economic development, scholars debate the effectiveness of aid efforts (Burnside and Dollar 2000; Cheng and Zhang 2008; Crost et al. 2016; Hansen and Tarp 2001; Jakupec and Makuwira 2020; Tierney et al. 2011). Despite a number of development projects in the Middle East, the outcomes have been largely negative (Cordesman 2020; Giustozzi 2004; Suhrke 2007). Overall, there is limited understanding regarding the extent to which specific types of ODA result in positive development outcomes.

My research focuses on whether the type of ODA has a differential impact on conflict. I conduct a quantitative analysis on ODA in Afghanistan using datasets from the Organization for Economic Cooperation and Development (OECD) for the 2002-2019 time period and analyze the differential effects of various forms of ODA on the outcome of armed conflict. Specifically, I extend and test economic theories on the relationship between conflict and price shocks to labor-intensive and capital-intensive goods to see if these theories similarly apply to development aid.

This paper will proceed as follows: (1) a brief literature review highlighting some of the drivers of conflict, the existing research on aid efficacy, and situating aid disbursement within the context of Afghanistan; (2) the theoretical framing of my argument; (3) a description of the

methodology utilized; (4) results obtained through the analysis of the data and a discussion of the findings; and (5) the conclusion and policy recommendations.

Official Development Assistance in Afghanistan

This section begins with an examination of research findings regarding the overall efficacy of ODA, then looks at the specific context of Afghanistan and the usage of ODA within the country, and finally discusses the main theoretical drivers and sources of conflict.

Efficacy of Development Aid

A reduction in conflict is a critical outcome to measure human development goals, particularly since conflict is the biggest threat to human development (United Nations 2015, 8). ODA seeks to advance the United Nations Millennium Development goals, which are to eliminate poverty and hunger, achieve universal primary education, promote general equality, decrease child mortality, improve maternal health, reduce the spread of HIV/AIDS and other diseases, promote environment sustainability, and further global development partnerships (OECD 2011). Accordingly, a reduction in conflict is a critical outcome.

There is a lack of consensus, however, regarding the efficacy of development aid projects. While some research has pointed to more positive outcomes, other research has found that development aid projects either had little effect or an adverse effect on conflict (Tierney et al. 2011, 1891).

A number of studies indicate some degree of success of foreign aid. Crost et al. (2016) found that in the Philippines a conditional cash-transfer program (which is a development strategy that transfers money to poor people on the condition that they meet specific criteria and fulfill certain behavioral conditions) significantly reduced conflict as well as reduced insurgent

influence in targeted villages, although they could not rule out the possibility of a spillover of these groups into other villages. Nielsen et al. (2011) found that when overall aid flows decreased, conflict increased in target countries due to an increased bargaining power of rebel groups. This indicates that monetary aid could help to reduce conflict under certain conditions. Similarly, Berman et al. (2011) found that in Iraq, small-scale projects that sought to improve the quality of local government services resulted in reduced insurgent violence.

On the other hand, numerous studies have highlighted adverse effects on conflict from aid (Polman 2010). For example, Crost et al. (2014) found that in the Philippines infrastructure spending through community-driven development projects increased conflict by insurgent groups who tried to sabotage the programs in order to reduce local support for the government. Similarly, Khanna and Zimmermann (2014) found that a rural-employment program in India increased conflict. In addition, Werker et al. (2009) found that aid from wealthy OPEC countries to poorer Muslim neighbors did not affect economic growth, and that aid instead reduced the quality of institutions. Further, Nunn and Qian (2014) indicated that US food aid increased the incidence and duration of civil conflict in targeted countries, although they did not find an effect on interstate conflicts or civil-conflict onset. Interestingly, they found that these effects were the most distinct for countries that recently experienced civil conflict, indicating that special attention should be paid to the conflict history of the recipient country. Finally, research indicates that aid is often stolen. For example, up to 80% of humanitarian aid, which is often physically transported within the recipient country, can be stolen during the transportation process itself (Polman 2010, 121). In addition, armed groups can seize aid even after it reaches its intended destination (Qian and Nunn 2014, 1631).

The local context as well as the type of aid dispersed likely has an effect on its efficacy. Burnside and Dollar (2000) found that foreign aid has a positive impact when recipient countries have good policy environments (847). Other scholars have posited that aid disbursements may be most effective when they are either to recipient countries with market economies and good policy environments or to very poor countries that still have undeveloped economic development systems (Cheng and Zhang 2008, 647).

In the following section, I contextualize the situation within Afghanistan and the efficacy of previous aid projects in the country.

Context of Afghanistan

Since 1978 Afghanistan has faced issues of instability due to proxy wars, internal politics, and poverty. The invasion of the Soviet Union in 1979 and the rise of the Taliban in 1994 have only increased this turmoil. The four decades of war have shattered the existence of a strong central government, displaced large numbers of people, and eliminated the provision of many critical social services (Byrd 2012).

The key local actors during the 2002-2019 period were as follows. One main group, the neo-Taliban, was formed by members of the Taliban who, after the US invasion, were dispersed in various areas in Afghanistan as well as into Pakistan. The neo-Taliban was largely decentralized and relied on local support. Other armed groups included the Haqqani Network, the Pakistani Taliban, and hundreds of local militias (Beath et al. 2016, 5-6). There were also non-local insurgents, who relied less on local belief systems (Beath et al. 2016, 7). In addition, there were regional differences within Afghanistan regarding the presence and dominance of insurgent groups. For example, non-local insurgents were largely present in the Nangarhar province (Beath et al. 2016, 7) while within districts in central, western, and northern Afghanistan, insurgent groups

were largely local (Beath et al. 2016, 24). Overall, Afghanistan contains numerous players, each with different aims, in various regions within the country. This has made Afghanistan a fertile ground for multiple sources of conflict.

Conflict in Afghanistan is tied to a variety of sources including opium production and trade, numerous insurgent groups with heterogenous motivations, and a weak central government (Goodhand and Sedra 2010, S80; Peters 2009, 2; Quie 2018, 24; SIGAR 2020, 129; United Nations Security Council 2019). Even though Afghanistan has an abundance of natural resources, their improper management has been linked to conflict within the country (Pikulicka-Wilczewska 2019). In particular, there is a history of warlords and armed groups profiting from mining revenues and corruption as well as land grabbing by elites, further marginalizing members of society (United Nations Environment Programme 2013). Moreover, the aid itself is often stolen by armed groups. For example, in the province of Uruzgan, aid organizations were forced to give the Taliban over one-third of their food aid and agricultural support (Qian and Nunn 2014, 1634). In addition, a critical issue in Afghanistan is the opium industry. Rural families often turn to opium production for the short-term livelihood benefit, but then face long-term consequences in a reduction of their personal security (Neamatollah, Mazurana and Stites 2009, 210). At a macro-level, the drug trade in Afghanistan poses a threat to the stability of a strong central government. Cooperation from foreign aid workers is often forged with drug traffickers and warlords to maintain peace. These deals provide incentives for these non-state actors to control certain territories, which undermines national government security efforts and control over the rule of law (Goodhand and Sedra 2010, S82). The drug trade is also often supported by an underlying thread of corruption, which can further destabilize government attempts at transparency, while fueling conflicts and tensions (Nusrat et al. 2016, 5; United Nations 2008, 10).

Afghanistan presents a case study of protracted conflict, rife with numerous actors, each with different goals, as well as other key drivers of conflict. I next discuss some of the ODA strategies within Afghanistan that have sought to reduce these levels of conflict.

ODA in Afghanistan

There have been various intended aims of ODA in Afghanistan. As detailed in the Afghanistan National Development Strategy, the goals include an increase in security, governance, rule of law, human rights, and economic and social development. Overall, these progress towards the United Nations Millennium Development Goals (Afghanistan National Development Strategy 2008). A reduction in both conflict incidence and intensity remains a crucial outcome of these objectives. Aid in Afghanistan has served to accomplish these different ends, although the goal of each aid disbursement depends on the donor and the context. Accordingly, aid can seek to accomplish one of the goals or multiple goals simultaneously. Yet even if project goals are achieved, there can be negative side effects. An evaluation of each project, therefore, requires a holistic understanding of the outcomes.

Due to an increased interest by the international community and the United Nations, development aid efforts in Afghanistan began in 1982 and continue to today (Oxfam 2013, 4; Zia 2000). Some of the main donors include the United Nations, US Department of State, US Department of Defense, US Agency for International Development, and UK Department for International Development (Humanitarian Data Exchange 2020). Although there has been a large international presence coupled with a great deal of monetary aid, the outcomes envisioned through the Afghanistan National Development Strategy have not yet come to fruition.

I first describe some projects in Afghanistan that had success on a small-scale, then discuss projects with mixed results, and finally, projects that yielded negative outcomes.

An example of a small development success with regard to livelihood improvement and a reduction in opium production was an Aga Khan Foundation project (2004-2006) in the Badakhshan region. The project helped to diversify local crops, improve regional infrastructure, and train local community-development corporations and women's committees to address local problems, negotiate these concerns with the local government, and form rural enterprises. As a result, opium production decreased in the targeted areas (Ward et al. 2008, 82). In addition, Böhnke, Rasmus, and Zürcher (2013) found that in northeast Afghanistan, even though aid did not increase perceived security, it did increase perceptions of state legitimacy.

The work of Beath et al. (2011) indicated mixed results. They found that a large community-driven development program in Afghanistan improved economic outcomes, increased support for the government, and reduced insurgent violence. This only held true, however, for provinces not along the Pakistani-Afghani border. Along the border, although economic outcomes were enhanced, support for the government did not increase and instead, insurgent violence increased. The researchers explained these outcomes by positing that the insurgents along the Pakistani border were not local and that they, therefore, were not reliant on local support and had no problem continuing violence against locals. In addition, an intervention by Mercy Corps that gave cash transfers to Afghani youth found that this resulted in a reduced willingness to support violent groups in the short-term. Within the long-term, however, these effects disappeared. Mercy Corps also found that vocational trainings exclusive of any other intervention did not reduce youth support for political violence. Vocational training, however, in combination with cash transfers reduced youth willingness to join violent groups and this effect lasted six to nine-months after the intervention (Kurtz, Tesfaye, and Wolf 2018).

Other research highlights negative effects of aid. For example, USAID's IDEA-NEW $150 million five-year program sought to reduce opium production by providing alternative economic opportunities for Afghani farmers. Yet due to poor monitoring and implementation, the program actually increased opium production by 61% (Brinkley 2013, 18). Further, according to the US government's Special Inspector General for Afghanistan Reconstruction (SIGAR), numerous development projects have failed (Suhail 2019, 5). For instance, US development actors installed medical devices (such as X-rays and ventilators) worth $1.75 billion in Afghan military hospitals. At the same time, the development actors did not train Afghan staffers to use and maintain the equipment, halting this medical program (Brinkley 2013, 21). In addition, the externally led construction of the longest highway in Afghanistan – A1 or Ring Road— had various unintended consequences. Districts closest to the highway had the highest increase in opium production and even households that prior to its construction grew other crops, were incentivized to turn to opium production due to their new access to the highway and ability to make money from this lucrative crop. These problems were compounded by an already weak central government and inadequate rule of law (Wigton-Jones 2020, 2). Finally, USAID's Measuring Impact of Stabilization Initiative measured $1.38 billion worth of USAID assistance on stabilization efforts within Afghanistan. Results indicated that these efforts did not stabilize target areas and even made some areas worse off. Another macro-report by SIGAR found similar results as well as discovered that some areas experienced an increase in conflict and local support for insurgent groups (Zürcher 2019, 841).

Overall, therefore, an understanding of the macro-level efficacy of development aid in Afghanistan is inconclusive. A macro-level quantitative analysis can be an important window through which one can develop a better understanding of the effects of ODA.

Theories on the Relationship Between Aid and Conflict

This section reviews core theories useful in examining the mechanisms underlying the effects of ODA on conflict as well as why people may choose to support or join insurgent groups and/or partake in violence.

A. Hearts and Minds Approach

The hearts and minds approach predicts that local support for the government can be increased through aid that provides direct support to people (such as improving access to basic services and infrastructure) (Beath et al. 2011; Manacorda et al. 2011). In other words, as trust in and support for the government increases, people may become more likely to provide key information on insurgent groups to the government (Crost et al. 2016, 171). This approach, therefore, predicts that conflict is reduced when the attitude of the local population supports the government (Berman et al. 2011, 5). The 'Anbar awakening' in Iraq demonstrates how powerful informant information can be; the information provided by civilians on insurgents to American and Iraqi security forces allowed them to significantly decrease violence in Anbar (Berman et al. 2011, 7).

Critics of this approach, however, argue that conflict could increase because insurgent groups may try to preemptively sabotage aid programs in order to reduce civilian support for the government. Further, critics argue that this approach can be irrelevant if states are weak and do not have the ability to act upon informant information (Berman et al. 2011, 5; Ross 2004, 36; Sambanis 2003, 261). Aid can also lead to increased conflict, regardless of local support for the government if insurgency groups are not local to the areas they attack. They may, therefore, have few qualms about killing the local populace due to the lack of local ties (Beath et al. 2016, 4).

B. Opportunity-Cost Theory

The opportunity-cost theory approach suggests that as the costs to join insurgent groups rise (such as losing out on pay from other more lucrative jobs or the risks of injury or death), people choose to not join these groups (Crost et al. 2016, 171). This can reduce conflict both through less direct violence as well as can increase information-sharing with the government and counterinsurgent groups on insurgent group location and strategy. Under this model, civilians share information on insurgents if the benefits to do so (i.e., monetary gain, public goods, etc.) outweigh the costs of doing so (i.e.: threats or payments from insurgent groups) (Berman et al. 2011, 42). Much of this theory is based on Becker's (1968) model of crime, which says rational criminals compare the benefits of committing a crime with the costs of getting caught and being punished (Garoupa 2014). Dube and Vargas (2008) find support for this through positive price shocks to agricultural goods (labor-intensive) in Colombia reducing conflict.

Critics argue that an exception to the application of this theory may be when unemployment is high. High unemployment may generate grievances against the government, motivating higher levels of support for insurgent groups, further increasing the level of conflict (Brainard and Chollet 2007).

C. Rapacity Effect

A final mechanism that explains aid and its relation to conflict posits that aid increases the amount and value of resources that can be stolen (often violently), thus, increasing conflict (Crost et al. 2014). Insurgent groups, therefore, may target aid distributors, the local government (if its value increases due to the aid), or the projects themselves. Insurgent groups frequently do this to fund their own programs. Fearon (2007) predicts that as income inequality increases, insurgent violence will similarly increase in order to extract resources from those who are well-

off. This is demonstrated by Dube and Vargas (2008) who show that violence increased in oil-rich (capital-intensive) areas of rural Colombia due to positive price shocks to the oil. Hidalgo et al. (2010) also find that economic shocks resulted in the rural poor in Brazil to raid large landholdings, especially in areas in which there were high levels of land inequality.

Other Factors Affecting the Likelihood of Conflict

In addition to these theoretical explanations of conflict, research also points to specific drivers of conflict within different settings. Higher levels of income (Blattman and Miguel 2010; Collier and Hoeffler 2004; Do and Iyer 2010), economic growth (Blattman and Miguel 2010; Miguel et al. 2004), and increased literacy rates (Do and Iyer 2010) all may reduce the likelihood of conflict. On the other hand, larger populations (Fearon and Laitin 2003), the presence of rough terrain (i.e., mountainous), a large supply of resources (Berman et al. 2017; Fearon and Laitin 2003), and high levels of ethnic polarization (Esteban et al. 2012; Montalvo and Reynal-Querol 2005) may increase the likelihood of conflict.

Overall, there are various drivers of conflict and aid seeks to address some of these causes. Existing research, however, is inconclusive regarding the role of aid on conflict reduction within Afghanistan. More specifically, prior research has not adequately addressed the efficacy of different types of aid in reducing conflict. Economic theories on price shocks predict differential effects on conflict from price shocks to capital-intensive and labor-intensive goods. This relationship is explained by the opportunity cost theory and the rapacity effect. I extend these economic theories to understand the effect of ODA on conflict. In the next section, I explain the theoretical arguments for this research, drawing on economic theories on the relationship between price shocks and conflict.

Theoretical Argument

My central argument is that different ODA strategies will cause diverging impacts on armed conflict. Specifically, ODA towards labor-intensive sectors will reduce conflict while ODA towards capital-intensive sectors will increase conflict.

ODA is defined by the OECD Development Assistance Committee (DAC) as "government aid that promotes and specifically targets the economic development and welfare of developing countries. The DAC adopted ODA as the 'gold standard' of foreign aid in 1969 and it remains the main source of financing for development aid" (OECD). ODA is provided to countries that the DAC lists as eligible based on per capita income. The main objective of ODA is economic development and increased welfare of developing countries. The aid by nature is concessional, meaning it is in the form of grants and soft loans, which are loans that have below-market rate of interests (OECD).

Labor-intensive sectors predominately use labor for production as opposed to capital. Accordingly, as this sector expands within the economy, the labor pool within this sector should also increase (Bó and Bó 2011, 650). Examples of labor-intensive sectors include education and agriculture. In contrast, *capital-intensive sectors* have a higher ratio of capital to labor (Khan 1970). Within this sector, fixed assets are required, such as equipment and property. Examples of capital-intensive sectors are oil and gas industries.

Political-economy research on commodity prices has shown that positive economic shocks to labor-intensive goods decreases conflict while negative economic shocks to labor-intensive goods increases conflict. On the other hand, positive shocks to capital-intensive goods increases conflict while negative shocks to capital-intensive goods decreases conflict (Berman

2017; Blair et al. 2020; Bó and Bó 2011; Dube and Vargas 2013). The same approach can be applied to ODA which is the viewpoint assumed in the present work.

The differential outcomes on conflict due to price shocks exist because as prices rise for labor-intensive goods, jobs and wages also increase for those working in these sectors. Indeed, job creation has been shown to be critical for peaceful solutions (Collier 2009). As a result, the opportunity cost to join armed groups increases, demonstrating the opportunity effect (Dube and Vargas 2013). In contrast, as prices rise for capital-intensive goods, so too does the likelihood of conflict. This is because these profits are not seen in terms of gainful employment, but instead lower the opportunity cost of conflict, making theft of these goods more lucrative and appealing (Blair et al. 2020, 4). This demonstrates the rapacity effect, which says that an increase in contestable income may result in increased violence due to the gains from looting (Dube and Vargas 2013; Ross 2004, 61). Further, Ross (2012) finds that as state revenue from oil (capital-intensive) increases, the rights of and opportunities for women decreases as the expanded labor benefits are not evenly distributed to women. Higher levels of gender inequality correlate with higher levels of inter- and intra-state conflict (Melander 2005). Accordingly, aid towards capital-intensive sectors that does not equally extend benefits to females could also contribute to an increase in conflict.

While existing literature focuses on how price shocks to different types of goods affects conflict, price is not the only factor that shapes jobs and wages as well as the perceived value of goods and equipment; ODA is another main factor shaping these factors. I extend these theories to the role of ODA on conflict. Research indicates there may be differential development effects dependent on the type of aid (Crost and Felter 2014, 1834; Gamso and Yuldashev 2018, 817). I argue that increased assistance to labor-intensive goods may have a similar effect in expanding

labor-intensive industries, thus expanding jobs and wages and increasing the opportunity cost to join armed groups. Accordingly, armed conflict may decrease. In contrast, ODA related to capital-intensive goods may increase the value of these industries while not providing corresponding benefits through the expansion of local jobs and skillsets. This may increase the risk of theft of these resources (rapacity effect) as well as reduce the opportunity cost of conflict. As a result, rates of armed conflict may increase.

Argument

I specifically analyze ODA related to the sector of production services. I predict that when this sector is aggregated, ODA will not have an effect on armed-conflict outcomes. When disaggregated, however, agriculture, trade, and tourism (labor-intensive) will have a negative relationship with armed conflict. I propose this will occur due to the opportunity cost of joining and participating in insurgency. On the other hand, ODA directed towards industry, mining, and construction (capital-intensive) will have a positive relationship with armed conflict due to the rapacity effect (see Fig. 1). Both the effects of capital- and labor-intensive services on armed conflict will be lagged.

In theory, with proper management and transparency, an expansion of capital-intensive goods can increase peaceful outcomes (Dube and Vargas 2013). Afghanistan, however, consistently ranks high on corruption and low on government transparency, which leads me to predict that ODA towards capital-intensive will result in negative development outcomes. In contrast, proper management of labor-intensive goods, such as forestry and a reduction of land grabbing, can potentially result in powerful positive development outcomes.

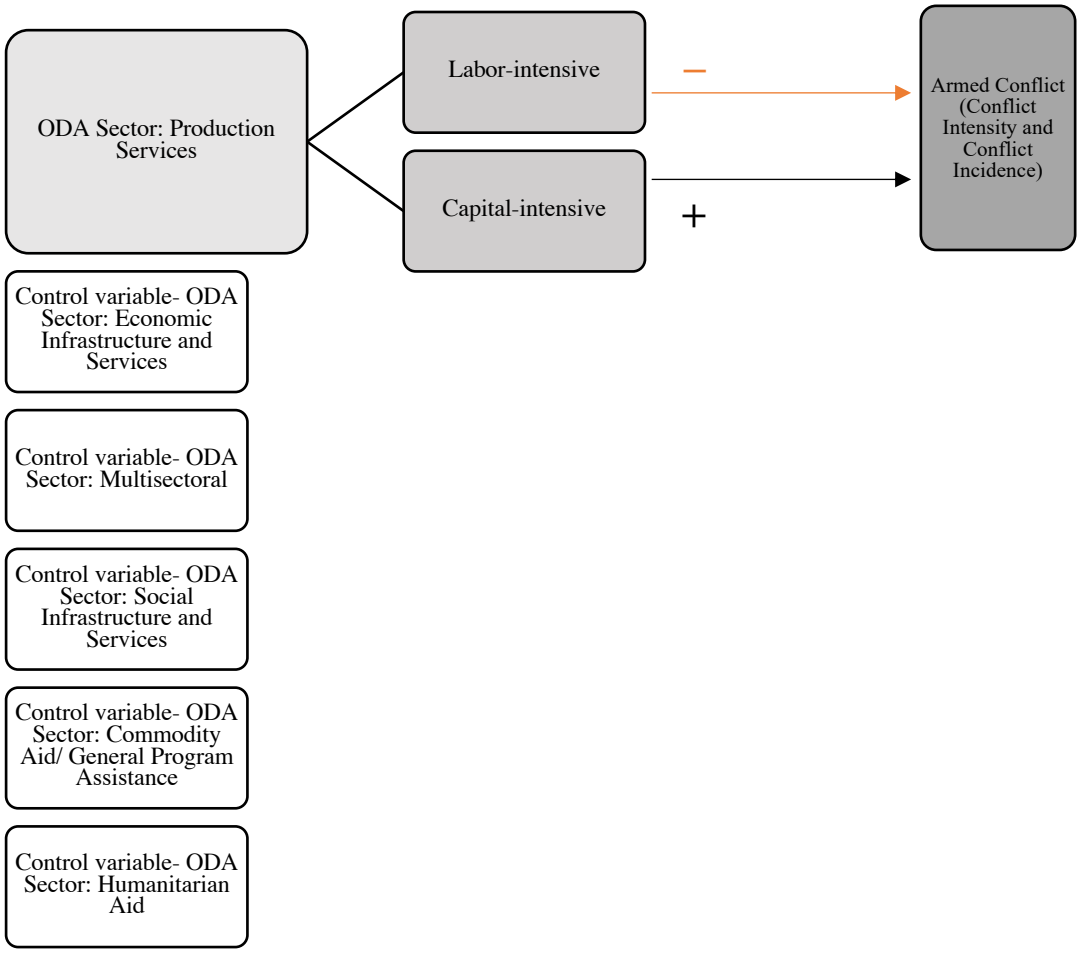
I therefore hypothesize the following:

H_1: ODA directed towards production services when aggregated will not have an effect on armed conflict.

H_2: ODA directed towards capital-intensive production services will increase armed conflict.

H_3: ODA directed towards labor-intensive production services will decrease armed conflict.

Fig 1: Proposed Model
This figure displays the proposed model for this research. This predicts that increased ODA towards labor-intensive sectors under production services reduces armed conflict, while ODA towards capital-intensive sectors under production services increases armed conflict.



Contribution to the Literature

In this subsection, I discuss some of the potential contributions of this research. Theoretically, the previous research on economic shocks to labor- and capital-intensive goods has not been extended to the context of ODA and the aid's direction to specific types of industries (capital versus labor-intensive). Accordingly, the present research could potentially demonstrate that economic theories regarding conflict can prove to be useful for predicting effects of aid on conflict as well as guide what specific types of aid (whether the aid expands capital-intensive or labor-intensive sectors) may be the most appropriate within a given context.

Empirically, prior research on ODA effectiveness has largely been qualitative in methodology, with little quantitative analysis at a macro-level over a time period to compare the effects of different ODA strategies on specific outcomes. Most studies on this topic, therefore, describe the results of specific aid projects or describe the effects of aid within a specific community or a country's region.

Much of the prior literature that has looked at the net effect of foreign aid has not considered how its effects may be differential depending on the type of aid dispersed. For example, Cheng and Zhang (2008) measured the "maximum effectiveness" of foreign aid as individual real income, yet the goals of foreign aid extend beyond GDP or economic outcomes. Accordingly, this scope was limited and did not desegregate the types of aid. Furthermore, Cheng and Zhang's study also did not use actual aid data, but was solely theoretical in nature. In another study, Tierney et al. (2011) used data from AidData to measure the efficacy of aid, but their analysis looked at the aggregate effect of aid, rather than desegregating the aid based on its sector in order to analyze the specific efficacy of the type of aid. Gamso and Yuldashev (2018) measured the effect of foreign aid on international migration and grouped the aid based on

governance aid (assistance to government, civil society, and NGOs), economic aid (assistance for transport and storage, communications, energy generation and supply, banking, agriculture, forestry and fishing, industry, mining and construction, trade policy and regulations, and tourism), and other (education, health care, water and sanitation, women and development, and food aid). This presents one of the few studies that does look at specific types of aid. Their grouping of aid, however, aggregated economic aid together and did not analyze whether the strategy of aid (capital-intensive versus labor-intensive) affects conflict differently. There is a lacuna in research, therefore, that analyses whether there exist differential impacts on conflict between aid towards labor- and capital-intensive sectors.

Conceptually, this research fills these gaps and enables an understanding of how a focus on different types of ODA in an unstable and war-torn country can impact the outcomes of specific development efforts in that country. These scopes are based on the three assumptions (1) that ODA directly affects development outcomes; (2) that ODA, once disaggregated based on whether it is capital-intensive or labor-intensive, provides different development outcomes; and (3) that the different ODA strategies employed by various nations will collectively reduce conflict country-wide.

In the next section, I discuss the methodology used in this research to analyze these predictions.

Methodology

Research Design

The dependent variables are armed-conflict outcomes in Afghanistan. I used this outcome to measure annual levels of conflict within the country. My research measured the outcomes of both armed intrastate and interstate conflict (data available from Peace Research Institute Oslo) through the quantitative indicators of conflict incidence (number of conflicts per year) and conflict intensity (number of deaths due to conflict per year). It may be possible for one ODA outcome to be improved by a focus on a specific type of ODA activity, while the other outcome is either unaffected or adversely affected. In addition, my regression analysis included lagged variables to provide a time series analysis for the outcome of conflict. Research indicates that various types of aid can have different timing in their results (Clemens et al. 2012; Gamso and Yuldashev 2018). For example, certain economic aid projects can have an early impact on economic growth, while aid focused on human capital may have an impact, but with a slower timeline (Clemens et al. 2012). In addition, although aid targeted at governments can generate faster results, if institutions are weak, then the changes will occur more slowly due to the friction caused by corruption (Gamso and Yuldashev 2018, 815-816). I, therefore, lagged the variables for different time frames to account for these potential effects (lagged from 1-9 years). Lagging the variables also accounts for potential issues of reverse causality.

As described previously, I focused on the *ODA strategies (the independent variable) of production services.* According to the OECD database, production sectors consist of the contributions for productive sectors. This includes (1) agriculture, fishing, and forestry (including crop and livestock, farm machinery, fertilizer, irrigation, pest control, veterinary services, fishing, forestry, land reclamation, land and soil surveys, agricultural construction, and

agricultural development banks); (2) industry, mining, and construction (includes geological surveys, developing and refining petroleum, food processing, fertilizer and farm machinery manufacturing, and cottage industry); and (3) trade and tourism (includes export promotion, trade, commerce, banking, and hotel and tourism facilities). The OECD database lists the ODA annual donor allocation per sector. Accordingly, I grouped these sectors based on whether they are labor-intensive (agriculture, fishing, forestry, trade, and tourism) or capital-intensive (industry, mining, and construction) to run the regression analyses. I followed the groupings of Blair et al. (2020), who categorized agriculture as labor-intensive and mining as capital-intensive. Similarly, fishing, forestry, trade, and tourism rely largely on human physical labor, while industry and construction rely to a larger extent on capital.

I initially focused on the production sector and included aid in the other sectors as control variables. I first analyzed the production sector because it includes aid directed towards agriculture, which is a key industry in the country since the agriculture sector provides 61% of all Afghan households with income (World Bank 2018). As will be discussed, I later analyzed the economic infrastructure and services sector since it contains aid towards energy production and research indicates this could increase conflict (Marijnen and Schouten 2019). I finally analyzed all the sectors at a macro-level, with subsectors disaggregated into the categories of labor-intensive or capital-intensive.

The temporal scope condition is the time period between 2002 and 2019. 2001 marks the start of the so-called War on Terror and 2019 marks the most current data available. Accordingly, the OECD tracks ODA funding in Afghanistan from 2002-2019. The spatial scope includes all funding from Development Assistance Committee (DAC) donor countries to Afghanistan within the OECD database.

Afghanistan provides an interesting and critical case study as it has been one of the largest recipients of ODA since 2002. Although there has been a large international presence coupled with a great deal of monetary aid, the successful outcomes envisioned in Afghanistan have not yet come to fruition. In fact, in some instances, aid has actually worsened conflict outcomes. It is key, therefore, to understand the effect of specific types of ODA on conflict outcomes.

Data

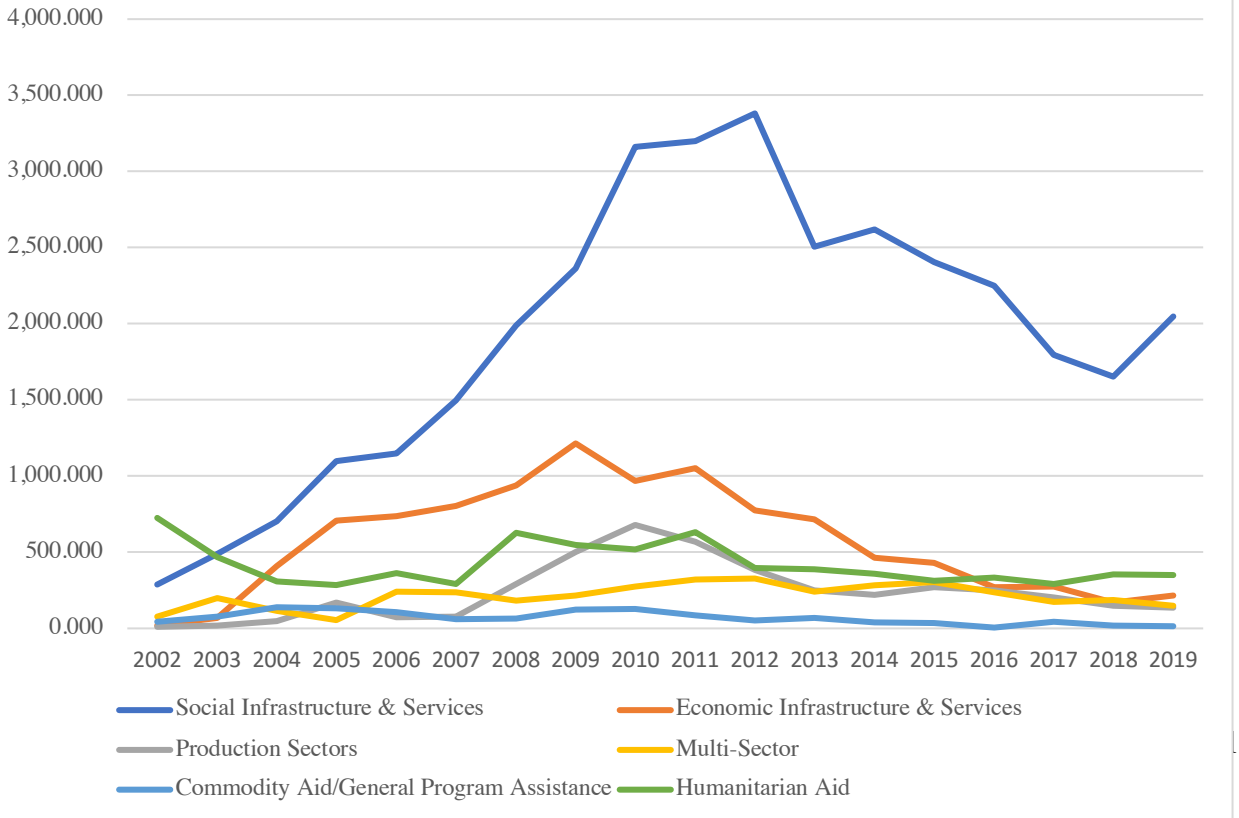
With regard to the data, I first created a unique database that listed the annual total aid amount per sector (for the control variables) as well as the production-sector aid amount disaggregated based on whether it was labor- or capital-intensive. In addition, I added to this database the annual conflict incidence and intensity within Afghanistan. I analyzed the data using STATA and conducted a time-series linear-regression analysis (years 1-9 after the aid was dispersed) to evaluate the effect of aid towards labor- and capital-intensive sectors on both conflict intensity and incidence.

In terms of the ODA data, I used the Creditor Reporting System (CRS) data within the OECD database, which has the most complete dataset to my knowledge regarding total ODA (measured as gross disbursements) from Development Assistance Committee (DAC) countries (Australia, Austria, Belgium, Canada, Denmark, the European Union, Finland, France, Germany, Greece, Ireland, Italy, Japan, South Korea, Luxembourg, the Netherlands, New Zealand, Norway, Portugal, Spain, Sweden, Switzerland, the United Kingdom, and the United States). The dataset also includes aid disbursements from non-DAC countries, multilateral organizations, and private donors, although these entries are largely incomplete. Other available datasets, however, face issues such as only focusing on a few specific donors, having a high level of incomplete

information, or lacking sector categorizations. Accordingly, for the purpose of this research, the OECD database represents the most complete database available. This dataset also has the most thorough breakdown of sector-specific aid amounts. It lists total annual ODA to Afghanistan grouped by the sectors of (1) production, (2) economic infrastructure and services, (3) multisectoral, (4) social infrastructure and services, (5) commodity aid/general program assistance, and (6) humanitarian aid. These sectors served as the control variables. Also included in the dataset is action relating to debt, administrative costs of donors, and refugees in donor countries. These three sectors, however, were not included in this analysis as they do not involve aid given directly to recipient countries.

I first conducted descriptive analyses of the data. As shown in Fig. 2, aid in general increased until about 2011, after which some of the aid-specific sectors received decreased funding. Social infrastructure and services are the sectors that received the most aid, followed by economic infrastructure and services and then followed by both humanitarian aid and the production sector.

Fig 2: ODA Per Year to Afghanistan, By Sector



In addition, I used conflict data from the Peace Research Institute Oslo (UCDP/PRIO) Armed Conflict Dataset (version 20.1), which measures conflict. Conflict is defined as the use of armed force between two parties resulting in at least 25 battle deaths within a year. I included intrastate conflicts (a civil conflict, such as between a government and at least one internal opposition group) and interstate conflicts (a conflict between at least two countries). As shown in Figs. 3 and 4, both conflict incidence (measured by number of conflicts per year) and intensity (measured by number of deaths due to conflicts per year) have steadily increased in Afghanistan.

Fig. 3: Conflict Incidence in Afghanistan

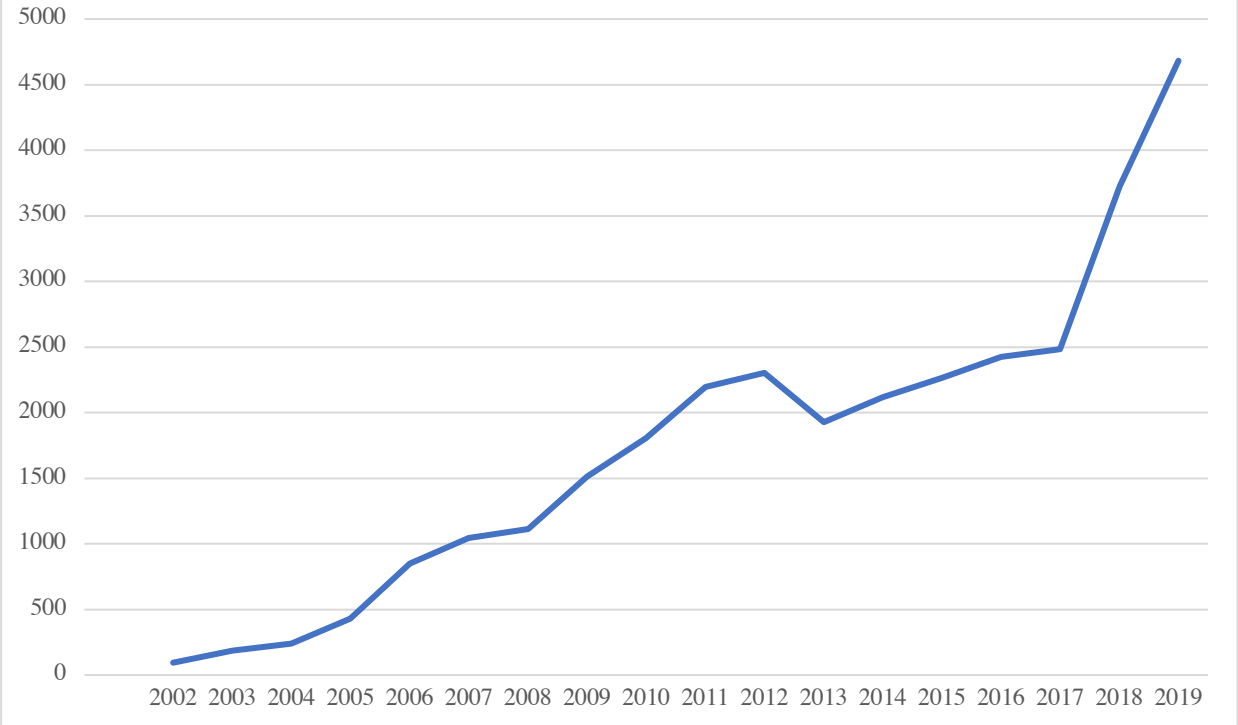
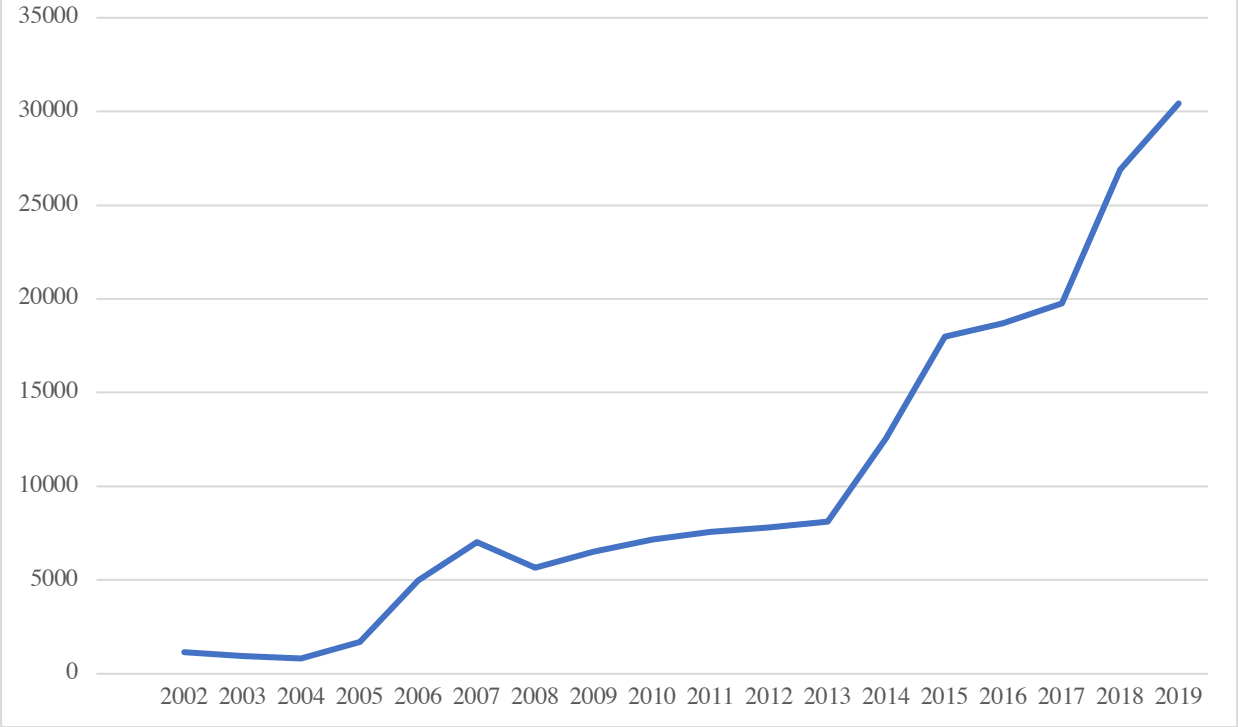


Fig. 4: Conflict Intensity in Afghanistan



Empirical Analysis

In this section, I explain the analyses conducted. I first explain my analysis of the effect on conflict of aid to capital- versus labor-intensive subsectors solely within the production sector. I detail the lack of significant results as well as some reasons this may be the case. Next, I describe the analysis of the economic infrastructure and services sector and the resulting lack of significant results. Finally, I present the details of the macro-analysis of all the aid and present the results found through this type of analysis.

Production Sector and Conflict

Findings

In this subsection, I describe my analysis of the effect on conflict of ODA to capital- and labor-intensive sectors within the production sector. I regressed the effect of production sectors

as a whole on both conflict intensity and incidence, controlling for the other sectors (social infrastructure and services, economic infrastructure and services, multisectoral, commodity aid/general program assistance, and humanitarian aid). As predicted by H_1, the production sector does not have a significant effect on either aspect of conflict.

I then disaggregated the production sector into labor- versus capital-intensive subsectors. Accordingly, labor-intensive subsectors were comprised by (1) agriculture, forestry, fishing; (2) trade policies and regulations; and (3) tourism. Capital-intensive included industry, mining, and construction. I controlled for the other sectors (social infrastructure and services economic infrastructure and services, multisectoral, commodity aid/general program assistance, and humanitarian aid). I did not find significant effects for either capital- or labor-intensive sectors on conflict intensity and incidence, lagged from years 1-9. Further, both had a negative relationship with conflict, indicating that ODA impacts both capital- and labor-intensive goods to reduce conflict.

Additional Checks

I tried a few other combinations of subsectors of the production sector as some sectors can be labor- or capital-intensive depending on the context. For example, the industry category includes some aid towards cottage industries, handicrafts, and textiles, which could be labor-intensive industries. I, therefore, regressed a new labor-intensive variable (this time comprised of agriculture, forestry, fishing, trade policies, tourism, and industry) against a new capital-intensive variable (which consisted of mining and construction). Again, neither variable was significant. I tried adding construction into the labor-intensive category, as within the context of Afghanistan, much of the work could be labor-intensive. Finally, I removed forestry from the labor-intensive measurement and created a separate variable for this measurement as extraction of key natural

resources, such as forestry, could potentially increase conflict (Sonno 2019). Once again, none of these variables were significant.

In addition, I created interaction variables and ran various combinations of these variables together. The first interaction variable, Interaction 1, multiplied the original labor-intensive variable against the economic infrastructure and services sector (as this sector is largely focused on energy production, which is capital-intensive). This was run with the other variables, and although this resulted in a significant effect on conflict of the labor-intensive variable (for conflict intensity lagged at five years), there was not any pattern for the effects. I created an Interaction 2 variable, which combined the social infrastructure and services sector (focused largely on peacebuilding and education activities, all labor-intensive) and ran this with the labor-intensive variable. Again, the variables did not have a significant effect on conflict. Even at the few points in which the labor- or the capital-intensive variables were significant, there was no obvious pattern, and the variables appear to be affected by noise in the data, which likely did not allow me to see the true effects. Accordingly, at the disaggregated level of aid directed to the production sector, I do not find support for H_2 and H_3.

Economic Infrastructure and Services and Conflict

Explanation

One of the striking results in the initial analysis was that no matter what combinations I tried with the production sector, the economic infrastructure and services sector continued to be significant for most of the lagged years, for both conflict incidence and intensity. Further, its relationship with conflict was negative. Economic infrastructure is made up of transport and storage, energy, banking and financial services, and business and other services and so I expected this would have a positive relationship with conflict as energy is largely a capital-

intensive sector. At the same time, the social infrastructure and services sector (consisting of education, health, government and civil society, and conflict, peace, and security, all of which are labor-intensive) sometimes was significant, but had a positive relationship with conflict. This indicates that this sector could increase conflict incidence and intensity. Certainly, these results were in the context of a focus on the production sector, during which these other sectors were only used as controls. I decided, therefore, to analyze more closely the economic infrastructure and services sector and disaggregate this sector based on whether the sub-sectors were labor or capital-intensive.

Findings

Within economic infrastructure and services, I formed a labor-intensive variable that consisted of banking and financial services as well as business. Capital-intensive was comprised of transport and storage as well as energy. My regression analysis found that neither variables were significant and that both had a negative (non-significant) relationship with conflict. I also tried regressing a labor-intensive variable that included transport and storage in addition to the previously mentioned variables (as within the context of Afghanistan, transporting goods can be labor-intensive) in order to isolate the effect of a capital-intensive focus on energy. Neither variable was significant. For the sector of economic infrastructure and services, therefore, the theories on capital- versus labor-intensive sectors did not appear to hold, although once again, there could be an issue of too much noise in the data.

Analysis at a Macro-Level

Explanation

In this subsection, I analyze the effect of capital- and labor-intensive sectors on conflict at a macro-level. Since analyzing both the production and economic infrastructure and services

sectors did not reveal any evident patterns or show any relationship between the variables, I wondered if this were due to the small number of unit of analyses as well as high level of incomplete data at a micro-level, creating noise within the data. I analyzed, therefore, the effect of capital- and labor-intensive sectors aggregated from each of the five sectors. To do so, I categorized the subsector data within each sector as either capital- or labor-intensive. These subsectors were then aggregated together to form a new capital-intensive variable and a new labor-intensive variable. The new capital-intensive variable was comprised of energy generation (renewable); energy generation (non-renewable); hybrid energy plants; nuclear energy; energy distribution; commodity assistance; industry; and mineral resources. The new labor-intensive variable was comprised of education; health; government and civil society; conflict, peace, and security; general environment protection; other multisector (includes disaster risk reduction, rural development, urban development, and scientific institutions); general budget support; disaster prevention and preparedness; transport and storage; communications; banking; business; energy policy; agriculture; forestry; fishing; construction; trade policies and regulation; and tourism. I kept the humanitarian-aid sector as a control variable as it is neither labor- nor capital-intensive.

Overall, at this macro-level of analysis, I find support for the theoretical prediction that aid to labor-intensive sectors reduces conflict incidence and intensity. I also find potential support for the prediction that aid to capital-intensive sectors increases both conflict incidence and intensity. Accordingly, I find support for H_2 and H_3 at the macro-level. It is likely that these results were only found at the macro-level because at the micro-level the signal to noise ratio may have been significantly large.

Findings: Conflict Incidence

For conflict incidence, aid to labor-intensive sectors had a long-term effect in reducing conflict. For six years after the aid was dispersed (conflict incidence lagged six years), aid to labor-intensive sectors significantly reduced conflict by about 0.61 that year (CI: -0.86 to -0.37) (Table 1); for seven years after the aid was dispersed, aid to labor-intensive sectors significantly reduced conflict by about 0.81 that year (CI: -1.14 to -0.47) (Table 1); for eight years after the aid was dispersed, aid to labor-intensive sectors significantly reduced conflict by about 0.71 that year (CI: -1.13 to -0.28) (Table 3); and for nine years after the aid was dispersed, aid to labor-intensive sectors significantly reduced conflict by about 0.6 that year (CI: -1.12 to -0.07) (Table 1). Aid to labor-intensive sectors did not have a significant effect after nine lagged years. The effect of aid to labor-intensive sectors, therefore, on conflict incidence has an inverted-U effect.

For the effect of aid to capital-intensive sectors on conflict incidence, there was not a long-term effect. The only significant effect was at six years after aid to capital-intensive sectors was dispersed (conflict incidence lagged six years), where conflict incidence was increased by about 7.6 that year (CI: 2.51 to 12.68) (Table 1). During the other lagged timeframes (Table 1), aid to capital-intensive sectors did not have a significant effect on conflict. Note that the sign remained positive for lagged seven years (Table 1). For lagged eight to nine years, the sign turned negative, but the effect on a potential reduction of conflict was not significant. This indicates that aid to capital-intensive sectors may increase conflict after a few years, but this effect may disappear in the long-term.

Findings: Conflict Intensity

I next evaluated the potential effects of aid on conflict intensity. For aid to labor-intensive sectors, I similarly found a long-term effect in reducing conflict intensity (though shorter in

timeframe than the effect for conflict incidence). For six years after the aid was dispersed (conflict intensity lagged six years), aid to labor-intensive sectors significantly reduced conflict by about 1.43 that year (CI: -2.6 to -0.27) (Table 1); for seven years after the aid was dispersed (conflict intensity lagged seven years), aid to labor-intensive sectors significantly reduced conflict by about 1.93 that year (CI: -3.22 to -0.63) (Table 1); and for eight years after the aid was dispersed (conflict intensity lagged eight years), aid to labor-intensive sectors significantly reduced conflict by about 1.87 that year (CI: -3.71 to -0.02) (Table 1). Accordingly, it appears as though aid to labor-intensive sectors both reduces conflict intensity and incidence in the long-term (though with an Inverted-U effect), although the effect is longer for conflict incidence and has a larger effect for conflict intensity.

In terms of the effect of aid to capital-intensive sectors on conflict intensity there was not a significant effect for any of the lagged years. The relationship, however, was positive until lagged eight years. Accordingly, aid to capital-intensive goods could potentially increase conflict up until eight years after the aid is dispersed, although this effect is not significant.

It is worth noting that the amount of aid towards capital-intensive sectors was far less than the aid towards labor-intensive sectors (sometimes around forty times less for a given year). This may be due to missing data or donors could potentially focus less on capital-intensive sectors. Accordingly, it may be interesting to test this theory in other contexts in which more complete data is available or in a context where there is a more equal balance of aid towards labor-intensive and capital-intensive sectors.

TABLE 1

The effect of ODA to labor-intensive and capital-intensive sectors on conflict incidence and intensity

	Conflict Incidence				**Conflict Intensity**		
Variables	**Lagged 6**	**Lagged 7**	**Lagged 8**	**Lagged 9**	**Lagged 6**	**Lagged 7**	**Lagged 8**
Labor-intensive	-.615*** (0.106)	-0.806*** (-0.806)	-0.706* (0.174)	-0.597** (0.204)	-1.433** (0.504)	-1.926*** (0.547)	-1.868** (0.754)
Capital-intensive	7.591* (2.204)	4.027 (2.889)	-0.881 (4.707)	-1.584 (5.457)	17.709 (10.529)	0.210 (11.128)	-20.331 (20.376)
Humanitarian Aid	-3.43*** (0.661)	-0.384 (1.214)	1.493 (1.848)	1.559 (5.457)	-16.802*** (3.157)	-8.203 (4.677)	1.543 (8.000)
Number of Observations	12	11	10	9	12	11	10

*** denotes significance at 99%, ** denotes significance at 95%, and * denotes significance at 90%. Values in parentheses represent standard error values.

Discussion of Results

Overall, I did not find a differential effect on conflict from aid to capital- versus to labor-intensive sectors when this was analyzed at a sectoral level. At a macro-level, however, I did find support for the theoretical prediction that aid towards labor-intensive sectors decreases conflict while aid towards capital-intensive sectors increases conflict. I discuss the findings for labor-intensive sectors and some possible explanations for these results. Next, I discuss the results for capital-intensive sectors along with some potential reasons for these findings.

Labor-Intensive Sectors

I found support for a relatively long-term reduction (though this effect decreases after eight to nine years) for both conflict intensity and incidence when aid is given towards labor-intensive sectors. The effect appears to last longer for conflict incidence (up until nine years after

the aid is dispersed) and has a larger effect in reducing conflict intensity. Indeed, the effect of aid to labor-intensive sectors is promising: for example, at lagged seven years for conflict incidence, aid for labor-intensive sectors decreased conflict incidence by 0.71, with the 95% confidence interval between 1.13 and -0.28, which could potentially result in a reduction of one-armed conflict incidence that year.

The majority of the aid that comprised labor-intensive sectors was social infrastructure and services (including education, health services, and government and civil society), multisector (most of which was rural and urban development and management), and agriculture. In particular, aid towards health services has a positive relationship with conflict as those who have their basic needs met are able to pursue education, jobs, and other skills training (Sachs and Malaney 2002). Higher levels of education are also tied with more peaceful outcomes (Baytiyeh 2018). Furthermore, one of the drivers of conflict in Afghanistan was the lack of a centralized state (SIGAR 2020, 129; Suhkre 2013, 281; Wigton-Jones 2020, 2). Although this issue persisted and was not solved by aid, aid towards the government and civil society likely helped to mitigate some of the issues caused by this lack of control from the central state. Finally, Afghanistan's economy is largely informal and decentralized (Goodhand and Sedra 2010, S80) with agriculture comprising dominating Afghanistan's economy. In fact, about 70% of Afghans live and work in rural areas, 61% of households get their income from agriculture, and the agriculture sector provides 61% of all Afghan households with income (World Bank 2018). Accordingly, the development of this sector likely contributes to more peaceful outcomes through its expansion of the labor force and skillsets. Indeed, Blair et al. (2020) find that positive price shocks to agriculture lowers the likelihood of conflict.

Further, these sectors help to develop local capacities, either through education or skills training. As this type of aid goes towards intangible benefits, these benefits cannot be appropriated by armed groups. With these increased skillsets, local community members are more highly educated, healthy, and trained with specific skillsets, making them more eligible for various jobs as well as have the capacity to monitor government actions and actively take part in civil society organizations. Overall, these may have functioned through the hearts and minds approach in which the local populace increased their support for the government. Opportunity costs, therefore, to join armed groups increases, as there are better opportunities for people through legal employment as opposed to joining armed groups (Dube and Vargas 2013). Unsurprisingly, the positive effects of aid in this sector are only seen after five years of the aid being dispersed as the benefits of education, capacity building, and skills training often take time to develop.

Capital-Intensive Sectors

The effect on conflict from aid directed towards capital-intensive sectors is less clear. Aid for capital-intensive sectors was only significant at lagged six years for conflict incidence, however, for both conflict incidence and intensity, aid towards capital-intensive sectors had a positive relationship with conflict until lagged eight years. This indicates that aid towards capital-intensive sectors could potentially increase conflict in the short and medium term. Indeed, donors may want to exercise caution in funding activities and industries that are capital-intensive within this context.

The majority of the aid within this sector was towards energy generation and distribution (renewable, nonrenewable, hybrid, and nuclear), industry, commodity aid, and mineral resources.

During this time period Afghanistan had approximately a trillion dollars of mineral wealth (USGS 2007). Although some research does point to the potentially powerful role a country's mineral wealth can be to spur economic development as well as attract foreign investment (McKinsey Global Institute 2013), other scholars point to the idea of the "resource curse" hypothesis, which highlights the negative repercussions of extracting a country's natural resource wealth (Auty 1993; Bó and Bó 2011; Sachs 1999). In particular, Blair et al. (2020) find that positive price shocks to oil and gas as well as to minerals increases conflict; a similar mechanism may occur in this case. Further, mineral wealth is the second-largest funding source for the Taliban and other illegal armed groups (Integrity Watch Afghanistan 2013; United Nations Security Council 2011). This provides support for the rapacity mechanism through which capital-intensive goods are more likely to be stolen by armed groups, further fueling conflict. Finally, this sector does not appear to result in the benefit of job creation. Mills (2019) argues that even if the mining industry within Afghanistan did reach its full potential in generating employment, it still would not be large enough when considering the number of people who enter the workforce annually. Further, due to the technical skillset requirements of mining and a lack of training of these skills at the local level, foreign labor would have to be brought in to conduct the work and the equipment would be imported into the country. This further directs the benefits away from Afghanis (Mills 2019, 75), increasing the chance that the equipment would be stolen by armed groups as well as reducing the opportunity cost to join these groups.

With regard to energy, although Afghanistan has extremely low access to electricity (González-Eguino 2015), aid directed towards this sector could still contribute to an increase in conflict. In particular, research indicates that a focus on energy development could result in

increased conflict for certain populations (Marijnen and Schouten 2019). For example, in Congo, centralized electricity supplies prioritized wealthy businessmen over small farmers, increasing rent-seeking by elites and intensifying social divisions and inequalities (Marijnen and Schouten 2019). Urban areas in Afghanistan have more centralized energy systems and potentially, similar results could occur. Further, off-grid electricity is less stable in rural areas in Afghanistan, where there is already a higher risk of conflict (Korkovelos et al. 2020). In addition, building the infrastructure required for energy production and distribution requires land, and often, there are people already living on this land. Energy plant creation, therefore, can be a source of displacement. Displacement is linked to conflict and conflict also increases displacement, causing a negative feedback loop (Penz, Drydyk, and Bose 2011). Afghanistan already has an extremely high number of internally displaced persons (four million in 2020) and increasing levels of displacement could result in increased conflict (Amnesty International 2020). Finally, energy generation projects often do not equip local Afghans to run the plants nor do they provide for ways in which local supplies can be used to repair plants. As a result, electricity levels can then be further lowered when plants break down, leaving populations or soldiers who had come to rely on the electricity without necessary security after dark (Brinkley 2013, 13). Accordingly, aid towards energy generation and distribution may have generated insecure energy provision in rural areas, intensified divisions within urban areas, and displaced groups of people. These all could have contributed to the increase in conflict incidence and intensity.

Further, these sectors, although they may develop and provide critical services and goods, provide high-value goods and machines that can be easily stolen by armed groups (unlike skillsets through labor-intensive sectors). In particular, since Afghanistan houses numerous armed groups with heterogeneous preferences, these goods can provide critical funding for such

groups. This increases the rapacity effect, which increases conflict (Bó and Bó 2011; Dube and Vargas 2013). Accordingly, within the context of Afghanistan (and perhaps other countries in the midst of protracted violent conflicts), the benefits from aid towards capital-intensive goods may never reach the targeted populace and may instead help to funnel resources towards violent factions.

Limitations

Although care was exercised in dataset selection, there are still certain limitations to this research project. First, with regard to the OECD database, some donors irregularly report their aid commitments. For example, bilateral donors who are not ODA members (such as Saudi Arabia and Kuwait) do not always report to CRS at the project level, which means there could be other ODA disbursements that are not accounted for in the database. It is unlikely, however, that this was a significant issue for purposes of this topic as the United States and other ODA member countries were the largest donors in Afghanistan. This dataset, therefore, should have largely captured the effects of ODA.

Second, some entries of the OECD database were incomplete for Afghanistan, either because there was no aid given for specific sectors in certain years or because the data itself was not available. Each aid dataset, however, has numerous incomplete sections and its own limitations. The OECD database represents the most complete and appropriately categorized data for the research question addressed in this thesis. It is worth noting, though, that the issue of incomplete data could have become a crucial issue if the magnitude of incomplete data was large enough that it inhibited patterns from being displayed in the data when the analysis was conducted at the sector level.

Third, the PRIO database does not distinguish between insurgent and government attacks. I, however, analyzed the effect of ODA on total armed conflict more generally, so this was not a significant problem.

Fourth, the years I included in my analysis are 2002-2019, because there is no ODA data on Afghanistan prior to 2002. Accordingly, there could have been data analysis issues if the unit of analyses were not large enough. As I focused specifically on Afghanistan as a case study, however, this timeframe should be adequate to capture the effect of aid on conflict within this specific context. Moreover, aid only started pouring into the country post-2001, so this dataset captured the majority of the aid that has been dispersed within the country.

Finally, there could have been some issues with the way in sectors were categorized as labor- or capital-intensive. This is because a country's specific context can affect the way the type of labor and capital are used in each industry. For example, a country that has access to a great deal of technology may shift industries to be more capital-intensive, while a country that does not have this same access may retain a labor-intensive form of the industry. To account for this, I researched the specific industries within Afghanistan as well as ran checks on the data with multiple combinations to make sure that there was not another pattern I had failed to initially account for. Perhaps a principal component analysis that indicated the opposite impact of labor- and capital-intensive aid could provide more convincing conclusions.

The next section presents the conclusion and policy recommendations as well as suggestions for future research.

Conclusion

This research lends support to the usage of economic theories on price shocks for conceptualizing development aid. Results indicate that economic theories that predict differential effects on conflict from price shocks to labor- versus capital-intensive goods also holds true for the application of aid to labor- and capital-intensive sectors. At a macro-level, I find that aid towards labor-intensive sectors significantly decreases both conflict intensity and incidence. These effects are long-term between lagged years six to nine, although the effects decrease after lagged nine years. Although aid towards capital-intensive sectors only had a significant effect for conflict incidence at lagged year six, aid towards capital-intensive sectors still has a positive relationship with conflict.

ODA donors and international development policymakers, therefore, may want to consider these differential effects when determining aid allocations. Within a war-torn context such as Afghanistan, aid towards capital-intensive sectors might contribute to a protracted conflict, providing funding for armed groups while not delivering benefits towards local populations. On the other hand, aid towards labor-intensive sectors can be much more effective in mitigating conflict, through the expansion of job opportunities, an increase in civil-society participation, and through the provision of key skills training.

Future research could analyze whether these results hold true in other contexts. For example, in less conflict-intense areas, are the results the same? A macro-level study could also be conducted to compare these effects across multiple countries. Finally, given the availability of data, research could also study this relationship through a geospatial analysis to determine whether there are certain areas within Afghanistan where this effect on conflict is particularly pronounced.

In general, ODA to Afghanistan has increased over the years (apart from decreasing between 2012 and 2018), while both conflict incidence and conflict intensity have consistently increased. More recently, President Biden announced that the US will withdraw all American troops from Afghanistan by September 11, 2021 (Ryan and DeYoung 2021). Indeed, it is unclear the effect this will have on the amount and type of future official development assistance. It is key, however, that future donors consider potential unintended consequences of their aid.

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